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Add your introductions here!



# Namespace RetailForce.Fiscalisation

## Classes

### [FiscalModulCreator](#)

This class can be used to create the fiscal module for the specific client (with all necessary sub modules loaded).

### [FiscalModuleManagement](#)

Class for managing the fiscal module.

### [FiscalResponse](#)

The fiscal response of the fiscalisation system.

### [Helper](#)

### [LoggingBase](#)

Base class for all classes using logging purposes.

### [PropertyValidation](#)

Static class for property validation helpers

### [QrCode](#)

Helper class for generating qr codes.

### [TrustedFiscalModule](#)

General fiscal interface to call country specific implementation and store data for other purposes (e.g. digital receipt).

### [ValidationBase<ValidationErrorType>](#)

### [ValidationError](#)

Represents a validation error.

### [ValidationPropertyBase<ValidationErrorType>](#)

Base class for all objects with validation.

## Interfaces

### [IDocumentInterface](#)

Represents a document interface. Document interfaces can be [IFiscalModullImplementation](#) interfaces or [IStorageProvider](#) interfaces.

### [IFiscalModullImplementation](#)

A country specific implementation has to implement this interface.

### [IFiscalResponseCountryBase](#)

## Enums

### [ErrorLevel](#)

The type of the error.

# Enum ErrorLevel

The type of the error.

Namespace: [RetailForce.Fiscalisation](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public enum ErrorLevel
```

## Fields

NAME	DESCRIPTION
Error	This is a validation error.
Information	This is a validation information.
Warning	This is a validation warning.

# Class FiscalModulCreator

This class can be used to create the fiscal module for the specific client (with all necessary sub modules loaded).

## Inheritance

System.Object

FiscalModulCreator

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class FiscalModulCreator
```

## Constructors

**FiscalModulCreator(ConfigurationProviderBase, ILogger)**

Constructor.

## Declaration

```
public FiscalModulCreator(ConfigurationProviderBase configProvider, ILogger logger)
```

## Parameters

TYPE	NAME	DESCRIPTION
<a href="#">ConfigurationProviderBase</a>	configProvider	The provider to load the necessary configuration.
Microsoft.Extensions.Logging.ILogger	logger	The logger for this class.

## Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>configProvider</code> or <code>logger</code> is set to null.

## Methods

**CreateFiscalModuleForClient(Guid, String)**

Creates a fiscal module for a specific client.

## Declaration

```
public TrustedFiscalModule CreateFiscalModuleForClient(Guid clientId, string storageBasePath = null)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Guid	clientId	A guid representing the unique clientId for this operation.
System.String	storageBasePath	The base path for the data to store for this module (for log-file, and country-specific data).

#### Returns

TYPE	DESCRIPTION
<a href="#">TrustedFiscalModule</a>	A <a href="#">TrustedFiscalModule</a> representing the fiscal module for this client.

#### Exceptions

TYPE	CONDITION
System.Collections.Generic.KeyNotFoundException	Thrown if the given client is not configured.

# Class FiscalModuleManagement

Class for managing the fiscal module.

## Inheritance

System.Object

FiscalModuleManagement

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class FiscalModuleManagement
```

## Remarks

It is possible to store more than one cash register definition at the fiscal module.

## Constructors

**FiscalModuleManagement(ConfigurationProviderBase)**

Constructor.

## Declaration

```
public FiscalModuleManagement(ConfigurationProviderBase configProvider)
```

## Parameters

TYPE	NAME	DESCRIPTION
<a href="#">ConfigurationProviderBase</a>	configProvider	The configuration provider for this fiscal module.

## Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>configProvider</code> is set to null.

## Methods

**CreateClient(FiscalClient)**

Creates a client at the fiscal module management.

## Declaration

```
public void CreateClient(FiscalClient client)
```

#### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">FiscalClient</a>	client	The client to create.

#### Remarks

Also for new clients the [UniqueClientId](#) property must be set.

#### Exceptions

TYPE	CONDITION
System.ComponentModel.DataAnnotations.ValidationException	Thrown if one or more <a href="#">ValidationError</a> occurred when validating the client object.
System.ArgumentNullException	Thrown if <code>client</code> is set to null.

### DeleteClient(Guid)

#### Declaration

```
public void DeleteClient(Guid clientId)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Guid	clientId	

### GetClient(Guid)

Returns a fiscal client from the store by given `clientId`.

#### Declaration

```
public FiscalClient GetClient(Guid clientId)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Guid	clientId	The id of the fiscal client.

#### Returns

TYPE	DESCRIPTION
<a href="#">FiscalClient</a>	Requested fiscal client.

#### Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>clientId</code> is set to null.

## GetClients()

Returns all clients stored in the configuration store.

Declaration

```
public List<FiscalClient> GetClients()
```

Returns

TYPE	DESCRIPTION
System.Collections.Generic.List<FiscalClient>	

## UpdateClient(FiscalClient)

Declaration

```
public void UpdateClient(FiscalClient client)
```

Parameters

TYPE	NAME	DESCRIPTION
FiscalClient	client	

## ValidateClient(FiscalClient)

Validates a fiscal client.

Declaration

```
public List<ValidationError> ValidateClient(FiscalClient client)
```

Parameters

TYPE	NAME	DESCRIPTION
FiscalClient	client	The client to validate.

Returns

TYPE	DESCRIPTION
System.Collections.Generic.List<ValidationError>	A list of <a href="#">ValidationError</a> objects representing the validation errors for the client configuration.

Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>client</code> is set to null.



# Class FiscalResponse

The fiscal response of the fiscalisation system.

## Inheritance

System.Object  
FiscalResponse

## Inherited Members

System.Object.Equals(System.Object)  
System.Object.Equals(System.Object, System.Object)  
System.Object.GetHashCode()  
System.Object.GetType()  
System.Object.MemberwiseClone()  
System.Object.ReferenceEquals(System.Object, System.Object)  
System.Object.ToString()

Namespace: [RetailForce.Fiscalisation](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public sealed class FiscalResponse
```

## Remarks

Can be

## Properties

### AdditionalFields

#### Declaration

```
[JsonIgnore]  
public ReadOnlyDictionary<string, object> AdditionalFields { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.ObjectModel.ReadOnlyDictionary<System.String, System.Object>	

### AdditionalFieldsProtected

#### Declaration

```
[JsonProperty("AdditionalFields")]  
protected Dictionary<string, object> AdditionalFieldsProtected { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.Dictionary<System.String, System.Object>	

### ErrorDescription

The error description if the fiscalisation process failed. Empty if everything went well.

#### Declaration

```
[JsonProperty]
public string ErrorDescription { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### FiscalCountry

The fiscal country for this response.

#### Declaration

```
[JsonProperty]
public FiscalCountry FiscalCountry { get; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">FiscalCountry</a>	

### FiscalisationDocumentNumber

The fiscalisation document number.

#### Declaration

```
[JsonProperty]
public int FiscalisationDocumentNumber { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Int32	

### FiscalisationDocumentRevision

The revision of the fiscalisation document.

#### Declaration

```
[JsonProperty]
public int FiscalisationDocumentRevision { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Int32	

### Signature

The signature of the security device (country-specific)

#### Declaration

```
[JsonProperty]
public string Signature { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

## UserMessage

The message which must be shown to the user of the cash register system.

#### Declaration

```
[JsonProperty]
public string UserMessage { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

## Extension Methods

[FiscalResponseGermany.TransactionStartTime\(FiscalResponse\)](#)

[FiscalResponseGermany.TransactionEndTime\(FiscalResponse\)](#)

[FiscalResponseGermany.ProcessData\(FiscalResponse\)](#)

[FiscalResponseGermany.ProcessType\(FiscalResponse\)](#)

[FiscalResponseGermany.TseSignatureCounter\(FiscalResponse\)](#)

[FiscalResponseGermany.TseId\(FiscalResponse\)](#)

[FiscalResponseGermany.TseSerial\(FiscalResponse\)](#)

[FiscalResponseGermany.TseHashAlgorithm\(FiscalResponse\)](#)

[FiscalResponseGermany.TsePublicKey\(FiscalResponse\)](#)

[FiscalResponseGermany.TseTimeFormat\(FiscalResponse\)](#)

[FiscalResponseGermany.QrCodeDataString\(FiscalResponse\)](#)

# Class Helper

## Inheritance

System.Object

Helper

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public static class Helper
```

## Methods

DeepClone<T>(T)

### Declaration

```
public static T DeepClone<T>(T obj)
```

### Parameters

TYPE	NAME	DESCRIPTION
T	obj	

### Returns

TYPE	DESCRIPTION
T	

### Type Parameters

NAME	DESCRIPTION
T	

# Interface IDocumentInterface

Represents a document interface. Document interfaces can be [IFiscalModullImplementation](#) interfaces or [IStorageProvider](#) interfaces.

Namespace: [RetailForce.Fiscalisation](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public interface IDocumentInterface
```

## Properties

### ProcessingDocumentTypes

Returns all document types which are processed by this interface.

#### Declaration

```
IReadOnlyList<DocumentType> ProcessingDocumentTypes { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.IReadOnlyList< <a href="#">DocumentType</a> >	

### SupportedDocumentTypes

Returns all supported document types by this fiscal module.

#### Declaration

```
IReadOnlyList<DocumentType> SupportedDocumentTypes { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.IReadOnlyList< <a href="#">DocumentType</a> >	

## Methods

### ValidateDocument(Document)

Validates a document and returns (if appropriate) a list of document validation errors.

#### Declaration

```
List<DocumentValidationError> ValidateDocument(Document document)
```

#### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">Document</a>	document	The document to validate.

#### Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">DocumentValidationError</a> >	The list of document validation errors.

# Interface IFiscalModulImplementation

A country specific implementation has to implement this interface.

Inherited Members

[IDocumentInterface.SupportedDocumentTypes](#)

[IDocumentInterface.ProcessingDocumentTypes](#)

[IDocumentInterface.ValidateDocument\(Document\)](#)

Namespace: [RetailForce.Fiscalisation](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public interface IFiscalModulImplementation : IDocumentInterface
```

## Properties

### AvailableVatDefinitions

Returns all vat objects which are available in this country.

Declaration

```
IReadOnlyList<Vat> AvailableVatDefinitions { get; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">System.Collections.Generic.IReadOnlyList&lt;Vat&gt;</a>	

## Methods

### CancelDocument(Document)

Cancels a document on the fiscal interface.

Declaration

```
FiscalResponse CancelDocument(Document document)
```

Parameters

TYPE	NAME	DESCRIPTION
<a href="#">Document</a>	document	The document to cancel.

Returns

TYPE	DESCRIPTION
<a href="#">FiscalResponse</a>	A <a href="#">FiscalResponse</a> object representing the appropriate fiscal response data.

### CreateDocument(DocumentType)

Creates a document at the fiscal interface and returns appropriate data.

Declaration

```
FiscalResponse CreateDocument(DocumentType documentType)
```

#### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">DocumentType</a>	documentType	The type of the document for which the document should be created.

#### Returns

TYPE	DESCRIPTION
<a href="#">FiscalResponse</a>	A <a href="#">FiscalResponse</a> object representing the appropriate fiscal response data.

#### Remarks

For more information concerning the [FiscalResponse](#) look at the fiscal response for the applicable country implementation.

#### GetDocumentMandatoryFields(Type)

Returns the mandatory fields for this type for the given country implementation.

#### Declaration

```
IReadOnlyList<string> GetDocumentMandatoryFields(Type t)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Type	t	The type to get the mandatory fields.

#### Returns

TYPE	DESCRIPTION
System.Collections.Generic.IReadOnlyList<System.String>	A list of property names representing the mandatory fields for this country implementation.

#### GetTaxFreeVat()

Returns the vat object for country specific zero tax based transactions.

#### Declaration

```
Vat GetTaxFreeVat()
```

#### Returns

TYPE	DESCRIPTION
<a href="#">Vat</a>	A vat object representing the zero tax based vat object.

#### Remarks



Can be used for payin/payout, cash difference.

### GetVatIdentification(Decimal, DateTime)

Returns the appropriate vat identification for the requested percentage and date/time.

#### Declaration

```
int? GetVatIdentification(decimal vatPercent, DateTime requestDate)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Decimal	vatPercent	The vat percentage for the requested vat identification.
System.DateTime	requestDate	The date/time for the requested vat identification.

#### Returns

TYPE	DESCRIPTION
System.Nullable<System.Int32>	

### StoreDocument(Document)

Stores a document to the fiscal interface.

#### Declaration

```
FiscalResponse StoreDocument(Document document)
```

#### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">Document</a>	document	The document to store.

#### Returns

TYPE	DESCRIPTION
<a href="#">FiscalResponse</a>	A <a href="#">FiscalResponse</a> object representing the appropriate fiscal response data.

#### Remarks

For more information concerning the [FiscalResponse](#) look at the fiscal response for the applicable country implementation.

### ValidateFiscalClient(Document)

Validates the fiscal client for the given document.

#### Declaration

```
List<DocumentValidationError> ValidateFiscalClient(Document document)
```

Parameters

TYPE	NAME	DESCRIPTION
<a href="#">Document</a>	document	The document containing the fiscal client.

Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">DocumentValidationError</a> >	A list of document validation errors.

# Interface IFiscalResponseCountryBase

Namespace: [RetailForce.Fiscalisation](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public interface IFiscalResponseCountryBase
```

# Class LoggingBase

Base class for all classes using logging purposes.

## Inheritance

System.Object

LoggingBase

[TaxonomyStore<T>](#)

[FiskalyConnector](#)

[TseBase](#)

[TrustedFiscalModuleImplementationBase](#)

[FileStorageProvider](#)

[TrustedFiscalModule](#)

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class LoggingBase
```

## Remarks

This system is using the Microsoft Extensions Logging Framework.

## Constructors

[LoggingBase\(ILogger, String\)](#)

Constructor.

## Declaration

```
public LoggingBase(ILogger logger, string logSource)
```

## Parameters

TYPE	NAME	DESCRIPTION
Microsoft.Extensions.Logging.ILogger	logger	The logger for this class.
System.String	logSource	The name of the source when a log entry is written.

## Exceptions

TYPE	CONDITION
------	-----------

TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>logger</code> or <code>logSource</code> is set to null.

## Fields

### `_logger`

Declaration

```
protected ILogger _logger
```

Field Value

TYPE	DESCRIPTION
Microsoft.Extensions.Logging.ILogger	

### `_logSource`

Declaration

```
protected string _logSource
```

Field Value

TYPE	DESCRIPTION
System.String	

## Methods

### `LogCritical(Exception, String, Object[])`

Logs a critical message to the logging system.

Declaration

```
protected void LogCritical(Exception exception, string message, params object[] args)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Exception	exception	The exception for this log message to log.
System.String	message	The message to log.
System.Object[]	args	The arguments for the message.

### `LogCritical(String, Object[])`

Logs a critical message to the logging system.

Declaration

```
protected void LogCritical(string message, params object[] args)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.String	message	The message to log.
System.Object[]	args	The arguments for the message.

### LogError(Exception, String, Object[])

Logs a error message to the logging system.

#### Declaration

```
protected void LogError(Exception exception, string message, params object[] args)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Exception	exception	The exception for this log message to log.
System.String	message	The message to log.
System.Object[]	args	The arguments for the message.

### LogError(String, Object[])

Logs a error message to the logging system.

#### Declaration

```
protected void LogError(string message, params object[] args)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.String	message	The message to log.
System.Object[]	args	The arguments for the message.

### LogWarning(String, Object[])

Logs a warning message to the logging system.

#### Declaration

```
protected void LogWarning(string message, params object[] args)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.String	message	The message to log.
System.Object[]	args	The arguments for the message.

# Class PropertyValidation

Static class for property validation helpers

Inheritance

System.Object

PropertyValidation

Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public class PropertyValidation
```

## Methods

**ProcessRequiredAttributes<RequiredAttributeType>(Type, Action<PropertyInfo>)**

Processes all properties of the given type and checks for required attribute (or inherited one).

Declaration

```
public static void ProcessRequiredAttributes<RequiredAttributeType>(Type t, Action<PropertyInfo> action)  
    where RequiredAttributeType : RequiredAttribute
```

Parameters

TYPE	NAME	DESCRIPTION
System.Type	t	The type to check for the properties.
System.Action<System.Reflection.PropertyInfo>	action	The action which should be called if a property has an attribute of type <code>RequiredAttributeType</code> set.

Type Parameters

NAME	DESCRIPTION
RequiredAttributeType	The type of the System.ComponentModel.DataAnnotations.RequiredAttribute to check.

Exceptions

TYPE	CONDITION
------	-----------



TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>t</code> or <code>action</code> is set to null.

# Class QrCode

Helper class for generating qr codes.

## Inheritance

System.Object

QrCode

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public static class QrCode
```

## Methods

### GenerateQrCode(String, Int32)

Generates the given string into a System.Drawing.Bitmap showing a qrCode.

#### Declaration

```
public static Bitmap GenerateQrCode(string qrCode, int size = 3)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.String	qrCode	The string to convert to a qr code bitmap.
System.Int32	size	The size of the qr code.

#### Returns

TYPE	DESCRIPTION
System.Drawing.Bitmap	A bitmap containing the created qr code.

### GenerateQrCodeBase64(String, Int32, ImageFormat)

Generates the given string into a base64 encoded image string containing a qr code.

#### Declaration

```
public static string GenerateQrCodeBase64(string qrCode, int size = 3, ImageFormat imageFormat = null)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.String	qrCode	The string to convert to a qr code.
System.Int32	size	The size of the qr code.
System.Drawing.Imaging.ImageFormat	imageFormat	The format of the image, default: png.

#### Returns

TYPE	DESCRIPTION
System.String	A base64 encoded string containing the qr code of the given string.

#### GenerateQrCodeFile(String, String, Int32, ImageFormat)

Generates the given string into the given file and format showing a qr code.

#### Declaration

```
public static void GenerateQrCodeFile(string qrCode, string filename, int size = 3, ImageFormat imageFormat = null)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.String	qrCode	The string to convert to a qr code image file.
System.String	filename	The filename of the destination file.
System.Int32	size	The size of the qr code.
System.Drawing.Imaging.ImageFormat	imageFormat	The format of the image, default: png.

# Class TrustedFiscalModule

General fiscal interface to call country specific implementation and store data for other purposes (e.g. digital receipt).

## Inheritance

System.Object

[LoggingBase](#)

TrustedFiscalModule

## Implements

System.IDisposable

## Inherited Members

[LoggingBase.\\_logger](#)

[LoggingBase.\\_logSource](#)

[LoggingBase.LogCritical\(String, Object\[\]\)](#)

[LoggingBase.LogCritical\(Exception, String, Object\[\]\)](#)

[LoggingBase.LogError\(String, Object\[\]\)](#)

[LoggingBase.LogError\(Exception, String, Object\[\]\)](#)

[LoggingBase.LogWarning\(String, Object\[\]\)](#)

[System.Object.Equals\(System.Object\)](#)

[System.Object.Equals\(System.Object, System.Object\)](#)

[System.Object.GetHashCode\(\)](#)

[System.Object.GetType\(\)](#)

[System.Object.MemberwiseClone\(\)](#)

[System.Object.ReferenceEquals\(System.Object, System.Object\)](#)

[System.Object.ToString\(\)](#)

Namespace: [RetailForce.Fiscalisation](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public sealed class TrustedFiscalModule : LoggingBase, IDisposable
```

## Properties

### AvailableVatDefinitions

Returns all vat objects which are available in this country.

## Declaration

```
public IReadOnlyList<Vat> AvailableVatDefinitions { get; }
```

## Property Value

TYPE	DESCRIPTION
System.Collections.Generic.IReadOnlyList< <a href="#">Vat</a> >	

### ProcessingDocumentTypes

Returns all document types which are processed by this interface.

## Declaration

```
public IReadOnlyList<DocumentType> ProcessingDocumentTypes { get; }
```

## Property Value

TYPE	DESCRIPTION
System.Collections.Generic.IReadOnlyList< <a href="#">DocumentType</a> >	

## SupportedDocumentTypes

Returns all supported document types by this fiscal module.

Declaration

```
public IReadOnlyList<DocumentType> SupportedDocumentTypes { get; }
```

Property Value

TYPE	DESCRIPTION
System.Collections.Generic.IReadOnlyList< <a href="#">DocumentType</a> >	

## Methods

### CancelDocument(Document)

Cancel the given document.

Declaration

```
public FiscalResponse CancelDocument(Document document)
```

Parameters

TYPE	NAME	DESCRIPTION
<a href="#">Document</a>	document	The document to cancel.

Returns

TYPE	DESCRIPTION
<a href="#">FiscalResponse</a>	The <a href="#">FiscalResponse</a> object containing the fiscal response.

Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>document</code> parameter is set to null.

### ClosingBookCashDifference(User, List<Payment>)

Books a cash difference to the fiscalisation system.

Declaration

```
public FiscalResponse ClosingBookCashDifference(User user, List<Payment> paymentToBook)
```

Parameters

TYPE	NAME	DESCRIPTION
User	user	The user who's operating this function.
System.Collections.Generic.List<Payment>	paymentToBook	The difference for the different payment types.

#### Returns

TYPE	DESCRIPTION
FiscalResponse	The fiscal response for the signed document.

#### Exceptions

TYPE	CONDITION
System.InvalidOperationException	Thrown if no storage provider of type <a href="#">PaymentStockProvider</a> was added to the internal collection. This occurs when the option SimpleCashPointClosing is not activated at fiscal client.
System.ArgumentNullException	Thrown if parameters <code>user</code> or <code>paymentToBook</code> are set to null.

#### ClosingBookCashLift(User, List<Payment>, Boolean)

Books a money transfer from cash register system to bank (or any other destination).

#### Declaration

```
public FiscalResponse ClosingBookCashLift(User user, List<Payment> payments, bool isStockAmount)
```

#### Parameters

TYPE	NAME	DESCRIPTION
User	user	The user who's operating this function.
System.Collections.Generic.List<Payment>	payments	The payments according to parameter <code>isStockAmount</code> .
System.Boolean	isStockAmount	True if the given payments are the stock which should result after this booking; False if the given payments should be booked by their value.

#### Returns

TYPE	DESCRIPTION
FiscalResponse	The fiscal response for the signed document.

## Exceptions

TYPE	CONDITION
System.InvalidOperationException	Thrown if no storage provider of type <a href="#">PaymentStockProvider</a> was added to the internal collection. This occurs when the option SimpleCashPointClosing is not activated at fiscal client.
System.ArgumentNullException	Thrown if parameters <code>user</code> or <code>payments</code> are set to null.

## ClosingBookOpeningStock(User, List<Payment>)

Book the opening stock for a cash register closing statement.

### Declaration

```
public FiscalResponse ClosingBookOpeningStock(User user, List<Payment> openingStockPayment)
```

### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">User</a>	user	The user who's operating this function.
System.Collections.Generic.List< <a href="#">Payment</a> >	openingStockPayment	The opening stock for the individual payment types.

### Returns

TYPE	DESCRIPTION
<a href="#">FiscalResponse</a>	The fiscal response for the signed document.

## Exceptions

TYPE	CONDITION
System.InvalidOperationException	Thrown if no storage provider of type <a href="#">PaymentStockProvider</a> was added to the internal collection. This occurs when the option SimpleCashPointClosing is not activated at fiscal client.
System.IO.InvalidDataException	Thrown if <a href="#">UniqueReadablePaymentIdentifier</a> is not set at every payment of the list.

## ClosingCashPointCheck(List<Payment>)

Checks the actual stock of the payments for this cash register and returns a list of payments with difference (or an empty list if there's no difference).

### Declaration

```
public List<Payment> ClosingCashPointCheck(List<Payment> paymentsToCheck)
```

### Parameters

TYPE	NAME	DESCRIPTION
System.Collections.Generic.List< <a href="#">Payment</a> >	paymentsToCheck	A list of payments and their respective amounts to check. Attention:

#### Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">Payment</a> >	A list of payments with difference (or an empty list if there's no difference).

#### Exceptions

TYPE	CONDITION
System.InvalidOperationException	Thrown if no storage provider of type <a href="#">PaymentStockProvider</a> was added to the internal collection. This occurs when the option SimpleCashPointClosing is not activated at fiscal client.
System.IO.InvalidDataException	Thrown if <a href="#">UniqueReadablePaymentIdentifier</a> is not set at every payment of the list.

### ClosingCashPointClose(User, List<Payment>, Boolean)

Closes the actual day with a closing statement.

#### Declaration

```
public FiscalResponse ClosingCashPointClose(User user, List<Payment> paymentsToCheck = null, bool raiseCashDifferenceException = false)
```

#### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">User</a>	user	The user who's operating this function.
System.Collections.Generic.List< <a href="#">Payment</a> >	paymentsToCheck	A list of payment values to check for cash difference if parameter <code>raiseCashDifferenceException</code> is set. Please refer to <a href="#">ClosingCashPointCheck(List&lt;Payment&gt;)</a> for more information for this parameter.
System.Boolean	raiseCashDifferenceException	True if a cashpoint check has to be evaluated in front and an exception will raised if there is a cash difference; otherwise false. Setting this parameter to true the parameter <code>paymentsToCheck</code> must not be null.

#### Returns

TYPE	DESCRIPTION



TYPE	DESCRIPTION
<a href="#">FiscalResponse</a>	A <a href="#">FiscalResponse</a> object for the booked cashpoint closing (end of day).

#### Exceptions

TYPE	CONDITION
System.InvalidOperationException	Thrown if no storage provider of type <a href="#">PaymentStockProvider</a> was added to the internal collection. This occurs when the option SimpleCashPointClosing is not activated at fiscal client.
System.ArgumentNullException	Thrown if parameter <code>paymentsToCheck</code> is set to null and parameter <code>raiseCashDifferenceException</code> is set to true.
System.IO.InvalidDataException	Thrown if a cash difference occurs and parameter <code>raiseCashDifferenceException</code> is set to true.

### ClosingGetActualStock()

Returns the actual stock of payments of the actual client.

#### Declaration

```
public List<Payment> ClosingGetActualStock()
```

#### Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">Payment</a> >	A list of payment values representing the actual payment stock.

#### Exceptions

TYPE	CONDITION
System.InvalidOperationException	Thrown if no storage provider of type <a href="#">PaymentStockProvider</a> was added to the internal collection. This occurs when the option SimpleCashPointClosing is not activated at fiscal client.

### CreateDocument(DocumentType)

Creates a document in the fiscal environment.

#### Declaration

```
public FiscalResponse CreateDocument(DocumentType documentType)
```

#### Parameters

TYPE	NAME	DESCRIPTION

TYPE	NAME	DESCRIPTION
<a href="#">DocumentType</a>	documentType	The type of the document for which the document should be created.

Returns

TYPE	DESCRIPTION
<a href="#">FiscalResponse</a>	The <a href="#">FiscalResponse</a> object containing the fiscal response.

Dispose()

Declaration

```
public void Dispose()
```

GetDocumentMandatoryFields(String)

Returns the mandatory fields for type given by `typeName` for the given country implementation.

Declaration

```
public IReadOnlyList<string> GetDocumentMandatoryFields(string typeName)
```

Parameters

TYPE	NAME	DESCRIPTION
System.String	typeName	The name of the requested type. Must be in namespace <a href="#">RetailForce.Fiscalisation.Model.Document</a> .

Returns

TYPE	DESCRIPTION
System.Collections.Generic.IReadOnlyList<System.String>	A list of property names representing the mandatory fields for this country implementation.

Exceptions

TYPE	CONDITION
System.NotImplementedException	Thrown if the given type name is not implemented.

GetDocumentMandatoryFields(Type)

Returns the mandatory fields for this type for the given country implementation.

Declaration

```
public IReadOnlyList<string> GetDocumentMandatoryFields(Type t)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Type	t	The type to get the mandatory fields.

Returns

TYPE	DESCRIPTION
System.Collections.Generic.IReadOnlyList<System.String>	A list of property names representing the mandatory fields for this country implementation.

### GetStaticStandardLocalClientDataPath(Guid)

Returns the standard local store path for the individual client given by `uniqueClientId`.

Declaration

```
public static string GetStaticStandardLocalClientDataPath(Guid uniqueClientId)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Guid	uniqueClientId	The client for whom the path is requested.

Returns

TYPE	DESCRIPTION
System.String	The standard local store path for the individual client given by <code>uniqueClientId</code> .

### GetStaticStandardLocalStorePath()

Returns the standard local store path if there's no other path configured.

Declaration

```
public static string GetStaticStandardLocalStorePath()
```

Returns

TYPE	DESCRIPTION
System.String	The standard local store path if there's no other path configured.

### GetTaxFreeVat()

Returns the vat object for country specific zero tax based transactions.

Declaration

```
public Vat GetTaxFreeVat()
```

#### Returns

TYPE	DESCRIPTION
<a href="#">Vat</a>	A vat object representing the zero tax based vat object.

#### Remarks

Can be used for payin/payout, cash difference.

#### GetVatIdentification(Decimal, DateTime)

Returns the appropriate vat identification for the requested percentage and date/time.

#### Declaration

```
public int? GetVatIdentification(decimal vatPercent, DateTime requestDate)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Decimal	vatPercent	The vat percentage for the requested vat identification.
System.DateTime	requestDate	The date/time for the requested vat identification.

#### Returns

TYPE	DESCRIPTION
System.Nullable<System.Int32>	An integer representing the vat identification for the requested values; null if nothing is found.

#### StoreDocument(Document)

Stores a document to the fiscal system and all attached data queue elements.

#### Declaration

```
public FiscalResponse StoreDocument(Document document)
```

#### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">Document</a>	document	The document to store.

#### Returns

TYPE	DESCRIPTION
<a href="#">FiscalResponse</a>	The <a href="#">FiscalResponse</a> object containing the fiscal response.

#### Remarks

Before using [StoreDocument\(Document\)](#) you have to call [CreateDocument\(DocumentType\)](#).

#### Exceptions

TYPE	CONDITION
System.ComponentModel.DataAnnotations.ValidationException	Thrown if one or more document validation errors where raised. You can use <a href="#">ValidateDocument(Document)</a> to test if your document has validation errors.
System.ArgumentNullException	Thrown if <code>document</code> parameter is set to null.
System.InvalidOperationException	Thrown if Document.UniqueClientId is set to System.Guid.Empty or given clientid does not match fiscal client guid.

#### ValidateDocument(Document)

Validates a document against all attached data queue elements.

#### Declaration

```
public List<DocumentValidationError> ValidateDocument(Document document)
```

#### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">Document</a>	document	The document to validate.

#### Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">DocumentValidationError</a> >	A list of <a href="#">DocumentValidationError</a> objects representing all errors and warnings for the given document.

#### Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>document</code> parameter is set to null.

#### Implements

System.IDisposable

# Class ValidationBase<ValidationErrorType>

## Inheritance

System.Object

ValidationBase<ValidationErrorType>

[ValidationPropertyBase<ValidationErrorType>](#)

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
[Serializable]
public abstract class ValidationBase<ValidationErrorType>
    where ValidationErrorType : ValidationError
```

## Type Parameters

NAME	DESCRIPTION
ValidationErrorType	

## Properties

### VALIDATION\_ERROR\_SOURCE

Override in inherited classes to set the correct validation error source.

## Declaration

```
protected abstract string VALIDATION_ERROR_SOURCE { get; }
```

## Property Value

TYPE	DESCRIPTION
System.String	

## Methods

### Validate()

Validates the document element and returns a list of [ValidationError](#) objects.

## Declaration

```
public virtual List<ValidationErrorType> Validate()
```

## Returns

TYPE	DESCRIPTION
System.Collections.Generic.List<ValidationErrorMessage>	A list of <a href="#">ValidationErrorMessage</a> objects.

Remarks

Validated all required properties marked by `System.ComponentModel.DataAnnotations.RequiredAttribute` and calls protected method [ValidateElement\(\)](#).

**ValidateElement()**

Validates the element with element specific validation and returns a list of validation errors.

Declaration

```
protected abstract List<ValidationErrorMessage> ValidateElement()
```

Returns

TYPE	DESCRIPTION
System.Collections.Generic.List<ValidationErrorMessage>	A list of <a href="#">ValidationErrorMessage</a> objects.

# Class ValidationError

Represents a validation error.

## Inheritance

System.Object  
ValidationError  
[DocumentValidationError](#)

## Inherited Members

System.Object.Equals(System.Object)  
System.Object.Equals(System.Object, System.Object)  
System.Object.GetHashCode()  
System.Object.GetType()  
System.Object.MemberwiseClone()  
System.Object.ReferenceEquals(System.Object, System.Object)

Namespace: [RetailForce.Fiscalisation](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
[Serializable]  
public class ValidationError
```

## Constructors

[ValidationError](#)(ErrorLevel, String, String)

Constructor.

## Declaration

```
public ValidationError(ErrorLevel errorLevel, string errorText, string errorSource = "")
```

## Parameters

TYPE	NAME	DESCRIPTION
<a href="#">ErrorLevel</a>	errorLevel	The level of the error (errortype). Possible values are error, warning and information. See <a href="#">ErrorLevel</a> for more information.
System.String	errorText	The description of the error.
System.String	errorSource	The source module of the error. If omitted "Document" is assumed.

## Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>errorText</code> is set to null or empty string.

## Properties

[ErrorLevel](#)



The level of the error (errortype). Possible values are error, warning and information. See [ErrorLevel](#) for more information.

Declaration

```
public ErrorLevel ErrorLevel { get; protected set; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">ErrorLevel</a>	

## ErrorSource

The source module of the error.

Declaration

```
public string ErrorSource { get; protected set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

## ErrorText

The description of the error.

Declaration

```
public string ErrorText { get; protected set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

## Methods

### ToString()

Returns the string representation for this [ValidationError](#).

Declaration

```
public override string ToString()
```

Returns

TYPE	DESCRIPTION
System.String	The string representation for this <a href="#">ValidationError</a> .

Overrides

System.Object.ToString()

# Class ValidationPropertyBase<ValidationErrorType>

Base class for all objects with validation.

## Inheritance

System.Object

[ValidationBase<ValidationErrorType>](#)

ValidationPropertyBase<ValidationErrorType>

[ConfigurationValidationBase](#)

[DocumentValidationBase](#)

## Inherited Members

[ValidationBase<ValidationErrorType>.VALIDATION\\_ERROR\\_SOURCE](#)

[ValidationBase<ValidationErrorType>.ValidateElement\(\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
[Serializable]
public abstract class ValidationPropertyBase<ValidationErrorType> : ValidationBase<ValidationErrorType> where
ValidationErrorType : ValidationError
```

## Type Parameters

NAME	DESCRIPTION
ValidationErrorType	

## Methods

### AddPropertyError(ErrorLevel, String, String, String)

Adds a property attribute error with to correct implementation of ValidationErrorType.

## Declaration

```
protected abstract ValidationErrorType AddPropertyError(ErrorLevel level, string declaringTypeName, string
propertyName, string errorString)
```

## Parameters

TYPE	NAME	DESCRIPTION
<a href="#">ErrorLevel</a>	level	The level of the property error.
System.String	declaringTypeName	The name of the declaring type of the property with the validation error.

TYPE	NAME	DESCRIPTION
System.String	propertyName	The name of the property with the validation error.
System.String	errorString	The error description of the property error.

#### Returns

TYPE	DESCRIPTION
ValidationErrorType	An object of type <code>ValidationErrorType</code> representing the <code>ValidationError</code> .

### Validate()

Validates the document element and returns a list of [ValidationError](#) objects.

#### Declaration

```
public override List<ValidationErrorType> Validate()
```

#### Returns

TYPE	DESCRIPTION
System.Collections.Generic.List<ValidationErrorType>	A list of <a href="#">ValidationError</a> objects.

#### Overrides

`RetailForce.Fiscalisation.ValidationBase<ValidationErrorType>.Validate()`

#### Remarks

Validated all required properites marked by `System.ComponentModel.DataAnnotations.RequiredAttribute` and calls protected method .

### ValidateProperties()

Validates all required properties and returns corresponding error if a required property is missing.

#### Declaration

```
protected List<ValidationErrorType> ValidateProperties()
```

#### Returns

TYPE	DESCRIPTION
System.Collections.Generic.List<ValidationErrorType>	A list of <a href="#">ValidationError</a> objects.

### ValidatePropertiesAbstract<RequiredAttributeType>(Boolean)

Validates all required properties (with attribute of an object implementing `RequiredAttributeType`) and returns corresponding error if a required property is missing.

#### Declaration

```
protected List<ValidationErrorType> ValidatePropertiesAbstract<RequiredAttributeType>(bool recursive = false)
    where RequiredAttributeType : RequiredAttribute
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Boolean	recursive	True if object properties should also be checked; otherwise false.

#### Returns

TYPE	DESCRIPTION
System.Collections.Generic.List<ValidationErrorType>	A list of <a href="#">ValidationError</a> objects.

#### Type Parameters

NAME	DESCRIPTION
RequiredAttributeType	

# Namespace RetailForce.Fiscalisation.Configuration

## Classes

### [Address](#)

Adress object.

### [CashRegister](#)

A single cash Register

### [ClientConfigurationJsonConverter](#)

Json Converter to read client configuration

### [CompanyIdentification](#)

Represents a company identification number (vat number, tax number, ...)

### [ConfigurationProviderBase](#)

Abstract configuration provider to load the configuration for the fiscal system.

### [ConfigurationValidationBase](#)

Base class for all configuration objects with validation.

### [FileConfigurationProvider](#)

Configuration provider with file access (one file for all clients).

### [FiscalClient](#)

Represents a single fiscal client (representation of a cash register)

### [JsonConfiguration](#)

The Json configuration class for the list of clients.

### [JsonConfigurationProviderBase](#)

Base class to read configuration from json string.

### [Software](#)

Cashregister software information.

## Interfaces

### [IFiscalImplementationConfiguration](#)

Basic interface for client configuration according to the correct country.

## Enums

### [CompanyIdentification.IdentificationType](#)

The supported identification types.

### [FiscalCountry](#)

Supported countries.

# Class Address

Address object.

Inheritance

System.Object

Address

[Partner](#)

Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Configuration](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public class Address
```

## Properties

### City

Declaration

```
[Required]  
public string City { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

### CountryCode

Countrycode according ISO 3166 alpha-3

Declaration

```
[Required]  
public string CountryCode { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

### FullStreet

returns the combination of street and street number

Declaration

```
public string FullStreet { get; }
```

Property Value

TYPE	DESCRIPTION
System.String	

PostalCode

Declaration

```
[Required]  
public string PostalCode { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

Street

Declaration

```
[Required]  
public string Street { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

StreetNumber

Declaration

```
[Required]  
public string StreetNumber { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

# Class CashRegister

A single cash Register

## Inheritance

System.Object

ValidationBase<ValidationError>

ValidationPropertyBase<ValidationError>

ConfigurationValidationBase

CashRegister

## Inherited Members

ConfigurationValidationBase.ValidateCountrySpecificProperty<CountryRequiredAttributeType>()

ConfigurationValidationBase.VALIDATION\_ERROR\_SOURCE

ConfigurationValidationBase.AddPropertyError(ErrorLevel, String, String, String)

ConfigurationValidationBase.ValidateElement()

ValidationPropertyBase<ValidationError>.Validate()

ValidationPropertyBase<ValidationError>.ValidateProperties()

ValidationPropertyBase<ValidationError>.ValidatePropertiesAbstract<RequiredAttributeType>(Boolean)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Configuration](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class CashRegister : ConfigurationValidationBase
```

## Properties

### Brand

The manufacturer of the hardware cashregister.

## Declaration

```
public string Brand { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.String	

### CurrencyIsoCode

The currency iso code of the base currency according to ISO 4217.

## Declaration

```
[Required]  
public string CurrencyIsoCode { get; set; }
```

## Property Value



TYPE	DESCRIPTION
System.String	

Remarks

All amounts stored in the document are based to this currency code (except special marked foreign amounts).

**Id**

The id of the cash register

Declaration

```
public string Id { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

**Modelname**

The model name of the hardware cashregister.

Declaration

```
public string Modelname { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

**SerialNumber**

The serial number of the cashregister.

Declaration

```
public string SerialNumber { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

**Software**

The used cashregister software and it's version.

Declaration

```
public Software Software { get; set; }
```

Property Value

TYPE	DESCRIPTION
Software	

# Class ClientConfigurationJsonConverter

Json Converter to read client configuration

## Inheritance

System.Object

Newtonsoft.Json.JsonConverter

ClientConfigurationJsonConverter

## Inherited Members

Newtonsoft.Json.JsonConverter.CanRead

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Configuration](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class ClientConfigurationJsonConverter : JsonConverter
```

## Properties

### CanWrite

#### Declaration

```
public override bool CanWrite { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Boolean	

## Overrides

Newtonsoft.Json.JsonConverter.CanWrite

## Methods

### CanConvert(Type)

#### Declaration

```
public override bool CanConvert(Type objectType)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Type	objectType	

## Returns

TYPE	DESCRIPTION
System.Boolean	

Overrides

Newtonsoft.Json.JsonConverter.CanConvert(System.Type)

ReadJson(JsonReader, Type, Object, JsonSerializer)

Declaration

```
public override object ReadJson(JsonReader reader, Type objectType, object existingValue, JsonSerializer serializer)
```

Parameters

TYPE	NAME	DESCRIPTION
Newtonsoft.Json.JsonReader	reader	
System.Type	objectType	
System.Object	existingValue	
Newtonsoft.Json.JsonSerializer	serializer	

Returns

TYPE	DESCRIPTION
System.Object	

Overrides

Newtonsoft.Json.JsonConverter.ReadJson(Newtonsoft.Json.JsonReader, System.Type, System.Object, Newtonsoft.Json.JsonSerializer)

WriteJson(JsonWriter, Object, JsonSerializer)

Declaration

```
public override void WriteJson(JsonWriter writer, object value, JsonSerializer serializer)
```

Parameters

TYPE	NAME	DESCRIPTION
Newtonsoft.Json.JsonWriter	writer	
System.Object	value	
Newtonsoft.Json.JsonSerializer	serializer	

Overrides

Newtonsoft.Json.JsonConverter.WriteJson(Newtonsoft.Json.JsonWriter, System.Object, Newtonsoft.Json.JsonSerializer)

# Class CompanyIdentification

Represents a company identification number (vat number, tax number, ...)

## Inheritance

System.Object

CompanyIdentification

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Configuration](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class CompanyIdentification
```

## Properties

### Identification

The identification according to the type.

#### Declaration

```
public string Identification { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

## Type

The type of the identification.

#### Declaration

```
public CompanyIdentification.IdentificationType Type { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">CompanyIdentification.IdentificationType</a>	

# Enum CompanyIdentification.IdentificationType

The supported identification types.

Namespace: [RetailForce.Fiscalisation.Configuration](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public enum IdentificationType
```

## Fields

NAME	DESCRIPTION
GlnNumber	
TaxNumber	
VatNumber	

# Class ConfigurationProviderBase

Abstract configuration provider to load the configuration for the fiscal system.

## Inheritance

System.Object

ConfigurationProviderBase

[JsonConfigurationProviderBase](#)

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Configuration](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public abstract class ConfigurationProviderBase
```

## Fields

### Clients

The list of all clients stored at this provider.

#### Declaration

```
protected Dictionary<Guid, FiscalClient> Clients
```

#### Field Value

TYPE	DESCRIPTION
System.Collections.Generic.Dictionary<System.Guid, <a href="#">FiscalClient</a> >	

## Methods

### CreateClient(FiscalClient)

Creates a new client and stores it to the store.

#### Declaration

```
public void CreateClient(FiscalClient client)
```

#### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">FiscalClient</a>	client	The new client.

### GetClientConfiguration(Guid)

#### Declaration

```
public FiscalClient GetClientConfiguration(Guid clientId)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Guid	clientId	

#### Returns

TYPE	DESCRIPTION
<a href="#">FiscalClient</a>	

### GetClients()

Gets a list of all available clients stored at the system.

#### Declaration

```
public Guid[] GetClients()
```

#### Returns

TYPE	DESCRIPTION
System.Guid[]	A list of all available unique client id's.

### LoadConfiguration()

Loads the configuration into memory from the appropriate store.

#### Declaration

```
public abstract void LoadConfiguration()
```

### StoreConfiguration()

Stores the configuration from memory into the appropriate store.

#### Declaration

```
public abstract void StoreConfiguration()
```



# Class ConfigurationValidationBase

Base class for all configuration objects with validation.

## Inheritance

System.Object

[ValidationBase<ValidationError>](#)

[ValidationPropertyBase<ValidationError>](#)

ConfigurationValidationBase

[CashRegister](#)

[FiscalClient](#)

[ClientConfiguration](#)

[TaxonomyStoreConfiguration](#)

[TseConfiguration](#)

## Inherited Members

[ValidationPropertyBase<ValidationError>.Validate\(\)](#)

[ValidationPropertyBase<ValidationError>.ValidateProperties\(\)](#)

[ValidationPropertyBase<ValidationError>.ValidatePropertiesAbstract<RequiredAttributeType>\(Boolean\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Configuration](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public abstract class ConfigurationValidationBase : ValidationPropertyBase<ValidationError>
```

## Properties

### VALIDATION\_ERROR\_SOURCE

The correct validation error source for "ConfigurationValidation"

## Declaration

```
protected override string VALIDATION_ERROR_SOURCE { get; }
```

## Property Value

TYPE	DESCRIPTION
System.String	

## Overrides

RetailForce.Fiscalisation.ValidationBase<RetailForce.Fiscalisation.ValidationError>.VALIDATION\_ERROR\_SOURCE

## Methods

### AddPropertyError(ErrorLevel, String, String, String)

Adds a property attribute error with to correct implementation of ValidationErrorType.

## Declaration

```
protected override ValidationError AddPropertyError(ErrorLevel level, string declaringTypeName, string propertyName, string errorString)
```

## Parameters

TYPE	NAME	DESCRIPTION
<a href="#">ErrorLevel</a>	level	The level of the property error.
System.String	declaringTypeName	The name of the declaring type of the property with the validation error.
System.String	propertyName	The name of the property with the validation error.
System.String	errorString	The error description of the property error.

Returns

TYPE	DESCRIPTION
<a href="#">ValidationError</a>	The created <a href="#">ValidationError</a> .

Overrides

RetailForce.Fiscalisation.ValidationPropertyBase<RetailForce.Fiscalisation.ValidationError>.AddPropertyError(RetailForce.Fiscalisation.ErrorLevel, System.String, System.String, System.String)

ValidateCountrySpecificProperty<CountryRequiredAttributeType>()

Declaration

```
public List<ValidationError> ValidateCountrySpecificProperty<CountryRequiredAttributeType>()
    where CountryRequiredAttributeType : RequiredAttribute
```

Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">ValidationError</a> >	

Type Parameters

NAME	DESCRIPTION
CountryRequiredAttributeType	

ValidateElement()

Validates the element with element specific validation and returns a list of validation errors.

Declaration

```
protected override List<ValidationError> ValidateElement()
```

Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">ValidationError</a> >	A list of <a href="#">ValidationError</a> objects.

Overrides

RetailForce.Fiscalisation.ValidationBase<RetailForce.Fiscalisation.ValidationError>.ValidateElement()

# Class FileConfigurationProvider

Configuration provider with file access (one file for all clients).

## Inheritance

System.Object

[ConfigurationProviderBase](#)

[JsonConfigurationProviderBase](#)

FileConfigurationProvider

## Inherited Members

[JsonConfigurationProviderBase.GetJsonConfiguration\(\)](#)

[JsonConfigurationProviderBase.GetFiscalClients\(String\)](#)

[ConfigurationProviderBase.Clients](#)

[ConfigurationProviderBase.CreateClient\(FiscalClient\)](#)

[ConfigurationProviderBase.GetClients\(\)](#)

[ConfigurationProviderBase.GetClientConfiguration\(Guid\)](#)

[System.Object.Equals\(System.Object\)](#)

[System.Object.Equals\(System.Object, System.Object\)](#)

[System.Object.GetHashCode\(\)](#)

[System.Object.GetType\(\)](#)

[System.Object.MemberwiseClone\(\)](#)

[System.Object.ReferenceEquals\(System.Object, System.Object\)](#)

[System.Object.ToString\(\)](#)

Namespace: [RetailForce.Fiscalisation.Configuration](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class FileConfigurationProvider : JsonConfigurationProviderBase
```

## Constructors

### FileConfigurationProvider(String)

Constructor.

## Declaration

```
public FileConfigurationProvider(string configurationFile)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.String	configurationFile	The path to the configuration file. If no configuration file is found a new one is created.

## Exceptions

TYPE	CONDITION
System.IO.DirectoryNotFoundException	Thrown if the path of the given <code>configurationFile</code> is not found.
System.ArgumentNullException	Thrown if <code>configurationFile</code> is set to null or empty string.

## Methods

### LoadConfiguration()

Loads the configuration into memory from the appropriate store.

Declaration

```
public override void LoadConfiguration()
```

Overrides

[ConfigurationProviderBase.LoadConfiguration\(\)](#)

### StoreConfiguration()

Stores the configuration from memory into the appropriate store.

Declaration

```
public override void StoreConfiguration()
```

Overrides

[ConfigurationProviderBase.StoreConfiguration\(\)](#)

# Class FiscalClient

Represents a single fiscal client (representation of a cash register)

## Inheritance

System.Object

ValidationBase<ValidationError>

ValidationPropertyBase<ValidationError>

ConfigurationValidationBase

FiscalClient

## Implements

System.IEquatable<FiscalClient>

## Inherited Members

ConfigurationValidationBase.ValidateCountrySpecificProperty<CountryRequiredAttributeType>()

ConfigurationValidationBase.VALIDATION\_ERROR\_SOURCE

ConfigurationValidationBase.AddPropertyError(ErrorLevel, String, String, String)

ConfigurationValidationBase.ValidateElement()

ValidationPropertyBase<ValidationError>.Validate()

ValidationPropertyBase<ValidationError>.ValidateProperties()

ValidationPropertyBase<ValidationError>.ValidatePropertiesAbstract<RequiredAttributeType>(Boolean)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

Namespace: [RetailForce.Fiscalisation.Configuration](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class FiscalClient : ConfigurationValidationBase, IEquatable<FiscalClient>
```

## Properties

### CashRegister

Information about the cash register.

## Declaration

```
public CashRegister CashRegister { get; set; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">CashRegister</a>	

### CompanyAddress

The address of the company (not the address of the store, except they are the same).

## Declaration

```
public Address CompanyAddress { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
Address	

#### CompanyIdentification

The company identification.

#### Declaration

```
public CompanyIdentification[] CompanyIdentification { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
CompanyIdentification[]	

#### Remarks

For germany at least taxnumber and vatnumber must be set.

#### CompanyName

The name of the company.

#### Declaration

```
[Required]  
public string CompanyName { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### Remarks

It is necessary that this is the correct name according to country specific law.

#### CompanyTaxNumber

The tax number of the company

#### Declaration

```
public string CompanyTaxNumber { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### CompanyVatNumber

The vat number of the company

#### Declaration

```
public string CompanyVatNumber { get; }
```

Property Value

TYPE	DESCRIPTION
System.String	

### DistributerId

The distributor id for the license for the fiscal client.

Declaration

```
public Guid DistributerId { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Guid	

### FiscalCountry

The fiscal country for the fiscal implementation.

Declaration

```
[Required]  
public FiscalCountry FiscalCountry { get; set; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">FiscalCountry</a>	

Remarks

Possible values at the moment are:

- Germany

### FiscalModullImplementationConfiguration

The configuration for the country specific implementation.

Declaration

```
[Required]  
public IFiscalImplementationConfiguration FiscalModullImplementationConfiguration { get; set; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">IFiscalImplementationConfiguration</a>	

### LicenseConsumerId

The licence consumer (buyer) of the license for this fiscal client.

#### Declaration

```
public Guid LicenseConsumerId { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Guid	

#### SimpleCashPointClosing

True if the fiscal module supports simple cashpoint closing (end of day); Otherwise false.

#### Declaration

```
public bool SimpleCashPointClosing { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Boolean	

#### Remarks

In this case calculation of payments during a day will be done.

#### StoreAddress

The address of the store where the cash register resides.

#### Declaration

```
public Address StoreAddress { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">Address</a>	

#### StoreName

The name of the store.

#### Declaration

```
public string StoreName { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### StoreNumber

The identification (number or string) of the store.

#### Declaration



```
[Required]
public string StoreNumber { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### TerminalNumber

The terminal number of the cash register (if there are more than one terminal at one store).

#### Declaration

```
[Required]
public string TerminalNumber { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### TestClient

True if this client is a test client; otherwise false.

#### Declaration

```
public bool TestClient { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Boolean	

### UniqueClientId

Represents the unique client id of the fiscal client.

#### Declaration

```
[Required]
public Guid UniqueClientId { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Guid	

### Methods

#### Equals(FiscalClient)

Returns whether the given object equals the current object or not.

#### Declaration

```
public bool Equals(FiscalClient other)
```

#### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">FiscalClient</a>	other	The object to compare.

#### Returns

TYPE	DESCRIPTION
System.Boolean	True if the given <a href="#">FiscalClient</a> has the same <a href="#">UniqueClientId</a> than the current object.

#### ToString()

Returns the client as string representation.

#### Declaration

```
public override string ToString()
```

#### Returns

TYPE	DESCRIPTION
System.String	

#### Overrides

System.Object.ToString()

#### Implements

System.IEquatable<T>

# Enum FiscalCountry

Supported countries.

Namespace: [RetailForce.Fiscalisation.Configuration](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public enum FiscalCountry
```

## Fields

NAME	DESCRIPTION
Germany	

# Interface IFiscalImplementationConfiguration

Basic interface for client configuration according to the correct country.

Namespace: [RetailForce.Fiscalisation.Configuration](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
[JsonConverter(typeof(ClientConfigurationJsonConverter))]  
public interface IFiscalImplementationConfiguration
```

## Properties

### FiscalCountry

The fiscal country of the client configuration.

Declaration

```
FiscalCountry FiscalCountry { get; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">FiscalCountry</a>	

# Class JsonConfiguration

The Json configuration class for the list of clients.

## Inheritance

System.Object

JsonConfiguration

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Configuration](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class JsonConfiguration
```

## Constructors

JsonConfiguration(List<FiscalClient>)

Constructor.

## Declaration

```
public JsonConfiguration(List<FiscalClient> clients)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Collections.Generic.List< <a href="#">FiscalClient</a> >	clients	

## Properties

FiscalClients

The list of fiscal clients.

## Declaration

```
public List<FiscalClient> FiscalClients { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">FiscalClient</a> >	

# Class JsonConfigurationProviderBase

Base class to read configuration from json string.

## Inheritance

System.Object

[ConfigurationProviderBase](#)

JsonConfigurationProviderBase

[FileConfigurationProvider](#)

## Inherited Members

[ConfigurationProviderBase.Clients](#)

[ConfigurationProviderBase.CreateClient\(FiscalClient\)](#)

[ConfigurationProviderBase.GetClients\(\)](#)

[ConfigurationProviderBase.GetClientConfiguration\(Guid\)](#)

[ConfigurationProviderBase.LoadConfiguration\(\)](#)

[ConfigurationProviderBase.StoreConfiguration\(\)](#)

[System.Object.Equals\(System.Object\)](#)

[System.Object.Equals\(System.Object, System.Object\)](#)

[System.Object.GetHashCode\(\)](#)

[System.Object.GetType\(\)](#)

[System.Object.MemberwiseClone\(\)](#)

[System.Object.ReferenceEquals\(System.Object, System.Object\)](#)

[System.Object.ToString\(\)](#)

Namespace: [RetailForce.Fiscalisation.Configuration](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public abstract class JsonConfigurationProviderBase : ConfigurationProviderBase
```

## Methods

### GetFiscalClients(String)

Sets internal clients object based from the json configuration string.

#### Declaration

```
protected void GetFiscalClients(string jsonConfigurationString)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.String	jsonConfigurationString	

### GetJsonConfiguration()

Returns a string containing the json configuration.

#### Declaration

```
protected string GetJsonConfiguration()
```

#### Returns

TYPE	DESCRIPTION
System.String	The json string containing the configuration for the clients.

# Class Software

Cashregister software information.

## Inheritance

System.Object

Software

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Configuration](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class Software
```

## Properties

### Brand

The name of the used cashregister software.

#### Declaration

```
public string Brand { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### Version

The actual version of the used cashregister software.

#### Declaration

```
public string Version { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	



# Namespace RetailForce.Fiscalisation.Constants

Classes

[TaxonomyStoreConstants](#)

Taxonomy store constants !!! this class is only public so we can use the values in the unit test, which is not an optimal solution, but otherwise we have to adapt the unit test whenever a value changes

# Class TaxonomyStoreConstants

Taxonomy store constants !!! this class is only public so we can use the values in the unit test, which is not an optimal solution, but otherwise we have to adapt the unit test whenever a value changes

## Inheritance

System.Object

TaxonomyStoreConstants

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Constants](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public static class TaxonomyStoreConstants
```

## Fields

### FS\_CASHPOINTCLOSING\_FILE\_ENTRY

Cashpoint closing

#### Declaration

```
public const string FS_CASHPOINTCLOSING_FILE_ENTRY = "CashpointClosing.json"
```

#### Field Value

TYPE	DESCRIPTION
System.String	

### FS\_CASHPOINTCLOSINGHEAD\_FILE\_ENTRY

Cashpoint closing head

#### Declaration

```
public const string FS_CASHPOINTCLOSINGHEAD_FILE_ENTRY = "Head.json"
```

#### Field Value

TYPE	DESCRIPTION
System.String	

### FS\_FILE\_INITIAL\_CLOSINGNUMBER

Initial closing number (first closing number)

#### Declaration

```
public const int FS_FILE_INITIAL_CLOSINGNUMBER = 1
```

Field Value

TYPE	DESCRIPTION
System.Int32	

### FS\_FILE\_NAME\_FORMAT

File store file name 0: date format (yyyyMMdd) 1: cashpoint closing number

Declaration

```
public static readonly string FS_FILE_NAME_FORMAT
```

Field Value

TYPE	DESCRIPTION
System.String	

### FS\_REFERENCE\_FILE\_NAME

File name of reference file

Declaration

```
public static readonly string FS_REFERENCE_FILE_NAME
```

Field Value

TYPE	DESCRIPTION
System.String	

### FS\_REFERENCE\_ZIP\_FILE\_NAME

File name of the zip file with reference file

Declaration

```
public static readonly string FS_REFERENCE_ZIP_FILE_NAME
```

Field Value

TYPE	DESCRIPTION
System.String	

### FS\_TRANSACTION\_ENTRY\_FORMAT

File store transaction entry name 0: transaction number

Declaration

```
public static readonly string FS_TRANSACTION_ENTRY_FORMAT
```

Field Value

TYPE	DESCRIPTION
System.String	

# Namespace RetailForce.Fiscalisation.Entities

## Classes

[LimitedQueue<T>](#)

[LogError<T>](#)

[LogMessage<T>](#)

[ZipFileExtended](#)

Zip Utils this is only public so we can use it on our unit tests (which is not 100% optimal)

# Class LimitedQueue<T>

## Inheritance

System.Object

LimitedQueue<T>

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Entities](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class LimitedQueue<T>
```

## Type Parameters

NAME	DESCRIPTION
T	

## Constructors

### LimitedQueue(Int32)

#### Constructor

#### Declaration

```
public LimitedQueue(int size)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Int32	size	

## Properties

### \_size

### Limit

#### Declaration

```
public int _size { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.Int32	

## Methods

## Enqueue(T)

Declaration

```
public void Enqueue(T obj)
```

Parameters

TYPE	NAME	DESCRIPTION
T	obj	

## GetAll()

Get all

Declaration

```
public List<T> GetAll()
```

Returns

TYPE	DESCRIPTION
System.Collections.Generic.List<T>	

## TryDequeue(out T)

Dequeue

Declaration

```
public bool TryDequeue(out T result)
```

Parameters

TYPE	NAME	DESCRIPTION
T	result	

Returns

TYPE	DESCRIPTION
System.Boolean	

# Class LogError<T>

## Inheritance

System.Object

[LogMessage<T>](#)

LogError<T>

## Inherited Members

[LogMessage<T>.Timestamp](#)

[LogMessage<T>.Level](#)

[LogMessage<T>.State](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

Namespace: [RetailForce.Fiscalisation.Entities](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class LogError<T> : LogMessage<T>
```

## Type Parameters

NAME	DESCRIPTION
T	

## Properties

### Exception

Exception

## Declaration

```
public Exception Exception { get; }
```

## Property Value

TYPE	DESCRIPTION
System.Exception	

## Methods

ToString()

ToString

## Declaration

```
public override string ToString()
```

## Returns



TYPE	DESCRIPTION
System.String	

Overrides

RetailForce.Fiscalisation.Entities.LogMessage<T>.ToString()

# Class LogMessage<T>

## Inheritance

System.Object  
LogMessage<T>  
[LogError<T>](#)

## Inherited Members

System.Object.Equals(System.Object)  
System.Object.Equals(System.Object, System.Object)  
System.Object.GetHashCode()  
System.Object.GetType()  
System.Object.MemberwiseClone()  
System.Object.ReferenceEquals(System.Object, System.Object)

Namespace: [RetailForce.Fiscalisation.Entities](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class LogMessage<T>
```

## Type Parameters

NAME	DESCRIPTION
T	

## Properties

### Level

Log level

### Declaration

```
public LogLevel Level { get; }
```

### Property Value

TYPE	DESCRIPTION
Microsoft.Extensions.Logging.LogLevel	

### State

State

### Declaration

```
public T State { get; }
```

### Property Value

TYPE	DESCRIPTION
T	

### Timestamp

Timestamp

#### Declaration

```
public DateTime Timestamp { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.DateTime	

#### Methods

ToString()

ToString

#### Declaration

```
public override string ToString()
```

#### Returns

TYPE	DESCRIPTION
System.String	

#### Overrides

System.Object.ToString()

# Class ZipFileExtended

Zip Utils this is only public so we can use it on our unit tests (which is not 100% optimal)

## Inheritance

System.Object

ZipFileExtended

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Entities](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class ZipFileExtended
```

## Methods

### AddJsonEntry<T>(String, T)

Adds object as json

## Declaration

```
public void AddJsonEntry<T>(string entryName, T entry)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.String	entryName	
T	entry	

## Type Parameters

NAME	DESCRIPTION
T	

### Contains(String, Boolean)

Check if zip contains entry

## Declaration

```
public bool Contains(string entryName, bool ignoreCase = true)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.String	entryName	
System.Boolean	ignoreCase	

Returns

TYPE	DESCRIPTION
System.Boolean	

## Create(String)

Create new zip file

Declaration

```
public static ZipFileExtended Create(string file)
```

Parameters

TYPE	NAME	DESCRIPTION
System.String	file	

Returns

TYPE	DESCRIPTION
<a href="#">ZipFileExtended</a>	

## GetEntries()

Get Entries

Declaration

```
public List<string> GetEntries()
```

Returns

TYPE	DESCRIPTION
System.Collections.Generic.List<System.String>	

## GetJsonEntry<T>(String)

Get json entry

Declaration

```
public T GetJsonEntry<T>(string entryName)
```

Parameters

TYPE	NAME	DESCRIPTION
System.String	entryName	

#### Returns

TYPE	DESCRIPTION
T	

#### Type Parameters

NAME	DESCRIPTION
T	

### Open(String)

Zip file extended

#### Declaration

```
public static ZipFileExtended Open(string file)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.String	file	

#### Returns

TYPE	DESCRIPTION
<a href="#">ZipFileExtended</a>	

### Remove(String)

Remove entry

#### Declaration

```
public bool Remove(string entryName)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.String	entryName	

#### Returns

TYPE	DESCRIPTION
System.Boolean	

# Namespace RetailForce.Fiscalisation.Implementation

## Classes

[TrustedFiscalModuleImplementationBase](#)

# Class TrustedFiscalModuleImplementationBase

## Inheritance

System.Object

[LoggingBase](#)

TrustedFiscalModuleImplementationBase

[TrustedFiscalModuleGermany](#)

## Implements

[IFiscalModulImplementation](#)

[IDocumentInterface](#)

## Inherited Members

[LoggingBase.\\_logger](#)

[LoggingBase.\\_logSource](#)

[LoggingBase.LogCritical\(String, Object\[\]\)](#)

[LoggingBase.LogCritical\(Exception, String, Object\[\]\)](#)

[LoggingBase.LogError\(String, Object\[\]\)](#)

[LoggingBase.LogError\(Exception, String, Object\[\]\)](#)

[LoggingBase.LogWarning\(String, Object\[\]\)](#)

[System.Object.Equals\(System.Object\)](#)

[System.Object.Equals\(System.Object, System.Object\)](#)

[System.Object.GetHashCode\(\)](#)

[System.Object.GetType\(\)](#)

[System.Object.MemberwiseClone\(\)](#)

[System.Object.ReferenceEquals\(System.Object, System.Object\)](#)

[System.Object.ToString\(\)](#)

Namespace: [RetailForce.Fiscalisation.Implementation](#)

Assembly: [RetailForce.Fiscalisation.dll](#)

## Syntax

```
public abstract class TrustedFiscalModuleImplementationBase : LoggingBase, IFiscalModulImplementation, IDocumentInterface
```

## Constructors

[TrustedFiscalModuleImplementationBase\(ILogger, String\)](#)

Constructor.

## Declaration

```
public TrustedFiscalModuleImplementationBase(ILogger logger, string logSource)
```

## Parameters

TYPE	NAME	DESCRIPTION
Microsoft.Extensions.Logging.ILogger	logger	The logger for this class.
System.String	logSource	The name of the source when a log entry is written.

## Exceptions



TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>logger</code> or <code>logSource</code> is set to null.

## Properties

### AvailableVatDefinitions

Returns all vat objects which are available in this country.

#### Declaration

```
public abstract IReadOnlyList<Vat> AvailableVatDefinitions { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.IReadOnlyList<Vat>	

### ProcessingDocumentTypes

Returns all document types which are processed by this interface.

#### Declaration

```
public abstract IReadOnlyList<DocumentType> ProcessingDocumentTypes { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.IReadOnlyList<DocumentType>	

### SupportedDocumentTypes

Returns all supported document types by this fiscal module.

#### Declaration

```
public abstract IReadOnlyList<DocumentType> SupportedDocumentTypes { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.IReadOnlyList<DocumentType>	

## Methods

### CancelDocument(Document)

Cancels a document on the fiscal interface.

#### Declaration

```
public abstract FiscalResponse CancelDocument(Document document)
```

#### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">Document</a>	document	The document to cancel.

#### Returns

TYPE	DESCRIPTION
<a href="#">FiscalResponse</a>	A <a href="#">FiscalResponse</a> object representing the appropriate fiscal response data.

### CreateDocument(DocumentType)

Creates a document at the fiscal interface and returns appropriate data.

#### Declaration

```
public abstract FiscalResponse CreateDocument(DocumentType documentType)
```

#### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">DocumentType</a>	documentType	The type of the document for which the document should be created.

#### Returns

TYPE	DESCRIPTION
<a href="#">FiscalResponse</a>	A <a href="#">FiscalResponse</a> object representing the appropriate fiscal response data.

#### Remarks

For more information concerning the [FiscalResponse](#) look at the fiscal response for the applicable country implementation.

### GetDocumentMandatoryFields(Type)

Returns the mandatory fields for this type for the given country implementation.

#### Declaration

```
public virtual IReadOnlyList<string> GetDocumentMandatoryFields(Type t)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Type	t	The type to get the mandatory fields.

#### Returns

TYPE	DESCRIPTION

TYPE	DESCRIPTION
System.Collections.Generic.IReadOnlyList<System.String>	A list of property names representing the mandatory fields for this country implementation.

### GetTaxFreeVat()

Returns the vat object for country specific zero tax based transactions.

Declaration

```
public abstract Vat GetTaxFreeVat()
```

Returns

TYPE	DESCRIPTION
Vat	A vat object representing the zero tax based vat object.

Remarks

Can be used for payin/payout, cash difference.

### GetVatIdentification(Decimal, DateTime)

Returns the appropriate vat identification for the requested percentage and date/time.

Declaration

```
public virtual int? GetVatIdentification(decimal vatPercent, DateTime requestDate)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Decimal	vatPercent	The vat percentage for the requested vat identification.
System.DateTime	requestDate	The date/time for the requested vat identification.

Returns

TYPE	DESCRIPTION
System.Nullable<System.Int32>	

### StoreDocument(Document)

Stores a document to the fiscal interface.

Declaration

```
public abstract FiscalResponse StoreDocument(Document document)
```

Parameters

TYPE	NAME	DESCRIPTION
<a href="#">Document</a>	document	The document to store.

#### Returns

TYPE	DESCRIPTION
<a href="#">FiscalResponse</a>	A <a href="#">FiscalResponse</a> object representing the appropriate fiscal response data.

#### Remarks

For more information concerning the [FiscalResponse](#) look at the fiscal response for the applicable country implementation.

### ValidateDocument(Document)

Validates a document and returns (if appropriate) a list of document validation errors.

#### Declaration

```
public abstract List<DocumentValidationError> ValidateDocument(Document document)
```

#### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">Document</a>	document	The document to validate.

#### Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">DocumentValidationError</a> >	The list of document validation errors.

### ValidateFiscalClient(Document)

Validates the fiscal client for the given document.

#### Declaration

```
public abstract List<DocumentValidationError> ValidateFiscalClient(Document document)
```

#### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">Document</a>	document	The document containing the fiscal client.

#### Returns

TYPE	DESCRIPTION

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">DocumentValidationError</a> >	A list of document validation errors.

### Implements

[IFiscalModulImplementation](#)

[IDocumentInterface](#)

# Namespace RetailForce.Fiscalisation.Implementation.Austria

## Classes

[TrustedFiscalModuleAustria](#)

## Interfaces

[ISignageInterface](#)

# Interface ISignageInterface

Namespace: [RetailForce.Fiscalisation.Implementation.Austria](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public interface ISignageInterface
```

# Class TrustedFiscalModuleAustria

## Inheritance

System.Object

TrustedFiscalModuleAustria

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Austria](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TrustedFiscalModuleAustria
```



# Namespace

## RetailForce.Fiscalisation.Implementation.Austria.Smartcard

### Classes

[ATrustCard](#)

[SmartcardBase](#)

# Class ATrustCard

## Inheritance

System.Object

ATrustCard

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Austria.Smartcard](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class ATrustCard
```

# Class SmartcardBase

## Inheritance

System.Object

SmartcardBase

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Austria.Smartcard](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class SmartcardBase
```

# Namespace RetailForce.Fiscalisation.Implementation.Germany

## Classes

### [ClientConfiguration](#)

The german country specific configuration for the client.

### [DocumentModelExtensions](#)

Adds certain functionality for document model only needed for german fiscalisation.

### [FiscalResponseGermany](#)

Fiscal response for germany fiscal implementation. Derived from [FiscalResponse](#).

### [GermanFiscalisationRequiredAttribute](#)

Attribute for properties of objects which are necessary for german fiscalisation.

### [GermanyValidation](#)

### [TaxonomyCloudStoreConfigruation](#)

The configuration for the cloud taxonomy store (DS-FinVK).

### [TaxonomyFileStoreConfiguration](#)

The configuration for the local taxonomy store (DS-FinVK).

### [TaxonomyStoreConfiguration](#)

Base class for taxonomy store configuration

### [TrustedFiscalModuleGermany](#)

Implementation for fiscal regulations in germany.

### [TseConfiguration](#)

Configuration for a single tse unit.

## Interfaces

### [ITseInterface](#)

## Enums

### [TseDriver](#)

The actual implemented Tse Driver for german fiscalisation.

# Class ClientConfiguration

The german country specific configuration for the client.

## Inheritance

System.Object

[ValidationBase<ValidationError>](#)

[ValidationPropertyBase<ValidationError>](#)

[ConfigurationValidationBase](#)

ClientConfiguration

## Implements

[IFiscalImplementationConfiguration](#)

## Inherited Members

[ConfigurationValidationBase.ValidateCountrySpecificProperty<CountryRequiredAttributeType>\(\)](#)

[ConfigurationValidationBase.VALIDATION\\_ERROR\\_SOURCE](#)

[ConfigurationValidationBase.AddPropertyError\(ErrorLevel, String, String, String\)](#)

[ConfigurationValidationBase.ValidateElement\(\)](#)

[ValidationPropertyBase<ValidationError>.Validate\(\)](#)

[ValidationPropertyBase<ValidationError>.ValidateProperties\(\)](#)

[ValidationPropertyBase<ValidationError>.ValidatePropertiesAbstract<RequiredAttributeType>\(Boolean\)](#)

[System.Object.Equals\(System.Object\)](#)

[System.Object.Equals\(System.Object, System.Object\)](#)

[System.Object.GetHashCode\(\)](#)

[System.Object.GetType\(\)](#)

[System.Object.MemberwiseClone\(\)](#)

[System.Object.ReferenceEquals\(System.Object, System.Object\)](#)

[System.Object.ToString\(\)](#)

Namespace: [RetailForce.Fiscalisation.Implementation.Germany](#)

Assembly: [RetailForce.Fiscalisation.dll](#)

## Syntax

```
public class ClientConfiguration : ConfigurationValidationBase, IFiscalImplementationConfiguration
```

## Properties

### FiscalCountry

Returns the fiscal country of the client configuration. In this case: Germany.

## Declaration

```
public FiscalCountry FiscalCountry { get; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">FiscalCountry</a>	

## PrimaryTse

Primary Tse Configuration.

## Declaration

```
public TseConfiguration PrimaryTse { get; set; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">TseConfiguration</a>	

### TaxonomyCloudStoreConfiguration

The configuration for the cloud taxonomy store (DS-FinVK).

Declaration

```
public TaxonomyCloudStoreConfigruation TaxonomyCloudStoreConfiguration { get; set; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">TaxonomyCloudStoreConfiguration</a>	

### TaxonomyFileStoreConfiguration

The configuration for the local taxonomy store (DS-FinVK).

Declaration

```
public TaxonomyFileStoreConfiguration TaxonomyFileStoreConfiguration { get; set; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">TaxonomyFileStoreConfiguration</a>	

### Implements

[IFiscalImplementationConfiguration](#)

# Class DocumentModelExtensions

Adds certain functionality for document model only needed for german fiscalisation.

## Inheritance

System.Object

DocumentModelExtensions

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public static class DocumentModelExtensions
```

## Methods

### GetBaseGrossValue(IBusinessTransactionTypePosition)

Returns the base gross value of the position. If the position has no base gross value -> gross value is returned instead.

## Declaration

```
public static decimal GetBaseGrossValue(this IBusinessTransactionTypePosition position)
```

## Parameters

TYPE	NAME	DESCRIPTION
<a href="#">IBusinessTransactionTypePosition</a>	position	The position to evaluate.

## Returns

TYPE	DESCRIPTION
System.Decimal	The base gross value of this position.

### GetBaseNetValue(IBusinessTransactionTypePosition)

Returns the base net value of the position. If the position has no base net value -> net value is returned instead.

## Declaration

```
public static decimal GetBaseNetValue(this IBusinessTransactionTypePosition position)
```

## Parameters

TYPE	NAME	DESCRIPTION
<a href="#">IBusinessTransactionTypePosition</a>	position	The position to evaluate.

Returns

TYPE	DESCRIPTION
System.Decimal	The base net value of this position.

### GetBaseTaxValue(IBusinessTransactionTypePosition)

Returns the base tax value of the position. If the position has no base tax value -> tax value is returned instead.

Declaration

```
public static decimal GetBaseTaxValue(this IBusinessTransactionTypePosition position)
```

Parameters

TYPE	NAME	DESCRIPTION
<a href="#">IBusinessTransactionTypePosition</a>	position	The position to evaluate.

Returns

TYPE	DESCRIPTION
System.Decimal	The base tax value of this position.

### GetCaption(IBusinessTransactionTypePosition)

Returns the caption of the position. For item positions ItemCaption will returned, for booking positions the caption of the position.

Declaration

```
public static string GetCaption(this IBusinessTransactionTypePosition position)
```

Parameters

TYPE	NAME	DESCRIPTION
<a href="#">IBusinessTransactionTypePosition</a>	position	The position to evaluate.

Returns

TYPE	DESCRIPTION
System.String	The caption of this position.



# Class FiscalResponseGermany

Fiscal response for germany fiscal implementation. Derived from [FiscalResponse](#).

## Inheritance

System.Object

FiscalResponseGermany

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public static class FiscalResponseGermany
```

## Methods

**CheckCountryAdditionalFields(ReadOnlyDictionary<String, Object>)**

Checks if all country specific fields are set in the dictionary.

## Declaration

```
public static void CheckCountryAdditionalFields(ReadOnlyDictionary<string, object> additionalFields)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Collections.ObjectModel.ReadOnlyDictionary<System.String, System.Object>	additionalFields	The dictionary of all country specific fields.

## Exceptions

TYPE	CONDITION
System.MissingMemberException	Thrown if a country specific field is missing.

**GetFiscalResponseGermany(Int32, Int32, String, String, String, Int64, Int64, Int64, String, String, String, String, String, String, Int64)**

Returns the fiscal response for germany out of the given parameters.

## Declaration

```
public static FiscalResponse GetFiscalResponseGermany(int fiscalDocumentNumber, int fiscalDocumentRevision, string signature, string errorDescription, string qrCodeDataString, long tseId, long transactionStartTime, long transactionEndTime, string processData, string processtype, string tseSerial, string tseTimeFormat, string tseHashAlgorithm, string tsePublicKey, long tseSignatureCounter)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Int32	fiscalDocumentNumber	The fiscalisation document number.
System.Int32	fiscalDocumentRevision	The revision of the fiscalisation document.
System.String	signature	The signature of the security device (country-specific)
System.String	errorDescription	The error description if the fiscalisation process failed. Empty if everything went well.
System.String	qrCodeDataString	The QR code data string according to Appendix I of DSFinV-K.
System.Int64	tseId	The identifier of the tss module.
System.Int64	transactionStartTime	The start time of the transaction. A timestamp / point in time measured in seconds since the Unix epoch.
System.Int64	transactionEndTime	The end time of the transaction. A timestamp / point in time measured in seconds since the Unix epoch.
System.String	processData	The process data of the signed transaction. Binary value (base64 encoded utf8 string). This is the processData according to "Anwendungserlass zu §146a AO".
System.String	processType	The process type of signed transaction. This is the processType according to "Anwendungserlass zu §146a AO".
System.String	tseSerial	The serialnumber of the tss module.
System.String	tseTimeFormat	The time format which is used by the tss.
System.String	tseHashAlgorithm	The hash algorithm which is used by the tss.
System.String	tsePublicKey	The public key of the tss.
System.Int64	tseSignatureCounter	The actual signature counter of the tss after signing the transaction.

#### Returns

TYPE	DESCRIPTION
<a href="#">FiscalResponse</a>	A <a href="#">FiscalResponse</a> object representing the fiscal response for germany.

#### ProcessData(FiscalResponse)

The process data of the signed transaction. Binary value (base64 encoded utf8 string). This is the processData according to "Anwendungserlass zu §146a AO".

#### Declaration

```
public static string ProcessData(this FiscalResponse fiscalResponse)
```

#### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">FiscalResponse</a>	fiscalResponse	

#### Returns

TYPE	DESCRIPTION
System.String	

#### ProcessType(FiscalResponse)

The process type of signed transaction. This is the processType according to "Anwendungserlass zu §146a AO".

#### Declaration

```
public static string Procestype(this FiscalResponse fiscalResponse)
```

#### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">FiscalResponse</a>	fiscalResponse	

#### Returns

TYPE	DESCRIPTION
System.String	

#### QrCodeDataString(FiscalResponse)

The QR code data string according to Appendix I of DSFinV-K.

#### Declaration

```
public static string QrCodeDataString(this FiscalResponse fiscalResponse)
```

#### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">FiscalResponse</a>	fiscalResponse	

Returns

TYPE	DESCRIPTION
System.String	

### TransactionEndTime(FiscalResponse)

The end time of the transaction. A timestamp / point in time measured in seconds since the Unix epoch.

Declaration

```
public static long TransactionEndTime(this FiscalResponse fiscalResponse)
```

Parameters

TYPE	NAME	DESCRIPTION
<a href="#">FiscalResponse</a>	fiscalResponse	

Returns

TYPE	DESCRIPTION
System.Int64	

### TransactionStartTime(FiscalResponse)

The start time of the transaction. A timestamp / point in time measured in seconds since the Unix epoch.

Declaration

```
public static long TransactionStartTime(this FiscalResponse fiscalResponse)
```

Parameters

TYPE	NAME	DESCRIPTION
<a href="#">FiscalResponse</a>	fiscalResponse	

Returns

TYPE	DESCRIPTION
System.Int64	

### TseHashAlgorithm(FiscalResponse)

The hash algorithm which is used by the tss.

Declaration

```
public static string TseHashAlgorithm(this FiscalResponse fiscalResponse)
```

Parameters

TYPE	NAME	DESCRIPTION
<a href="#">FiscalResponse</a>	fiscalResponse	

Returns

TYPE	DESCRIPTION
System.String	

### TseId(FiscalResponse)

The identifier of the tss module.

Declaration

```
public static long TseId(this FiscalResponse fiscalResponse)
```

Parameters

TYPE	NAME	DESCRIPTION
<a href="#">FiscalResponse</a>	fiscalResponse	

Returns

TYPE	DESCRIPTION
System.Int64	

### TsePublicKey(FiscalResponse)

The public key of the tss.

Declaration

```
public static string TsePublicKey(this FiscalResponse fiscalResponse)
```

Parameters

TYPE	NAME	DESCRIPTION
<a href="#">FiscalResponse</a>	fiscalResponse	

Returns

TYPE	DESCRIPTION
System.String	

### TseSerial(FiscalResponse)

The serialnumber of the tss module.

Declaration

```
public static string TseSerial(this FiscalResponse fiscalResponse)
```

Parameters

TYPE	NAME	DESCRIPTION
<a href="#">FiscalResponse</a>	fiscalResponse	

Returns

TYPE	DESCRIPTION
System.String	

### TseSignatureCounter(FiscalResponse)

The actual signature counter of the tss after signing the transaction.

Declaration

```
public static long TseSignatureCounter(this FiscalResponse fiscalResponse)
```

Parameters

TYPE	NAME	DESCRIPTION
<a href="#">FiscalResponse</a>	fiscalResponse	

Returns

TYPE	DESCRIPTION
System.Int64	

### TseTimeFormat(FiscalResponse)

The time format which is used by the tss.

Declaration

```
public static string TseTimeFormat(this FiscalResponse fiscalResponse)
```

Parameters

TYPE	NAME	DESCRIPTION
<a href="#">FiscalResponse</a>	fiscalResponse	

Returns

TYPE	DESCRIPTION
System.String	

# Class GermanFiscalisationRequiredAttribute

Attribute for properties of objects which are necessary for german fiscalisation.

## Inheritance

System.Object  
System.Attribute  
System.ComponentModel.DataAnnotations.ValidationAttribute  
System.ComponentModel.DataAnnotations.RequiredAttribute  
GermanFiscalisationRequiredAttribute

## Inherited Members

System.ComponentModel.DataAnnotations.RequiredAttribute.IsValid(System.Object)  
System.ComponentModel.DataAnnotations.RequiredAttribute.AllowEmptyStrings  
System.ComponentModel.DataAnnotations.ValidationAttribute.FormatErrorMessage(System.String)  
System.ComponentModel.DataAnnotations.ValidationAttribute.GetValidationResult(System.Object, System.ComponentModel.DataAnnotations.ValidationContext)  
System.ComponentModel.DataAnnotations.ValidationAttribute.IsValid(System.Object, System.ComponentModel.DataAnnotations.ValidationContext)  
System.ComponentModel.DataAnnotations.ValidationAttribute.Validate(System.Object, System.ComponentModel.DataAnnotations.ValidationContext)  
System.ComponentModel.DataAnnotations.ValidationAttribute.Validate(System.Object, System.String)  
System.ComponentModel.DataAnnotations.ValidationAttribute.ErrorMessage  
System.ComponentModel.DataAnnotations.ValidationAttribute.ErrorMessageResourceName  
System.ComponentModel.DataAnnotations.ValidationAttribute.ErrorMessageResourceType  
System.ComponentModel.DataAnnotations.ValidationAttribute.ErrorMessageString  
System.ComponentModel.DataAnnotations.ValidationAttribute.RequiresValidationContext  
System.Attribute.Equals(System.Object)  
System.Attribute.GetCustomAttribute(System.Reflection.Assembly, System.Type)  
System.Attribute.GetCustomAttribute(System.Reflection.Assembly, System.Type, System.Boolean)  
System.Attribute.GetCustomAttribute(System.Reflection.MemberInfo, System.Type)  
System.Attribute.GetCustomAttribute(System.Reflection.MemberInfo, System.Type, System.Boolean)  
System.Attribute.GetCustomAttribute(System.Reflection.Module, System.Type)  
System.Attribute.GetCustomAttribute(System.Reflection.Module, System.Type, System.Boolean)  
System.Attribute.GetCustomAttribute(System.Reflection.ParameterInfo, System.Type)  
System.Attribute.GetCustomAttribute(System.Reflection.ParameterInfo, System.Type, System.Boolean)  
System.Attribute.GetCustomAttributes(System.Reflection.Assembly)  
System.Attribute.GetCustomAttributes(System.Reflection.Assembly, System.Boolean)  
System.Attribute.GetCustomAttributes(System.Reflection.Assembly, System.Type)  
System.Attribute.GetCustomAttributes(System.Reflection.Assembly, System.Type, System.Boolean)  
System.Attribute.GetCustomAttributes(System.Reflection.MemberInfo)  
System.Attribute.GetCustomAttributes(System.Reflection.MemberInfo, System.Boolean)  
System.Attribute.GetCustomAttributes(System.Reflection.MemberInfo, System.Type)  
System.Attribute.GetCustomAttributes(System.Reflection.MemberInfo, System.Type, System.Boolean)  
System.Attribute.GetCustomAttributes(System.Reflection.Module)  
System.Attribute.GetCustomAttributes(System.Reflection.Module, System.Boolean)  
System.Attribute.GetCustomAttributes(System.Reflection.Module, System.Type)  
System.Attribute.GetCustomAttributes(System.Reflection.Module, System.Type, System.Boolean)  
System.Attribute.GetCustomAttributes(System.Reflection.ParameterInfo)  
System.Attribute.GetCustomAttributes(System.Reflection.ParameterInfo, System.Boolean)  
System.Attribute.GetCustomAttributes(System.Reflection.ParameterInfo, System.Type)  
System.Attribute.GetCustomAttributes(System.Reflection.ParameterInfo, System.Type, System.Boolean)  
System.Attribute.GetHashCode()

System.Attribute.IsDefaultAttribute()  
System.Attribute.IsDefined(System.Reflection.Assembly, System.Type)  
System.Attribute.IsDefined(System.Reflection.Assembly, System.Type, System.Boolean)  
System.Attribute.IsDefined(System.Reflection.MemberInfo, System.Type)  
System.Attribute.IsDefined(System.Reflection.MemberInfo, System.Type, System.Boolean)  
System.Attribute.IsDefined(System.Reflection.Module, System.Type)  
System.Attribute.IsDefined(System.Reflection.Module, System.Type, System.Boolean)  
System.Attribute.IsDefined(System.Reflection.ParameterInfo, System.Type)  
System.Attribute.IsDefined(System.Reflection.ParameterInfo, System.Type, System.Boolean)  
System.Attribute.Match(System.Object)  
System.Attribute.TypeId  
System.Object.Equals(System.Object, System.Object)  
System.Object.GetType()  
System.Object.MemberwiseClone()  
System.Object.ReferenceEquals(System.Object, System.Object)  
System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
[AttributeUsage(AttributeTargets.Property)]  
public class GermanFiscalisationRequiredAttribute : RequiredAttribute
```



# Class GermanyValidation

## Inheritance

System.Object  
GermanyValidation

## Inherited Members

System.Object.Equals(System.Object)  
System.Object.Equals(System.Object, System.Object)  
System.Object.GetHashCode()  
System.Object.GetType()  
System.Object.MemberwiseClone()  
System.Object.ReferenceEquals(System.Object, System.Object)  
System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public static class GermanyValidation
```

## Fields

### SupportedBusinessTypesMapping

#### Declaration

```
public static readonly ReadOnlyDictionary<BusinessTransactionType, BusinessCaseType>  
SupportedBusinessTypesMapping
```

#### Field Value

TYPE	DESCRIPTION
System.Collections.ObjectModel.ReadOnlyDictionary< <a href="#">BusinessTransactionType</a> , <a href="#">BusinessCaseType</a> >	

### SupportedBuyerTypeMapping

#### Declaration

```
public static readonly ReadOnlyDictionary<string, BuyerType> SupportedBuyerTypeMapping
```

#### Field Value

TYPE	DESCRIPTION
System.Collections.ObjectModel.ReadOnlyDictionary<System.String, <a href="#">BuyerType</a> >	

### SupportedDocumentTypesMapping

#### Declaration

```
public static readonly ReadOnlyDictionary<DocumentType, TransactionType> SupportedDocumentTypesMapping
```

#### Field Value

TYPE	DESCRIPTION
System.Collections.ObjectModel.ReadOnlyDictionary< <a href="#">DocumentType</a> , <a href="#">TransactionType</a> >	

## SupportedVatDefinitions

### Declaration

```
public static readonly ReadOnlyCollection<Vat> SupportedVatDefinitions
```

### Field Value

TYPE	DESCRIPTION
System.Collections.ObjectModel.ReadOnlyCollection<Vat>	

## Properties

### SupportedDocumentTypes

Represents the supported document types by germany fiscalisation.

### Declaration

```
public static List<DocumentType> SupportedDocumentTypes { get; }
```

### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List<DocumentType>	

## Methods

### ValidateDocument(Document)

validates the document

### Declaration

```
public static List<DocumentValidationError> ValidateDocument(Document document)
```

### Parameters

TYPE	NAME	DESCRIPTION
Document	document	Document to validate

### Returns

TYPE	DESCRIPTION
System.Collections.Generic.List<DocumentValidationError>	A list of errors if the document isn't not valid

### ValidateTseSecurity(List<DocumentValidationError>, FiscalResponse)

validates the fiscal Client

### Declaration

```
public static void ValidateTseSecurity(List<DocumentValidationError> errorList, FiscalResponse fiscalResponse)
```

### Parameters

TYPE	NAME	DESCRIPTION
System.Collections.Generic.List< <a href="#">DocumentValidationError</a> >	errorList	
<a href="#">FiscalResponse</a>	fiscalResponse	

# Interface ITseInterface

Namespace: [RetailForce.Fiscalisation.Implementation.Germany](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public interface ITseInterface
```

# Class TaxonomyCloudStoreConfigruation

The configuration for the cloud taxonomy store (DS-FinVK).

## Inheritance

System.Object

[ValidationBase<ValidationError>](#)

[ValidationPropertyBase<ValidationError>](#)

[ConfigurationValidationBase](#)

[TaxonomyStoreConfiguration](#)

TaxonomyCloudStoreConfigruation

## Inherited Members

[TaxonomyStoreConfiguration.Compress](#)

[ConfigurationValidationBase.ValidateCountrySpecificProperty<CountryRequiredAttributeType>\(\)](#)

[ConfigurationValidationBase.VALIDATION\\_ERROR\\_SOURCE](#)

[ConfigurationValidationBase.AddPropertyError\(ErrorLevel, String, String, String\)](#)

[ConfigurationValidationBase.ValidateElement\(\)](#)

[ValidationPropertyBase<ValidationError>.Validate\(\)](#)

[ValidationPropertyBase<ValidationError>.ValidateProperties\(\)](#)

[ValidationPropertyBase<ValidationError>.ValidatePropertiesAbstract<RequiredAttributeType>\(Boolean\)](#)

[System.Object.Equals\(System.Object\)](#)

[System.Object.Equals\(System.Object, System.Object\)](#)

[System.Object.GetHashCode\(\)](#)

[System.Object.GetType\(\)](#)

[System.Object.MemberwiseClone\(\)](#)

[System.Object.ReferenceEquals\(System.Object, System.Object\)](#)

[System.Object.ToString\(\)](#)

Namespace: [RetailForce.Fiscalisation.Implementation.Germany](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TaxonomyCloudStoreConfigruation : TaxonomyStoreConfiguration
```

## Properties

### CloudBaseUrl

The basic url where the taxonomy cloud store resides.

## Declaration

```
public string CloudBaseUrl { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.String	

# Class TaxonomyFileStoreConfiguration

The configuration for the local taxonomy store (DS-FinVK).

## Inheritance

System.Object

ValidationBase<ValidationError>

ValidationPropertyBase<ValidationError>

ConfigurationValidationBase

TaxonomyStoreConfiguration

TaxonomyFileStoreConfiguration

## Inherited Members

TaxonomyStoreConfiguration.Compress

ConfigurationValidationBase.ValidateCountrySpecificProperty<CountryRequiredAttributeType>()

ConfigurationValidationBase.VALIDATION\_ERROR\_SOURCE

ConfigurationValidationBase.AddPropertyError(ErrorLevel, String, String, String)

ConfigurationValidationBase.ValidateElement()

ValidationPropertyBase<ValidationError>.Validate()

ValidationPropertyBase<ValidationError>.ValidateProperties()

ValidationPropertyBase<ValidationError>.ValidatePropertiesAbstract<RequiredAttributeType>(Boolean)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TaxonomyFileStoreConfiguration : TaxonomyStoreConfiguration
```

## Properties

### LocalStorePath

The local path to the taxonomy store.

## Declaration

```
public string LocalStorePath { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.String	

# Class TaxonomyStoreConfiguration

Base class for taxonomy store configuration

## Inheritance

System.Object

[ValidationBase<ValidationError>](#)

[ValidationPropertyBase<ValidationError>](#)

[ConfigurationValidationBase](#)

TaxonomyStoreConfiguration

[TaxonomyCloudStoreConfiguation](#)

[TaxonomyFileStoreConfiguration](#)

## Inherited Members

[ConfigurationValidationBase.ValidateCountrySpecificProperty<CountryRequiredAttributeType>\(\)](#)

[ConfigurationValidationBase.VALIDATION\\_ERROR\\_SOURCE](#)

[ConfigurationValidationBase.AddPropertyError\(ErrorLevel, String, String, String\)](#)

[ConfigurationValidationBase.ValidateElement\(\)](#)

[ValidationPropertyBase<ValidationError>.Validate\(\)](#)

[ValidationPropertyBase<ValidationError>.ValidateProperties\(\)](#)

[ValidationPropertyBase<ValidationError>.ValidatePropertiesAbstract<RequiredAttributeType>\(Boolean\)](#)

[System.Object.Equals\(System.Object\)](#)

[System.Object.Equals\(System.Object, System.Object\)](#)

[System.Object.GetHashCode\(\)](#)

[System.Object.GetType\(\)](#)

[System.Object.MemberwiseClone\(\)](#)

[System.Object.ReferenceEquals\(System.Object, System.Object\)](#)

[System.Object.ToString\(\)](#)

Namespace: [RetailForce.Fiscalisation.Implementation.Germany](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TaxonomyStoreConfiguration : ConfigurationValidationBase
```

## Properties

### Compress

True if the file should be compressed; otherwise false.

## Declaration

```
public bool Compress { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.Boolean	

# Class TrustedFiscalModuleGermany

Implementation for fiscal regulations in germany.

## Inheritance

System.Object

[LoggingBase](#)

[TrustedFiscalModuleImplementationBase](#)

TrustedFiscalModuleGermany

## Implements

[IFiscalModulImplementation](#)

[IDocumentInterface](#)

## Inherited Members

[TrustedFiscalModuleImplementationBase.GetVatIdentification\(Decimal, DateTime\)](#)

[LoggingBase.\\_logger](#)

[LoggingBase.\\_logSource](#)

[LoggingBase.LogCritical\(String, Object\[\]\)](#)

[LoggingBase.LogCritical\(Exception, String, Object\[\]\)](#)

[LoggingBase.LogError\(String, Object\[\]\)](#)

[LoggingBase.LogError\(Exception, String, Object\[\]\)](#)

[LoggingBase.LogWarning\(String, Object\[\]\)](#)

[System.Object.Equals\(System.Object\)](#)

[System.Object.Equals\(System.Object, System.Object\)](#)

[System.Object.GetHashCode\(\)](#)

[System.Object.GetType\(\)](#)

[System.Object.MemberwiseClone\(\)](#)

[System.Object.ReferenceEquals\(System.Object, System.Object\)](#)

[System.Object.ToString\(\)](#)

Namespace: [RetailForce.Fiscalisation.Implementation.Germany](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public sealed class TrustedFiscalModuleGermany : TrustedFiscalModuleImplementationBase,
    IFiscalModulImplementation, IDocumentInterface
```

## Constructors

[TrustedFiscalModuleGermany\(ILogger, Guid, ClientConfiguration\)](#)

Constructor.

## Declaration

```
public TrustedFiscalModuleGermany(ILogger logger, Guid clientId, ClientConfiguration configuration)
```

## Parameters

TYPE	NAME	DESCRIPTION
Microsoft.Extensions.Logging.ILogger	logger	
System.Guid	clientId	
<a href="#">ClientConfiguration</a>	configuration	



## Properties

### AvailableVatDefinitions

Returns all vat objects which are available in this country.

#### Declaration

```
public override IReadOnlyList<Vat> AvailableVatDefinitions { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.IReadOnlyList< <a href="#">Vat</a> >	

#### Overrides

[TrustedFiscalModuleImplementationBase.AvailableVatDefinitions](#)

### ProcessingDocumentTypes

Returns all document types processed by this fiscal interface.

#### Declaration

```
public override IReadOnlyList<DocumentType> ProcessingDocumentTypes { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.IReadOnlyList< <a href="#">DocumentType</a> >	

#### Overrides

[TrustedFiscalModuleImplementationBase.ProcessingDocumentTypes](#)

#### Remarks

The difference between supported and processed documents is that some documents are supported but not processed by this module.

### SupportedDocumentTypes

Returns all document types supported by this fiscal interface.

#### Declaration

```
public override IReadOnlyList<DocumentType> SupportedDocumentTypes { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.IReadOnlyList< <a href="#">DocumentType</a> >	

#### Overrides

[TrustedFiscalModuleImplementationBase.SupportedDocumentTypes](#)

### TseStatus

Returns the status of the tse.

#### Declaration

```
public TseStatus TseStatus { get; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">TseStatus</a>	

#### Methods

##### CancelDocument(Document)

Cancels the document on the tse.

#### Declaration

```
public override FiscalResponse CancelDocument(Document document)
```

#### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">Document</a>	document	The document to cancel.

#### Returns

TYPE	DESCRIPTION
<a href="#">FiscalResponse</a>	The fiscal response including the transaction number

#### Overrides

[TrustedFiscalModuleImplementationBase.CancelDocument\(Document\)](#)

##### CreateDocument(DocumentType)

Creates a document on the tse and returns the fiscal response including the transaction number.

#### Declaration

```
public override FiscalResponse CreateDocument(DocumentType documentType)
```

#### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">DocumentType</a>	documentType	The type of the document for which the document should be created.

#### Returns

TYPE	DESCRIPTION
<a href="#">FiscalResponse</a>	The fiscal response including the transaction number

#### Overrides

[TrustedFiscalModuleImplementationBase.CreateDocument\(DocumentType\)](#)

## Remarks

Please consider that document type [EndOfDay](#) has not be signed, therefore an empty fiscal response is returned and no transaction is started at tss.

## GetDocumentMandatoryFields(Type)

Returns the mandatory fields for this type for the given country implementation.

### Declaration

```
public override IReadOnlyList<string> GetDocumentMandatoryFields(Type t)
```

### Parameters

TYPE	NAME	DESCRIPTION
System.Type	t	The type to get the mandatory fields.

### Returns

TYPE	DESCRIPTION
System.Collections.Generic.IReadOnlyList<System.String>	A list of property names representing the mandatory fields for this country implementation.

### Overrides

[TrustedFiscalModuleImplementationBase.GetDocumentMandatoryFields\(Type\)](#)

## GetOpenEndOfDayCashPointClosing(Guid, Document)

### Declaration

```
public CashPointClosing GetOpenEndOfDayCashPointClosing(Guid uniqueClientId, Document document)
```

### Parameters

TYPE	NAME	DESCRIPTION
System.Guid	uniqueClientId	
<a href="#">Document</a>	document	

### Returns

TYPE	DESCRIPTION
<a href="#">CashPointClosing</a>	

## GetTaxFreeVat()

Returns the vat object for country specific zero tax based transactions.

### Declaration

```
public override Vat GetTaxFreeVat()
```

### Returns

TYPE	DESCRIPTION
<a href="#">Vat</a>	A vat object representing the zero tax based vat object.

Overrides

[TrustedFiscalModuleImplementationBase.GetTaxFreeVat\(\)](#)

Remarks

Can be used for payin/payout, cash difference and others.

**StoreDocument(Document)**

Signs the document, returns a [FiscalResponseGermany](#) object and stores it to the DSFin-VK storage.

Declaration

```
public override FiscalResponse StoreDocument(Document document)
```

Parameters

TYPE	NAME	DESCRIPTION
<a href="#">Document</a>	document	

Returns

TYPE	DESCRIPTION
<a href="#">FiscalResponse</a>	The fiscal response including the transaction number

Overrides

[TrustedFiscalModuleImplementationBase.StoreDocument\(Document\)](#)

Exceptions

TYPE	CONDITION
System.ArgumentException	Thrown if the given document was not created with correct <a href="#">FiscalResponse</a> created by <a href="#">CreateDocument(DocumentType)</a> .

**ValidateDocument(Document)**

Returns a list of validation error for the given document based on german fiscalisation.

Declaration

```
public override List<DocumentValidationError> ValidateDocument(Document document)
```

Parameters

TYPE	NAME	DESCRIPTION
<a href="#">Document</a>	document	The <a href="#">Document</a> to validate.

## Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">DocumentValidationError</a> >	A list of <a href="#">DocumentValidationError</a> objects representing all validation error which where found.

## Overrides

[TrustedFiscalModuleImplementationBase.ValidateDocument\(Document\)](#)

**ValidateFiscalClient(Document)**

Validates the fiscal client for the given document.

## Declaration

```
public override List<DocumentValidationError> ValidateFiscalClient(Document document)
```

## Parameters

TYPE	NAME	DESCRIPTION
<a href="#">Document</a>	document	The document containing the fiscal client.

## Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">DocumentValidationError</a> >	A list of document validation errors.

## Overrides

[TrustedFiscalModuleImplementationBase.ValidateFiscalClient\(Document\)](#)

## Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if parameter <code>document</code> is set to null.
System.ArgumentException	Thrown if property <code>RetailForce.Fiscalisation.Model.Document.Document.FiscalClient</code> of parameter of <code>document</code> is set to null.

## Implements

[IFiscalModullImplementation](#)

[IDocumentInterface](#)

# Class TseConfiguration

Configuration for a single tse unit.

## Inheritance

System.Object

[ValidationBase](#)<[ValidationError](#)>

[ValidationPropertyBase](#)<[ValidationError](#)>

[ConfigurationValidationBase](#)

TseConfiguration

## Inherited Members

[ConfigurationValidationBase.ValidateCountrySpecificProperty](#)<[CountryRequiredAttributeType](#)>()

[ConfigurationValidationBase.VALIDATION\\_ERROR\\_SOURCE](#)

[ConfigurationValidationBase.AddPropertyError](#)(ErrorLevel, String, String, String)

[ConfigurationValidationBase.ValidateElement](#)()

[ValidationPropertyBase](#)<[ValidationError](#)>.Validate()

[ValidationPropertyBase](#)<[ValidationError](#)>.ValidateProperties()

[ValidationPropertyBase](#)<[ValidationError](#)>.ValidatePropertiesAbstract<[RequiredAttributeType](#)>(Boolean)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseConfiguration : ConfigurationValidationBase
```

## Properties

### TseDriver

The supported driver for the tse configuration.

## Declaration

```
public TseDriver TseDriver { get; set; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">TseDriver</a>	

### TseGuid

The guid of the tse (there is wether a guid or an id for a tse, not both).

## Declaration

```
public Guid TseGuid { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.Guid	

### TseId

The id of the tse.

Declaration

```
public long TseId { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Int64	

### TseParameter

Additional parameters for tse configuration.

Declaration

```
public Dictionary<string, string> TseParameter { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Collections.Generic.Dictionary<System.String, System.String>	

### UseTseGuid

True if the tse has to use the guid; otherwise false (use id).

Declaration

```
public bool UseTseGuid { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Boolean	

# Enum TseDriver

The actual implemented Tse Driver for german fiscalisation.

Namespace: [RetailForce.Fiscalisation.Implementation.Germany](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public enum TseDriver
```

## Remarks

Please ensure not to add a new driver here, if driver has not been fully implemented and tested.

## Fields

NAME	DESCRIPTION
Fiskaly	
Swissbit	
TestTse	



# Namespace

## RetailForce.Fiscalisation.Implementation.Germany.Taxonomy

### Classes

#### [AddressOptional](#)

#### [AddressStrict](#)

#### [BusinessCase](#)

Der business\_case qualifiziert den Geschäftsvorfall in der Einzelbewegung und im Kassenabschluss fachlich und inhaltlich

#### [BusinessCaseLineClass](#)

#### [Buyer](#)

Bildet die Klammer um alle Daten zu einem Käufer. Hintergrund: Ab einem Rechnungsbetrag von 200,00€ ist die sogenannte Kleinbetragsgrenze einer Rechnung überschritten. Dann muss die Käuferadresse erfasst werden. Dazu dienen die Felder unter der Klammer [buyer]. Auch hier gibt es einen Namen und die entsprechende Adresse.

#### [CashAmountsByCurrency](#)

#### [CashPointClosing](#)

Der Kassenabschluss wird ein-, mehrmals oder kalendertagübergreifend für eine Kasse erstellt.

#### [CashPointClosingHead](#)

In dieser Klammer werden die zentralen Stammdaten des Kassenabschlusses dargestellt.

#### [CashPointClosingSecurity](#)

Container für Daten von Sicherheitseinrichtungen, die für den ganzen Kassenabschluss gelten.

#### [CashRegister](#)

Die Klammer um alle Angaben zur jeweiligen Kasse.

#### [CashRegisterSoftware](#)

#### [CashStatement](#)

Alle Bewegungen einer Kasse werden im CashStatement dargestellt. Das Cashstatement einer Kasse stellt in einem Block die Geschäftsvorfälle und in einem zweiten Block die Zahlungsströme dar.

#### [ClosingCashRegister](#)

#### [Company](#)

Bildet die Klammer bezüglich aller Informationen zum Unternehmen. Ist es beabsichtigt, im laufenden Betrieb des Unternehmens Angaben innerhalb dieser Klammer zu ändern, so muss davor zwingend ein Kassenabschluss durchgeführt werden.

#### [Coordinate](#)

Version 2.2.0

#### [CsvExport](#)

#### [CustomFieldDefinitions](#)

#### [CustomFields](#)

sofern branchen- oder herstellerspezifische Informationen zusätzlich im Datensatz abgebildet werden sollen, für die jedoch keine geeigneten Positionen im Standard vorhanden sind, besteht die Möglichkeit, die Datensatzbeschreibung über benutzerdefinierte

Positionen, sogenannte „Custom\_Fields“, zu erweitern. Aufgrund der individuellen Erweiterung der Taxonomie haben diese Felder lediglich deklaratorischen Charakter und werden keiner automatisierten Weiterverarbeitung zugefügt

## Data

Bildet die Klammer um alle Bewegungsdaten eines Einzelbons. TransactionData unterscheiden die Daten in Gesamtbetrag mit Aufteilung in Zahlarten und umsatzsteuerliche Sachverhalte, Zusatznotizen, BonPositionen mit Artikel oder Warengruppenbezug und Bon Positionen ohne Artikel oder Warengruppenbezug.

## DataPaymentType

Unterteilung der gezahlten Beträge nach Zahlart und Währung.

## FinishTransaction

## FluffyTse

Auf die Transaktion bezogene Daten der Technischen Sicherheitseinrichtung (TSE) im Sinne der deutschen Kassensicherungsverordnung - KassenSichV

## Item

Innerhalb des Geschäftsvorfalles bildet der item die Klammer um alle Artikelspezifischen Informationen.

## Line

## Location

Unter dem Klammerbegriff Abrechnungsort werden alle Daten zum Abrechnungsort der Kasse vorgehalten. Der Abrechnungsort kann eine Abteilungsbezeichnung, eine Filiale oder ein variabler Punkt sein.

## Module

## Payment

Die Zahlart bildet den zweiten Block des CashStatement und untergliedert den gesamten Zahlungsstrom an einer Kasse in verschiedene Zahlarten.

## PaymentPaymentType

Jede Kasse muss unterscheiden können zwischen den Zahlarten Bar, Unbar, Keine. Bar kennzeichnet den Gesamtbetrag aller Barzahlungen. Unbar kennzeichnet die Summe aller Zahlungsströme aus Zahlarten die keine Bargeldzahlung darstellen. Verfügt das Kassensystem über die Möglichkeit, einzelne Zahlarten erfassen und darstellen zu können, so müssen diese dargestellt werden. Eine momentane Aufstellung der einzelnen Zahlarten ist hinterlegt. Es ist auch möglich, dass z. Bsp. Lieferscheine an der Kasse erfasst werden. Für diesen Fall wurde u.a. die Zahlart [Keine] eingeführt. Die Zahlart [Keine] darf mit keiner anderen Zahlart kombiniert werden.

## ProcessingFlags

Die Aktivierung dieses Feldes kennzeichnet, dass diese Kasse eine umsatzsteuerliche Zuordnung zum Zeitpunkt der Forderungsauflösung nicht treffen kann. Soll diese Einstellung geändert werden, so ist zuerst zwingend ein Kassenabschluss zu erstellen. Die umsatzsteuerliche Zuordnung erfolgt somit in jedem Falle zum Zeitpunkt der Lieferung und der Leistung.

## PurchaserAgency

## PurpleTse

Für den gesamten Kassenabschluss gültige Informationen zur Technischen Sicherheitseinrichtung (TSE) im Sinne der deutschen Kassensicherungsverordnung - KassenSichV

## Reference

'Reference' beschreibt eine Referenz auf Taxonomie-Transaktion oder einen Lieferschein bzw. eine Rechnung aus einem Dritt-

System

[Serialize](#)

[Slave](#)

[SlaveSoftware](#)

[SourceCashRegister](#)

[StartTransaction](#)

[SubItem](#)

[TaxonomyFileStore](#)

Saves the taxonomy files to disk and handles unfinished cash point closings

[TaxonomyStore<T>](#)

Represents the local and cloud storage provider for Taxonomy Germany (DSFin-VK, DFKA).

[Transaction](#)

Bildet die Klammer um eine einzige Einzelbewegung. Ist also der Einzelbeleg bzw. der Einzelbon. Auch die Transaktion gliedert sich in Kopf- und Bewegungsdaten.

[TransactionHead](#)

Der Transaktionskopf beinhaltet alle Stammdaten zur Einzelbewegung.

[TransactionSecurity](#)

Container für Daten von Sicherheitseinrichtungen, die für eine einzelne Transaktion gelten.

[User](#)

Der Benutzer ist die Person, die offiziell für die Abrechnung der Einzelbewegung an der Kasse verantwortlich ist. (Bsp.: Bedienung erfasst bzw. boniert, User kassiert)

[VatAmountGrossAndNet](#)

Einem Geschäftsvorfall können ein oder mehrere Beträge getrennt nach Umsatzsteuersätzen zugewiesen werden.

[VatAmountGrossAndNetReceipt](#)

Aufteilung des Gesamtbetrages einer Transaktion in die Einzelbeträge nach ausgewiesenen Umsatzsteuersätzen.

[VatAmountGrossOrNet](#)

[VatAmountOnly](#)

[VatDefinition](#)

Structs

[BusinessCaseLine](#)

Der business\_case einer Line kann nur entweder in Brutto oder Nettodarstellung erfolgen

Enums

[BusinessCaseType](#)

Der Type kennzeichnet Geschäftsvorfälle mit unterschiedlichen Ausprägungen.

[BuyerType](#)

## CountryCode

Ländercode nach ISO 3166 alpha-3

## Currency

Jeder Kassenabschluss hat ausschließlich eine Basiswährung. Die Angabe der Basiswährung bezieht sich auf die Basiswährung der Kasse. Die Basiswährung wird dargestellt nach ISO 4217 (Spalte: ISO-Code) Bsp.: Euro = EUR; Alle Zahlungen in Fremdwährung auf dem Einzelbeleg werden im Kassenabschluss in die Basiswährung umgerechnet.

## LogTimeFormat

Das von der TSE verwendete Format für die Log-Time - 'utcTime' = YYMMDDhhmmZ, 'utcTimeWithSeconds' = YYMMDDhhmmssZ, 'generalizedTime' = YYYYMMDDhhmmssZ, 'generalizedTimeWithMilliseconds' = YYYYMMDDhhmmss.fffZ

## ProcessDataEncoding

Das beim Erzeugen der process\_data verwendete Encoding - kann UTF-8 oder ASCII sein

## ReferenceType

## SignatureAlgorithm

Der von der TSE verwendete Signaturalgorithmus

## TransactionType

Der Transaktionstyp ordnet und unterteilt alle Vorgänge in Geschäftsvorfälle (Beleg) und andere Vorgänge. Durch diese Zuordnung wird auch die Weiterverarbeitung im Kassenabschluss gesteuert. Ausschließlich Einzelbewegungen mit dem Transaktionstyp Beleg besitzen Relevanz für den Kassenabschluss. Im Beleg werden z. Bsp.: Rechnungen, Lieferscheine, Korrekturen etc. dargestellt. Werden Einzelbewegungen aus anderen Grundaufzeichnungssystemen des Unternehmens heraus weiterverarbeitet, so dürfen diese Einzelbewegungen nicht den Transaktionstypen Beleg erhalten

## TypeEnum

# Class AddressOptional

## Inheritance

System.Object  
AddressOptional

## Inherited Members

System.Object.Equals(System.Object)  
System.Object.Equals(System.Object, System.Object)  
System.Object.GetHashCode()  
System.Object.GetType()  
System.Object.MemberwiseClone()  
System.Object.ReferenceEquals(System.Object, System.Object)  
System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class AddressOptional
```

## Properties

### City

#### Declaration

```
[JsonProperty("city", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(TentacledMinMaxLengthCheckConverter))]  
public string City { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### CountryCode

#### Declaration

```
[JsonProperty("country_code", NullValueHandling = NullValueHandling.Ignore)]  
public CountryCode? CountryCode { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Nullable< <a href="#">CountryCode</a> >	

### PostalCode

#### Declaration

```
[JsonProperty("postal_code", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(StickyMinMaxLengthCheckConverter))]  
public string PostalCode { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

## Street

### Declaration

```
[JsonProperty("street", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(FluffyMinMaxLengthCheckConverter))]  
public string Street { get; set; }
```

### Property Value

TYPE	DESCRIPTION
System.String	

# Class AddressStrict

## Inheritance

System.Object

AddressStrict

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class AddressStrict
```

## Properties

### City

#### Declaration

```
[JsonProperty("city")]  
[JsonConverter(typeof(TentacledMinMaxLengthCheckConverter))]  
public string City { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### CountryCode

#### Declaration

```
[JsonProperty("country_code")]  
public CountryCode CountryCode { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">CountryCode</a>	

### PostalCode

#### Declaration

```
[JsonProperty("postal_code")]  
[JsonConverter(typeof(StickyMinMaxLengthCheckConverter))]  
public string PostalCode { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

## Street

### Declaration

```
[JsonProperty("street")]  
[JsonConverter(typeof(FluffyMinMaxLengthCheckConverter))]  
public string Street { get; set; }
```

### Property Value

TYPE	DESCRIPTION
System.String	



# Class BusinessCase

Der business\_case qualifiziert den Geschäftsvorfall in der Einzelbewegung und im Kassenabschluss fachlich und inhaltlich

## Inheritance

System.Object

BusinessCase

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class BusinessCase
```

## Properties

### AmountsPerVatId

Einem Geschäftsvorfall können ein oder mehrere Beträge getrennt nach Umsatzsteuersätzen zugewiesen werden.

## Declaration

```
[JsonProperty("amounts_per_vat_id")]  
public List<VatAmountGrossAndNet> AmountsPerVatId { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">VatAmountGrossAndNet</a> >	

## CustomFields

## Declaration

```
[JsonProperty("custom_fields", NullValueHandling = NullValueHandling.Ignore)]  
public CustomFields CustomFields { get; set; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">CustomFields</a>	

## Name

Der name untergliedert den business\_case fachlich und inhaltlich tiefer. Einem business\_case können kein, ein oder mehrere names zugeordnet werden.

## Declaration

```
[JsonProperty("name", NullValueHandling = NullValueHandling.Ignore)]
[JsonConverter(typeof(PurpleMinMaxLengthCheckConverter))]
public string Name { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

## PurchaserAgencyId

Der Geschäftsvorfall kann einer Agentur zugewiesen werden. Ein Geschäftsvorfall darf nur einer Agentur zugewiesen werden.

#### Declaration

```
[JsonProperty("purchaser_agency_id", NullValueHandling = NullValueHandling.Ignore)]
public long? PurchaserAgencyId { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Nullable<System.Int64>	

## Type

Der Type kennzeichnet Geschäftsvorfälle mit unterschiedlichen Ausprägungen.

#### Declaration

```
[JsonProperty("type")]
public BusinessCaseType Type { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">BusinessCaseType</a>	

# Struct BusinessCaseLine

Der business\_case einer Line kann nur entweder in Brutto oder Nettodarstellung erfolgen

## Inherited Members

System.ValueType.Equals(System.Object)  
System.ValueType.GetHashCode()  
System.ValueType.ToString()  
System.Object.Equals(System.Object, System.Object)  
System.Object.GetType()  
System.Object.ReferenceEquals(System.Object, System.Object)

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public struct BusinessCaseLine
```

## Fields

### AnythingArray

#### Declaration

```
public List<object> AnythingArray
```

#### Field Value

TYPE	DESCRIPTION
System.Collections.Generic.List<System.Object>	

## Bool

#### Declaration

```
public bool? Bool
```

#### Field Value

TYPE	DESCRIPTION
System.Nullable<System.Boolean>	

## BusinessCaseLineClass

#### Declaration

```
public BusinessCaseLineClass BusinessCaseLineClass
```

#### Field Value

TYPE	DESCRIPTION
<a href="#">BusinessCaseLineClass</a>	

## Double

#### Declaration

```
public double? Double
```

#### Field Value

TYPE	DESCRIPTION
System.Nullable<System.Double>	

### Integer

#### Declaration

```
public long? Integer
```

#### Field Value

TYPE	DESCRIPTION
System.Nullable<System.Int64>	

### String

#### Declaration

```
public string String
```

#### Field Value

TYPE	DESCRIPTION
System.String	

### Properties

#### IsNull

#### Declaration

```
public bool IsNull { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Boolean	

### Operators

#### Implicit(BusinessCaseLineClass to BusinessCaseLine)

#### Declaration

```
public static implicit operator BusinessCaseLine(BusinessCaseLineClass BusinessCaseLineClass)
```

#### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">BusinessCaseLineClass</a>	BusinessCaseLineClass	

#### Returns

TYPE	DESCRIPTION
<a href="#">BusinessCaseLine</a>	

### Implicit(Boolean to BusinessCaseLine)

Declaration

```
public static implicit operator BusinessCaseLine(bool Bool)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Boolean	Bool	

Returns

TYPE	DESCRIPTION
<a href="#">BusinessCaseLine</a>	

### Implicit(List<Object> to BusinessCaseLine)

Declaration

```
public static implicit operator BusinessCaseLine(List<object> AnythingArray)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Collections.Generic.List<System.Object>	AnythingArray	

Returns

TYPE	DESCRIPTION
<a href="#">BusinessCaseLine</a>	

### Implicit(Double to BusinessCaseLine)

Declaration

```
public static implicit operator BusinessCaseLine(double Double)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Double	Double	

Returns

TYPE	DESCRIPTION
<a href="#">BusinessCaseLine</a>	

### Implicit(Int64 to BusinessCaseLine)

#### Declaration

```
public static implicit operator BusinessCaseLine(long Integer)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Int64	Integer	

#### Returns

TYPE	DESCRIPTION
<a href="#">BusinessCaseLine</a>	

#### Implicit(String to BusinessCaseLine)

#### Declaration

```
public static implicit operator BusinessCaseLine(string String)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.String	String	

#### Returns

TYPE	DESCRIPTION
<a href="#">BusinessCaseLine</a>	

# Class BusinessCaseLineClass

## Inheritance

System.Object

BusinessCaseLineClass

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class BusinessCaseLineClass
```

## Properties

### AmountsPerVatId

#### Declaration

```
[JsonProperty("amounts_per_vat_id")]  
public List<VatAmountOnly> AmountsPerVatId { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">VatAmountOnly</a> >	

### CustomFields

#### Declaration

```
[JsonProperty("custom_fields", NullValueHandling = NullValueHandling.Ignore)]  
public CustomFields CustomFields { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">CustomFields</a>	

## Name

Der name untergliedert den business\_case fachlich und inhaltlich tiefer. Einem business\_case können kein, ein oder mehrere names zugeordnet werden.

#### Declaration

```
[JsonProperty("name", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(PurpleMinMaxLengthCheckConverter))]  
public string Name { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### PurchaserAgencyId

Der Geschäftsvorfall kann einer Agentur zugewiesen werden. Ein Geschäftsvorfall darf nur einer Agentur zugewiesen werden.

#### Declaration

```
[JsonProperty("purchaser_agency_id", NullValueHandling = NullValueHandling.Ignore)]  
public long? PurchaserAgencyId { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Nullable<System.Int64>	

### Type

Der Type kennzeichnet Geschäftsvorfälle mit unterschiedlichen Ausprägungen.

#### Declaration

```
[JsonProperty("type")]  
public BusinessCaseType Type { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">BusinessCaseType</a>	



# Enum BusinessCaseType

Der Type kennzeichnet Geschäftsvorfälle mit unterschiedlichen Ausprägungen.

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public enum BusinessCaseType
```

## Fields

NAME	DESCRIPTION
Anfangsbestand	
Anzahlungsaufloesung	
Anzahlungseinstellung	
Aufschlag	
Auszahlung	
DifferenzSollst	
Einzahlung	
EinzweckgutscheinEinloesung	
EinzweckgutscheinKauf	
Forderungsaufloesung	
Forderungsentstehung	
Geldtransit	
Lohnzahlung	
MehrweckgutscheinEinloesung	
MehrweckgutscheinKauf	
Pfand	
PfandRueckzahlung	
Privateinlage	
Privatentnahme	
Rabatt	

NAME	DESCRIPTION
TrinkgeldAg	
TrinkgeldAn	
Umsatz	
ZuschussEcht	
ZuschussUnecht	

# Class Buyer

Bildet die Klammer um alle Daten zu einem Käufer. Hintergrund: Ab einem Rechnungsbetrag von 200,00€ ist die sogenannte Kleinbetragsgrenze einer Rechnung überschritten. Dann muss die Käuferadresse erfasst werden. Dazu dienen die Felder unter der Klammer [buyer]. Auch hier gibt es einen Namen und die entsprechende Adresse.

## Inheritance

System.Object

Buyer

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class Buyer
```

## Properties

### Address

#### Declaration

```
[JsonProperty("address", NullValueHandling = NullValueHandling.Ignore)]  
public AddressOptional Address { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">AddressOptional</a>	

### Id

Die Kundennummer des Käufers.

#### Declaration

```
[JsonProperty("id")]  
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]  
public string Id { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### Name

Die Name des Käufers.

## Declaration

```
[JsonProperty("name")]  
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]  
public string Name { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.String	

## Type

### Declaration

```
[JsonProperty("type")]  
public BuyerType Type { get; set; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">BuyerType</a>	

## VatIdNumber

Laut §14a UStG ist ggf. auch die Umsatzsteuer-Identifikationsnummer des Leistungsempfängers anzugeben.

### Declaration

```
[JsonProperty("vat_id_number", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(HilariousMinMaxLengthCheckConverter))]  
public string VatIdNumber { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.String	

# Enum BuyerType

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public enum BuyerType
```

## Fields

NAME	DESCRIPTION
Kunde	
Mitarbeiter	

# Class CashAmountsByCurrency

## Inheritance

System.Object

CashAmountsByCurrency

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class CashAmountsByCurrency
```

## Properties

### Amount

Der Betrag in der entsprechenden Wahrung

#### Declaration

```
[JsonProperty("amount")]  
[JsonConverter(typeof(FluffyMinMaxValueCheckConverter))]  
public double Amount { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Double	

### CurrencyCode

#### Declaration

```
[JsonProperty("currency_code")]  
public Currency CurrencyCode { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">Currency</a>	

### CustomFields

#### Declaration

```
[JsonProperty("custom_fields", NullValueHandling = NullValueHandling.Ignore)]  
public CustomFields CustomFields { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
CustomFields	

# Class CashPointClosing

Der Kassenabschluss wird ein-, mehrmals oder kalendertagübergreifend für eine Kasse erstellt.

## Inheritance

System.Object  
CashPointClosing

## Inherited Members

System.Object.Equals(System.Object)  
System.Object.Equals(System.Object, System.Object)  
System.Object.GetHashCode()  
System.Object.GetType()  
System.Object.MemberwiseClone()  
System.Object.ReferenceEquals(System.Object, System.Object)  
System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class CashPointClosing
```

## Properties

### CashStatement

Alle Bewegungen einer Kasse werden im CashStatement dargestellt. Das Cashstatement einer Kasse stellt in einem Block die Geschäftsvorfälle und in einem zweiten Block die Zahlungsströme dar.

## Declaration

```
[JsonProperty("cash_statement", NullValueHandling = NullValueHandling.Ignore)]  
public CashStatement CashStatement { get; set; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">CashStatement</a>	

### CustomFieldDefinitions

## Declaration

```
[JsonProperty("custom_field_definitions", NullValueHandling = NullValueHandling.Ignore)]  
public CustomFieldDefinitions CustomFieldDefinitions { get; set; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">CustomFieldDefinitions</a>	

## Head

In dieser Klammer werden die zentralen Stammdaten des Kassenabschlusses dargestellt.

## Declaration



```
[JsonProperty("head")]
public CashPointClosingHead Head { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">CashPointClosingHead</a>	

#### Number

Jede Kasse vergibt die Kassenabschlussnummer. Diese ist aufsteigend, fortlaufend, nicht zurücksetzbar. Sie darf sich innerhalb einer Kasse nicht wiederholen. Durch die Hinzunahme der cash\_register/id wird der Kassenabschluss eindeutig

#### Declaration

```
[JsonProperty("number")]
public long Number { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Int64	

#### Security

Container für Daten von Sicherheitseinrichtungen, die für den ganzen Kassenabschluss gelten.

#### Declaration

```
[JsonProperty("security", NullValueHandling = NullValueHandling.Ignore)]
public CashPointClosingSecurity Security { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">CashPointClosingSecurity</a>	

#### TaxonomyVersion

##### Taxonomieversion

#### Declaration

```
[JsonProperty("taxonomy_version")]
public string TaxonomyVersion { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### Transactions

Bildet die Klammer um alle Einzelbewegungen eines Kassenabschlusses

#### Declaration

```
[JsonProperty("transactions", NullValueHandling = NullValueHandling.Ignore)]  
public List<Transaction> Transactions { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">Transaction</a> >	

# Class CashPointClosingHead

In dieser Klammer werden die zentralen Stammdaten des Kassenabschlusses dargestellt.

## Inheritance

System.Object

CashPointClosingHead

## Inherited Members

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class CashPointClosingHead
```

## Properties

### BusinessDate

Das optionale Buchungsdatum des Kassenabschluss, z.B. zur Buchung in der Finanzbuchhaltung. Der Buchungstag muss angegeben werden, wenn dieser vom Erstellungstag abweicht. Die Angabe erfolgt nach nach ISO 8601 und RFC3339 im Format 'JJJJ-MM-TT'

## Declaration

```
[JsonProperty("business_date", NullValueHandling = NullValueHandling.Ignore)]  
public DateTimeOffset? BusinessDate { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.Nullable<System.DateTimeOffset>	

## Company

Bildet die Klammer bezüglich aller Informationen zum Unternehmen. Ist es beabsichtigt, im laufenden Betrieb des Unternehmens Angaben innerhalb dieser Klammer zu ändern, so muss davor zwingend ein Kassenabschluss durchgeführt werden.

## Declaration

```
[JsonProperty("company")]  
public Company Company { get; set; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">Company</a>	

## CreationDate

Das Erstellungsdatum des Kassenabschlusses.

## Declaration

```
[JsonProperty("creation_date")]  
public DateTimeOffset CreationDate { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.DateTimeOffset	

## CustomFields

### Declaration

```
[JsonProperty("custom_fields", NullValueHandling = NullValueHandling.Ignore)]  
public CustomFields CustomFields { get; set; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">CustomFields</a>	

## FirstId

Die Id der ersten Transaktion die in einen Kassenabschluss fließt.

### Declaration

```
[JsonProperty("first_id")]  
[JsonConverter(typeof(MagentaMinMaxLengthCheckConverter))]  
public string FirstId { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.String	

## LastId

Die Id der letzten Transaktion die in einen Kassenabschluss fließt.

### Declaration

```
[JsonProperty("last_id")]  
[JsonConverter(typeof(MagentaMinMaxLengthCheckConverter))]  
public string LastId { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.String	

## Methods

### Equals(Object)

Equals !! if needed override hash code !!

#### Declaration

```
public override bool Equals(object obj)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Object	obj	

#### Returns

TYPE	DESCRIPTION
System.Boolean	

#### Overrides

System.Object.Equals(System.Object)

# Class CashPointClosingSecurity

Container für Daten von Sicherheitseinrichtungen, die für den ganzen Kassenabschluss gelten.

## Inheritance

System.Object

CashPointClosingSecurity

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class CashPointClosingSecurity
```

## Properties

### Tse

Für den gesamten Kassenabschluss gültige Informationen zur Technischen Sicherheitseinrichtung (TSE) im Sinne der deutschen Kassensicherungsverordnung - KassenSichV

## Declaration

```
[JsonProperty("tse", NullValueHandling = NullValueHandling.Ignore)]  
public PurpleTse Tse { get; set; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">PurpleTse</a>	

# Class CashRegister

Die Klammer um alle Angaben zur jeweiligen Kasse.

## Inheritance

System.Object

CashRegister

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class CashRegister
```

## Properties

### BaseCurrencyCode

#### Declaration

```
[JsonProperty("base_currency_code")]  
public Currency BaseCurrencyCode { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">Currency</a>	

### Brand

Bezeichnet die Marke des Kassenherstellers.

#### Declaration

```
[JsonProperty("brand")]  
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]  
public string Brand { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### CustomFields

#### Declaration

```
[JsonProperty("custom_fields", NullValueHandling = NullValueHandling.Ignore)]  
public CustomFields CustomFields { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">CustomFields</a>	

#### Id

Die id ist die Identifikationsnummer, die der Hersteller an eine Kasse vergibt um diese eindeutig zu identifizieren. Falls vorhanden wird hier die Id erwartet, die ab dem 01.01.2020 der Finanzverwaltung zu melden ist. Alternativ die Seriennummer. Wichtig: Eine Kassen-Id. darf nicht zweimal vergeben sein! Ebenfalls zu beachten: Falls mehrere Kassen über eine zentrale Kasse abgerechnet werden, so ist bei dieser ID immer die ID des addierenden und meldenden Systems anzugeben.

#### Declaration

```
[JsonProperty("id")]  
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]  
public string Id { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### Model

Bezeichnet das Modell der jeweiligen Kasse.

#### Declaration

```
[JsonProperty("model")]  
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]  
public string Model { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### ProcessingFlags

Die Aktivierung dieses Feldes kennzeichnet, dass diese Kasse eine umsatzsteuerliche Zuordnung zum Zeitpunkt der Forderungsauflösung nicht treffen kann. Soll diese Einstellung geändert werden, so ist zuerst zwingend ein Kassenabschluss zu erstellen. Die umsatzsteuerliche Zuordnung erfolgt somit in jedem Falle zum Zeitpunkt der Lieferung und der Leistung.

#### Declaration

```
[JsonProperty("processing_flags", NullValueHandling = NullValueHandling.Ignore)]  
public ProcessingFlags ProcessingFlags { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">ProcessingFlags</a>	

#### PurchaserAgencies

Diese Klammer beinhaltet Name und Adresse des Agenturgebers für Agenturumsätze



## Declaration

```
[JsonProperty("purchaser_agencies", NullValueHandling = NullValueHandling.Ignore)]  
public List<PurchaserAgency> PurchaserAgencies { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">PurchaserAgency</a> >	

## SerialNumber

Seriennummer der jeweiligen Kasse.

## Declaration

```
[JsonProperty("serial_number")]  
[JsonConverter(typeof(AmbitiousMinMaxLengthCheckConverter))]  
public string SerialNumber { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.String	

## Slaves

Die Klammer um alle Angaben zur jeweiligen Kasse.

## Declaration

```
[JsonProperty("slaves", NullValueHandling = NullValueHandling.Ignore)]  
public List<Slave> Slaves { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">Slave</a> >	

## Software

## Declaration

```
[JsonProperty("software", NullValueHandling = NullValueHandling.Ignore)]  
public CashRegisterSoftware Software { get; set; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">CashRegisterSoftware</a>	

## VatDefinitions

Hier werden feste umsatzsteuerliche Referenzierungen vergeben. Die Steuersätze 1-999 sind fest vorgegeben bzw. reserviert und 1000-9999999999 stehen zur freien Verfügung

## Declaration

```
[JsonProperty("vat_definitions")]  
public List<VatDefinition> VatDefinitions { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">VatDefinition</a> >	

# Class CashRegisterSoftware

## Inheritance

System.Object

CashRegisterSoftware

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class CashRegisterSoftware
```

## Properties

### Brand

Hier wird der Name der jeweiligen Kassensoftware aufgeführt.

#### Declaration

```
[JsonProperty("brand", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]  
public string Brand { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### Version

Hier erfolgt die Versionsangabe der jeweiligen Software.

#### Declaration

```
[JsonProperty("version", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]  
public string Version { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

# Class CashStatement

Alle Bewegungen einer Kasse werden im CashStatement dargestellt. Das Cashstatement einer Kasse stellt in einem Block die Geschäftsvorfälle und in einem zweiten Block die Zahlungsströme dar.

## Inheritance

System.Object  
CashStatement

## Inherited Members

System.Object.Equals(System.Object)  
System.Object.Equals(System.Object, System.Object)  
System.Object.GetHashCode()  
System.Object.GetType()  
System.Object.MemberwiseClone()  
System.Object.ReferenceEquals(System.Object, System.Object)  
System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class CashStatement
```

## Properties

### BusinessCases

#### Declaration

```
[JsonProperty("business_cases", NullValueHandling = NullValueHandling.Ignore)]  
public List<BusinessCase> BusinessCases { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">BusinessCase</a> >	

### Payment

Die Zahlart bildet den zweiten Block des CashStatement und untergliedert den gesamten Zahlungsstrom an einer Kasse in verschiedene Zahlarten.

#### Declaration

```
[JsonProperty("payment", NullValueHandling = NullValueHandling.Ignore)]  
public Payment Payment { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">Payment</a>	

# Class ClosingCashRegister

## Inheritance

System.Object

ClosingCashRegister

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class ClosingCashRegister
```

## Properties

### Id

#### Declaration

```
[JsonProperty("id", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]  
public string Id { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### SlaveId

#### Declaration

```
[JsonProperty("slave_id", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]  
public string SlaveId { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

# Class Company

Bildet die Klammer bezüglich aller Informationen zum Unternehmen. Ist es beabsichtigt, im laufenden Betrieb des Unternehmens Angaben innerhalb dieser Klammer zu ändern, so muss davor zwingend ein Kassenabschluss durchgeführt werden.

## Inheritance

System.Object

Company

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class Company
```

## Properties

### Address

#### Declaration

```
[JsonProperty("address")]  
public AddressStrict Address { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">AddressStrict</a>	

### Location

Unter dem Klammerbegriff Abrechnungsort werden alle Daten zum Abrechnungsort der Kasse vorgehalten. Der Abrechnungsort kann eine Abteilungsbezeichnung, eine Filiale oder ein variabler Punkt sein.

#### Declaration

```
[JsonProperty("location")]  
public Location Location { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">Location</a>	

### Name

#### Declaration

```
[JsonProperty("name")]
[JsonConverter(typeof(FluffyMinMaxLengthCheckConverter))]
public string Name { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### TaxNumber

##### Declaration

```
[JsonProperty("tax_number")]
[JsonConverter(typeof(IndecentMinMaxLengthCheckConverter))]
public string TaxNumber { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### VatIdNumber

##### Declaration

```
[JsonProperty("vat_id_number", NullValueHandling = NullValueHandling.Ignore)]
[JsonConverter(typeof(HilariousMinMaxLengthCheckConverter))]
public string VatIdNumber { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

# Class Coordinate

Version 2.2.0

Inheritance

System.Object

Coordinate

Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public class Coordinate
```

Properties

CashPointClosing

Der Kassenabschluss wird ein-, mehrmals oder kalendertagübergreifend für eine Kasse erstellt.

Declaration

```
[JsonProperty("cash_point_closing")]  
public CashPointClosing CashPointClosing { get; set; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">CashPointClosing</a>	

Methods

FromJson(String)

Declaration

```
public static Coordinate FromJson(string json)
```

Parameters

TYPE	NAME	DESCRIPTION
System.String	json	

Returns

TYPE	DESCRIPTION
<a href="#">Coordinate</a>	



## Extension Methods

[Serialize.ToJson\(Coordinate\)](#)

# Enum CountryCode

Ländercode nach ISO 3166 alpha-3

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public enum CountryCode
```

## Fields

NAME	DESCRIPTION
Abw	
Afg	
Ago	
Aia	
Ala	
Alb	
And	
Ant	
Are	
Arg	
Arm	
Asm	
Ata	
Atf	
Atg	
Aus	
Aut	
Aze	
Bdi	
Bel	

NAME	DESCRIPTION
Ben	
Bfa	
Bgd	
Bgr	
Bhr	
Bhs	
Bih	
Blr	
Blz	
Bmu	
Bol	
Bra	
Brb	
Brn	
Btn	
Bvt	
Bwa	
Caf	
Can	
Cck	
Che	
Chl	
Chn	
Civ	
Cmr	

NAME	DESCRIPTION
Cod	
Cog	
Cok	
Col	
Com	
Cpv	
Cri	
Cub	
Cxr	
Cym	
Cyp	
Cze	
Deu	
Dji	
Dma	
Dnk	
Dom	
Dza	
Ecu	
Egy	
Eri	
Esh	
Esp	
Est	
Eth	

NAME	DESCRIPTION
Fin	
Fji	
Flk	
Fra	
Fro	
Fsm	
Gab	
Gbr	
Geo	
Gha	
Gib	
Gin	
Glp	
Gmb	
Gnb	
Gnq	
Grc	
Grd	
Grl	
Gtm	
Guf	
Gum	
Guy	
Hkg	
Hmd	

NAME	DESCRIPTION
Hnd	
Hrv	
Hti	
Hun	
Idn	
Ind	
lot	
Irl	
Irn	
Irq	
Isl	
Isr	
Ita	
Jam	
Jor	
Jpn	
Kaz	
Ken	
Kgz	
Khm	
Kir	
Kna	
Kor	
Kwt	
Lao	

NAME	DESCRIPTION
Lbn	
Lbr	
Lby	
Lca	
Lie	
Lka	
Lso	
Ltu	
Lux	
Lva	
Mac	
Mar	
Mco	
Mda	
Mdg	
Mdv	
Mex	
Mhl	
Mkd	
Mli	
Mlt	
Mmr	
Mng	
Mnp	
Moz	

NAME	DESCRIPTION
Mrt	
Msr	
Mtg	
Mus	
Mwi	
Mys	
Myt	
Nam	
Ncl	
Ner	
Nfk	
Nga	
Nic	
Niu	
Nld	
Nor	
Npl	
Nru	
Nzl	
Omn	
Pak	
Pan	
Pcn	
Per	
Phl	



NAME	DESCRIPTION
Plw	
Png	
Pol	
Pri	
Prk	
Prt	
Pry	
Pse	
Pyf	
Qat	
Reu	
Rou	
Rus	
Rwa	
Sau	
Scg	
Sdn	
Sen	
Sgp	
Sgs	
Shn	
Sjm	
Slb	
Sle	
Slv	

NAME	DESCRIPTION
Smr	
Som	
Spm	
Stp	
Sur	
Svk	
Svn	
Swe	
Swz	
Syc	
Syr	
Tca	
Tcd	
Tgo	
Tha	
Tjk	
Tkl	
Tkm	
Tls	
Ton	
Tto	
Tun	
Tur	
Tuv	
Twn	

NAME	DESCRIPTION
Tza	
Uga	
Ukr	
Umi	
Ury	
Usa	
Uzb	
Vat	
Vct	
Ven	
Vgb	
Vir	
Vnm	
Vut	
Wlf	
Wsm	
Yem	
Zaf	
Zmb	
Zwe	

# Class CsvExport

## Inheritance

System.Object

CsvExport

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class CsvExport
```

## Constructors

CsvExport(ILogger)

### Declaration

```
public CsvExport(ILogger logger)
```

### Parameters

TYPE	NAME	DESCRIPTION
Microsoft.Extensions.Logging.ILogger	logger	

## Methods

Export(List<CashPointClosing>, String)

### Declaration

```
public void Export(List<CashPointClosing> cashPointClosings, string exportPath)
```

### Parameters

TYPE	NAME	DESCRIPTION
System.Collections.Generic.List< <a href="#">CashPointClosing</a> >	cashPointClosings	
System.String	exportPath	

# Enum Currency

Jeder Kassenabschluss hat ausschließlich eine Basiswährung. Die Angabe der Basiswährung bezieht sich auf die Basiswährung der Kasse. Die Basiswährung wird dargestellt nach ISO 4217 (Spalte: ISO-Code) Bsp.: Euro = EUR; Alle Zahlungen in Fremdwährung auf dem Einzelbeleg werden im Kassenabschluss in die Basiswährung umgerechnet.

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: [RetailForce.Fiscalisation.dll](#)

Syntax

```
public enum Currency
```

## Fields

NAME	DESCRIPTION
Aed	
Afn	
All	
Amd	
Ang	
Aoa	
Ars	
Aud	
Awg	
Azn	
Bam	
Bbd	
Bdt	
Bgn	
Bhd	
Bif	
Bmd	
Bnd	
Bob	

NAME	DESCRIPTION
Bov	
Brl	
Bsd	
Btn	
Bwp	
Byn	
Byr	
Bzd	
Cad	
Cdf	
Che	
Chf	
Chw	
Clf	
Clp	
Cn	
Cop	
Cou	
Crc	
Cuc	
Cup	
Cve	
Czk	
Djf	
Dkk	

NAME	DESCRIPTION
Dop	
Dzd	
Egp	
Ern	
Etb	
Eur	
Fjd	
Fkp	
Gbp	
Gel	
Ghs	
Gip	
Gmd	
Gnf	
Gtq	
Gyd	
Hkd	
Hnl	
Hrk	
Htg	
Huf	
Idr	
Ils	
Inr	
Iqd	

NAME	DESCRIPTION
Irr	
Isk	
Jmd	
Jod	
Jpy	
Kes	
Kgs	
Khr	
Kmf	
Kpw	
Krw	
Kwd	
Kyd	
Kzt	
Lak	
Lbp	
Lkr	
Lrd	
Lsl	
Lyd	
Mad	
Mdl	
Mga	
Mkd	
Mmk	



NAME	DESCRIPTION
Mnt	
Mop	
Mro	
Mur	
Mvr	
Mwk	
Mxn	
Mxv	
Myr	
Mzn	
Nad	
Ngn	
Nio	
Nok	
Npr	
Nzd	
Omr	
Pab	
Pen	
Pgk	
Php	
Pkr	
Pln	
Pyg	
Qar	

NAME	DESCRIPTION
Ron	
Rsd	
Rub	
Rwf	
Sar	
Sbd	
Scr	
Sdg	
Sek	
Sgd	
Shp	
Sll	
Sos	
Srd	
Ssp	
Std	
Svc	
Syp	
Szl	
Thb	
Tjs	
Tmt	
Tnd	
Top	
Try	

NAME	DESCRIPTION
Ttd	
Twd	
Tzs	
Uah	
Ugx	
Usd	
Uyi	
Uyu	
Uzs	
Vef	
Vnd	
Vuv	
Wst	
Xaf	
Xcd	
Xof	
Xpf	
Xsu	
Yer	
Zar	
Zmw	
Zwl	

# Class CustomFieldDefinitions

## Inheritance

System.Object

CustomFieldDefinitions

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class CustomFieldDefinitions
```

# Class CustomFields

sofern branchen- oder herstellerspezifische Informationen zusätzlich im Datensatz abgebildet werden sollen, für die jedoch keine geeigneten Positionen im Standard vorhanden sind, besteht die Möglichkeit, die Datensatzbeschreibung über benutzerdefinierte Positionen, sogenannte „Custom\_Fields“, zu erweitern. Aufgrund der individuellen Erweiterung der Taxonomie haben diese Felder lediglich deklaratorischen Charakter und werden keiner automatisierten Weiterverarbeitung zugefügt

## Inheritance

System.Object

CustomFields

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class CustomFields
```

# Class Data

Bildet die Klammer um alle Bewegungsdaten eines Einzelbons. TransactionData unterscheiden die Daten in Gesamtbetrag mit Aufteilung in Zahlarten und umsatzsteuerliche Sachverhalte, Zusatznotizen, BonPositionen mit Artikel oder Warengruppenbezug und Bon Positionen ohne Artikel oder Warengruppenbezug.

## Inheritance

System.Object

Data

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class Data
```

## Properties

### AmountsPerVatId

Aufteilung des Gesamtbetrages einer Transaktion in die Einzelbeträge nach ausgewiesenen Umsatzsteuersätzen.

## Declaration

```
[JsonProperty("amounts_per_vat_id", NullValueHandling = NullValueHandling.Ignore)]  
public List<VatAmountGrossAndNetReceipt> AmountsPerVatId { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">VatAmountGrossAndNetReceipt</a> >	

### FullAmountInclVat

## Declaration

```
[JsonProperty("full_amount_incl_vat")]  
[JsonConverter(typeof(FluffyMinMaxValueCheckConverter))]  
public double FullAmountInclVat { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.Double	

## Lines

Jeder Bon der ein Geschäft an der Kasse definiert, wird als Transaktion bezeichnet. Eine Transaktion kann aus einer oder mehreren Geschäftsvorfällen bestehen. Diese Geschäftsvorfälle werden im Folgenden [lines] genannt. Die Taxonomie unterscheidet

zwischen ItemLine und TypeLine. Die ItemLine steht für Geschäftsvorfälle, die einen Bezug zu einem Artikel, Produkt oder einer Warengruppe besitzen.

#### Declaration

```
[JsonProperty("lines", NullValueHandling = NullValueHandling.Ignore)]  
public List<Line> Lines { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">Line</a> >	

#### Notes

Unter [notes] werden entsprechende Zusatznotizen erfasst.

#### Declaration

```
[JsonProperty("notes", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(BraggadociousMinMaxLengthCheckConverter))]  
public string Notes { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### PaymentTypes

#### Declaration

```
[JsonProperty("payment_types", NullValueHandling = NullValueHandling.Ignore)]  
public List<DataPaymentType> PaymentTypes { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">DataPaymentType</a> >	

# Class DataPaymentType

Unterteilung der gezahlten Beträge nach Zahlart und Währung.

## Inheritance

System.Object  
DataPaymentType

## Inherited Members

System.Object.Equals(System.Object)  
System.Object.Equals(System.Object, System.Object)  
System.Object.GetHashCode()  
System.Object.GetType()  
System.Object.MemberwiseClone()  
System.Object.ReferenceEquals(System.Object, System.Object)  
System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class DataPaymentType
```

## Properties

### Amount

#### Declaration

```
[JsonProperty("amount")]  
[JsonConverter(typeof(FluffyMinMaxValueCheckConverter))]  
public double Amount { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Double	

### CurrencyCode

#### Declaration

```
[JsonProperty("currency_code")]  
public Currency CurrencyCode { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">Currency</a>	

### CustomFields

#### Declaration

```
[JsonProperty("custom_fields", NullValueHandling = NullValueHandling.Ignore)]  
public CustomFields CustomFields { get; set; }
```

#### Property Value



TYPE	DESCRIPTION
<a href="#">CustomFields</a>	

## ForeignAmount

### Declaration

```
[JsonProperty("foreign_amount", NullValueHandling = NullValueHandling.Ignore)]
[JsonConverter(typeof(FluffyMinMaxValueCheckConverter))]
public double? ForeignAmount { get; set; }
```

### Property Value

TYPE	DESCRIPTION
System.Nullable<System.Double>	

## Name

### Declaration

```
[JsonProperty("name", NullValueHandling = NullValueHandling.Ignore)]
[JsonConverter(typeof(FluffyMinMaxLengthCheckConverter))]
public string Name { get; set; }
```

### Property Value

TYPE	DESCRIPTION
System.String	

## Type

### Declaration

```
[JsonProperty("type")]
public TypeEnum Type { get; set; }
```

### Property Value

TYPE	DESCRIPTION
<a href="#">TypeEnum</a>	

# Class FinishTransaction

## Inheritance

System.Object  
FinishTransaction

## Inherited Members

System.Object.Equals(System.Object)  
System.Object.Equals(System.Object, System.Object)  
System.Object.GetHashCode()  
System.Object.GetType()  
System.Object.MemberwiseClone()  
System.Object.ReferenceEquals(System.Object, System.Object)  
System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class FinishTransaction
```

## Properties

### LogTime

Die Log-Time der FinishTransaction-Operation der TSE nach ISO 8601 und RFC3339 - die Log-Time muss mindestens so genau wiedergegeben werden, wie sie die TSE zur Signierung verwendet hat

## Declaration

```
[JsonProperty("log_time")]  
public DateTimeOffset LogTime { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.DateTimeOffset	

### ProcessData

Optional können hier auch die process\_data in mit übergeben werden

## Declaration

```
[JsonProperty("process_data", NullValueHandling = NullValueHandling.Ignore)]  
public string ProcessData { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.String	

### ProcessType

Der processType der FinishTransaction-Operation, z.B. 'Kassenbeleg-V1'

## Declaration

```
[JsonProperty("process_type")]
[JsonConverter(typeof(MinMaxLengthCheckConverter2))]
public string ProcessType { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### Signature

Die Signatur der TSE für die FinishTransaction-Operation in Base64-Kodierung

#### Declaration

```
[JsonProperty("signature")]
public string Signature { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### SignatureCounter

Der Signaturzähler der TSE für die FinishTransaction-Operation

#### Declaration

```
[JsonProperty("signature_counter")]
public long SignatureCounter { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Int64	

# Class FluffyTse

Auf die Transaktion bezogene Daten der Technischen Sicherheitseinrichtung (TSE) im Sinne der deutschen Kassensicherungsverordnung - KassenSichV

## Inheritance

System.Object

FluffyTse

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class FluffyTse
```

## Properties

### ErrorDescription

Bei TSE-Ausfall oder Fehler sollte hier eine aussagekräftige Fehlerbeschreibung eingetragen werden.

## Declaration

```
[JsonProperty("error_description", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(MinMaxLengthCheckConverter1))]  
public string ErrorDescription { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.String	

### FinishTransaction

## Declaration

```
[JsonProperty("finish_transaction", NullValueHandling = NullValueHandling.Ignore)]  
public FinishTransaction FinishTransaction { get; set; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">FinishTransaction</a>	

## ModuleId

Die Id der für diese Transaktion verwendete TSE

## Declaration

```
[JsonProperty("module_id", NullValueHandling = NullValueHandling.Ignore)]
public long? ModuleId { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Nullable<System.Int64>	

### StartTransaction

#### Declaration

```
[JsonProperty("start_transaction", NullValueHandling = NullValueHandling.Ignore)]
public StartTransaction StartTransaction { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">StartTransaction</a>	

### TransactionNumber

Die Transaktionsnummer der TSE-Transaktion

#### Declaration

```
[JsonProperty("transaction_number", NullValueHandling = NullValueHandling.Ignore)]
public long? TransactionNumber { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Nullable<System.Int64>	

# Class Item

Innerhalb des Geschäftsvorfalles bildet der item die Klammer um alle Artikelspezifischen Informationen.

## Inheritance

System.Object

Item

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class Item
```

## Properties

### BaseAmountsPerVatId

Der Artikelumsatz pro Steuersatz ohne Berücksichtigung von Rabatt und Aufschlag

#### Declaration

```
[JsonProperty("base_amounts_per_vat_id", NullValueHandling = NullValueHandling.Ignore)]  
public List<VatAmountOnly> BaseAmountsPerVatId { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">VatAmountOnly</a> >	

## CustomFields

#### Declaration

```
[JsonProperty("custom_fields", NullValueHandling = NullValueHandling.Ignore)]  
public CustomFields CustomFields { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">CustomFields</a>	

### DiscountsPerVatId

Der Artikelrabatt pro Steuersatz

#### Declaration

```
[JsonProperty("discounts_per_vat_id", NullValueHandling = NullValueHandling.Ignore)]  
public List<VatAmountOnly> DiscountsPerVatId { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List<VatAmountOnly>	

#### ExtraAmountsPerVatId

Der Artikelaufschlag pro Steuersatz

#### Declaration

```
[JsonProperty("extra_amounts_per_vat_id", NullValueHandling = NullValueHandling.Ignore)]  
public List<VatAmountOnly> ExtraAmountsPerVatId { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List<VatAmountOnly>	

#### GroupId

Eindeutige ID der Warengruppe, z.B. die Warengruppennummer

#### Declaration

```
[JsonProperty("group_id", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(PurpleMinMaxLengthCheckConverter))]  
public string GroupId { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### GroupName

Bezeichnet den Namen der Warengruppe

#### Declaration

```
[JsonProperty("group_name", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]  
public string GroupName { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### Gtin

Die Global Trade Item Number (GTIN) ist eine internationale, unverwechselbare Nummer zur Kennzeichnung von Produkten. Sie wird weltweit von der GS1 verwaltet und vergeben. Die früher übliche Bezeichnung European Article Number (EAN) wurde 2009 von der GTIN abgelöst.

#### Declaration

```
[JsonProperty("gtin", NullValueHandling = NullValueHandling.Ignore)]
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]
public string Gtin { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### Number

Bezeichnet eine eindeutige Nummer, mit der der Artikel, das Produkt bzw. die Warengruppe in den Systemen des Unternehmens gepflegt und verwaltet wird.

#### Declaration

```
[JsonProperty("number")]
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]
public string Number { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### PricePerUnit

PricePerUnit ist der Artikelgrundpreis für Menge quantity\_factor der mit quantity\_measure spezifizierten Maßeinheit.

#### Declaration

```
[JsonProperty("price_per_unit")]
[JsonConverter(typeof(PurpleMinMaxValueCheckConverter))]
public double PricePerUnit { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Double	

### Quantity

#### Declaration

```
[JsonProperty("quantity")]
[JsonConverter(typeof(StickyMinMaxValueCheckConverter))]
public double Quantity { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Double	

### QuantityFactor

#### Declaration



```
[JsonProperty("quantity_factor", NullValueHandling = NullValueHandling.Ignore)]
public double? QuantityFactor { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Nullable<System.Double>	

## QuantityMeasure

Measure bezeichnet die Maßeinheit. Ist das Feld Maßeinheit leer, so gilt automatisch die Einheit Stück

#### Declaration

```
[JsonProperty("quantity_measure", NullValueHandling = NullValueHandling.Ignore)]
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]
public string QuantityMeasure { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

## SubItems

Die SubItems schaffen die Möglichkeit, die Zusammensetzung von verkauften Produkten bzw. Warengruppenbezeichnungen auf Artekelebene zu erklären. Beispiel: Menü = Cola und Hamburger. Die SubItems müssen nicht gefüllt werden. Sie haben erklärenden Charakter und keine Aussagekraft bezüglich Preis und Umsatzsteuer.

#### Declaration

```
[JsonProperty("sub_items", NullValueHandling = NullValueHandling.Ignore)]
public List<SubItem> SubItems { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">SubItem</a> >	

# Class Line

## Inheritance

System.Object

Line

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class Line
```

## Properties

### BusinessCase

#### Declaration

```
[JsonProperty("business_case")]  
public BusinessCaseLine BusinessCase { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">BusinessCaseLine</a>	

### CustomFields

#### Declaration

```
[JsonProperty("custom_fields", NullValueHandling = NullValueHandling.Ignore)]  
public CustomFields CustomFields { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">CustomFields</a>	

### Id

#### Declaration

```
[JsonProperty("id")]  
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]  
public string Id { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

## InHouse

Kennzeichnet einen in\_house Verkauf bzw. außerhausverkauf

Declaration

```
[JsonProperty("in_house", NullValueHandling = NullValueHandling.Ignore)]
public bool? InHouse { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Nullable<System.Boolean>	

## Item

Innerhalb des Geschäftsvorfalles bildet der item die Klammer um alle Artikelspezifischen Informationen.

Declaration

```
[JsonProperty("item", NullValueHandling = NullValueHandling.Ignore)]
public Item Item { get; set; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">Item</a>	

## References

Referenzen auf externe Lieferscheine, Rechnungen oder Transaktionen eines Taxonomie-Kassenabschlusses

Declaration

```
[JsonProperty("references", NullValueHandling = NullValueHandling.Ignore)]
public List<Reference> References { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">Reference</a> >	

## SourceCashRegister

Declaration

```
[JsonProperty("source_cash_register", NullValueHandling = NullValueHandling.Ignore)]
public SourceCashRegister SourceCashRegister { get; set; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">SourceCashRegister</a>	

## Storno

Kennzeichnet einen Stornovorgang auf Line-Ebene.

Declaration

```
[JsonProperty("storno")]
public bool Storno { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Boolean	

## Text

Bezeichnung der Line bzw. Name des Items.

Declaration

```
[JsonProperty("text")]
[JsonConverter(typeof(MischievousMinMaxLengthCheckConverter))]
public string Text { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

## VoucherId

Declaration

```
[JsonProperty("voucher_id", NullValueHandling = NullValueHandling.Ignore)]
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]
public string VoucherId { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

# Class Location

Unter dem Klammerbegriff Abrechnungsort werden alle Daten zum Abrechnungsort der Kasse vorgehalten. Der Abrechnungsort kann eine Abteilungsbezeichnung, eine Filiale oder ein variabler Punkt sein.

## Inheritance

System.Object

Location

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class Location
```

## Properties

### Address

#### Declaration

```
[JsonProperty("address")]  
public AddressStrict Address { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">AddressStrict</a>	

### CashRegister

Die Klammer um alle Angaben zur jeweiligen Kasse.

#### Declaration

```
[JsonProperty("cash_register")]  
public CashRegister CashRegister { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">CashRegister</a>	

## Name

#### Declaration

```
[JsonProperty("name")]
[JsonConverter(typeof(FluffyMinMaxLengthCheckConverter))]
public string Name { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### VatIdNumber

##### Declaration

```
[JsonProperty("vat_id_number", NullValueHandling = NullValueHandling.Ignore)]
[JsonConverter(typeof(HilariousMinMaxLengthCheckConverter))]
public string VatIdNumber { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

# Enum LogTimeFormat

Das von der TSE verwendete Format für die Log-Time - 'utcTime' = YYMMDDhhmmZ, 'utcTimeWithSeconds' = YYMMDDhhmmssZ, 'generalizedTime' = YYYYMMDDhhmmssZ, 'generalizedTimeWithMilliseconds' = YYYYMMDDhhmmss.fffZ

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public enum LogTimeFormat
```

## Fields

NAME	DESCRIPTION
GeneralizedTime	
GeneralizedTimeWithMilliseconds	
UnixTime	
UtcTime	
UtcTimeWithSeconds	

# Class Module

## Inheritance

System.Object

Module

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class Module
```

## Properties

### Certificate

Das Zertifikat der TSE in Base64-Kodierung

#### Declaration

```
[JsonProperty("certificate")]  
public string Certificate { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### Id

Die ID der TSE - wird nur zur Referenzierung innerhalb eines Kassenabschlusses verwendet.

#### Declaration

```
[JsonProperty("id")]  
public long Id { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Int64	

### LogTimeFormat

Das von der TSE verwendete Format für die Log-Time - 'utcTime' = YYMMDDhhmmZ, 'utcTimeWithSeconds' = YYMMDDhhmmssZ, 'generalizedTime' = YYYYMMDDhhmmssZ, 'generalizedTimeWithMilliseconds' = YYYYMMDDhhmmss.fffZ

#### Declaration



```
[JsonProperty("log_time_format")]
public LogTimeFormat LogTimeFormat { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">LogTimeFormat</a>	

### SerialNumber

Die Seriennummer der TSE (Entspricht laut TR-03153 Abschnitt 7.5. dem Hashwert des im Zertifikat enthaltenen Schlüssels in Octet-String-Darstellung)

#### Declaration

```
[JsonProperty("serial_number")]
[JsonConverter(typeof(FriskyMinMaxLengthCheckConverter))]
public string SerialNumber { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### SignatureAlgorithm

Der von der TSE verwendete Signaturalgorithmus

#### Declaration

```
[JsonProperty("signature_algorithm")]
public SignatureAlgorithm SignatureAlgorithm { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">SignatureAlgorithm</a>	

# Class Payment

Die Zahlart bildet den zweiten Block des CashStatement und untergliedert den gesamten Zahlungsstrom an einer Kasse in verschiedene Zahlarten.

## Inheritance

System.Object

Payment

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class Payment
```

## Properties

### CashAmount

Der Gesamtbetrag aller Bareinnahmen und -ausgaben. Entnimmt der Unternehmer das Geld im Rahmen des Kassenabschlusses, so weist dieses Feld die 0 aus. Entnimmt der Unternehmer im Rahmen des Kassenabschlusses nicht das gesamte Geld, so weist dieses Feld den Kassenendbestand an Bargeld aus.

## Declaration

```
[JsonProperty("cash_amount")]  
[JsonConverter(typeof(FluffyMinMaxValueCheckConverter))]  
public double CashAmount { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.Double	

### CashAmountsByCurrency

Eine Aufschlüsselung aller Bareinnahmen nach Wahrung

## Declaration

```
[JsonProperty("cash_amounts_by_currency")]  
public List<CashAmountsByCurrency> CashAmountsByCurrency { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">CashAmountsByCurrency</a> >	

## FullAmount

Der Gesamtbetrag stellt den Gesamtbetrag des Zahlungsstromes dar.

### Declaration

```
[JsonProperty("full_amount")]  
[JsonConverter(typeof(FluffyMinMaxValueCheckConverter))]  
public double FullAmount { get; set; }
```

### Property Value

TYPE	DESCRIPTION
System.Double	

## PaymentTypes

### Declaration

```
[JsonProperty("payment_types")]  
public List<PaymentPaymentType> PaymentTypes { get; set; }
```

### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">PaymentPaymentType</a> >	

# Class PaymentPaymentType

Jede Kasse muss unterscheiden können zwischen den Zahlarten Bar, Unbar, Keine. Bar kennzeichnet den Gesamtbetrag aller Barzahlungen. Unbar kennzeichnet die Summe aller Zahlungsströme aus Zahlarten die keine Bargeldzahlung darstellen. Verfügt das Kassensystem über die Möglichkeit, einzelne Zahlarten erfassen und darstellen zu können, so müssen diese dargestellt werden. Eine momentane Aufstellung der einzelnen Zahlarten ist hinterlegt. Es ist auch möglich, dass z. Bsp. Lieferscheine an der Kasse erfasst werden. Für diesen Fall wurde u.a. die Zahlart [Keine] eingeführt. Die Zahlart [Keine] darf mit keiner anderen Zahlart kombiniert werden.

## Inheritance

System.Object

PaymentPaymentType

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class PaymentPaymentType
```

## Properties

### Amount

#### Declaration

```
[JsonProperty("amount")]  
[JsonConverter(typeof(FluffyMinMaxValueCheckConverter))]  
public double Amount { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Double	

### CurrencyCode

#### Declaration

```
[JsonProperty("currency_code")]  
public Currency CurrencyCode { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">Currency</a>	

## CustomFields

#### Declaration

```
[JsonProperty("custom_fields", NullValueHandling = NullValueHandling.Ignore)]
public CustomFields CustomFields { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">CustomFields</a>	

### ForeignAmount

#### Declaration

```
[JsonProperty("foreign_amount", NullValueHandling = NullValueHandling.Ignore)]
[JsonConverter(typeof(FluffyMinMaxValueCheckConverter))]
public double? ForeignAmount { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Nullable<System.Double>	

### Name

#### Declaration

```
[JsonProperty("name", NullValueHandling = NullValueHandling.Ignore)]
[JsonConverter(typeof(FluffyMinMaxLengthCheckConverter))]
public string Name { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### Type

#### Declaration

```
[JsonProperty("type")]
public TypeEnum Type { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">TypeEnum</a>	

# Enum ProcessDataEncoding

Das beim Erzeugen der process\_data verwendete Encoding - kann UTF-8 oder ASCII sein

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public enum ProcessDataEncoding
```

## Fields

NAME	DESCRIPTION
Ascii	
Utf8	

# Class ProcessingFlags

Die Aktivierung dieses Feldes kennzeichnet, dass diese Kasse eine umsatzsteuerliche Zuordnung zum Zeitpunkt der Forderungsauflösung nicht treffen kann. Soll diese Einstellung geändert werden, so ist zuerst zwingend ein Kassenabschluss zu erstellen. Die umsatzsteuerliche Zuordnung erfolgt somit in jedem Falle zum Zeitpunkt der Lieferung und der Leistung.

## Inheritance

System.Object  
ProcessingFlags

## Inherited Members

System.Object.Equals(System.Object)  
System.Object.Equals(System.Object, System.Object)  
System.Object.GetHashCode()  
System.Object.GetType()  
System.Object.MemberwiseClone()  
System.Object.ReferenceEquals(System.Object, System.Object)  
System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class ProcessingFlags
```

## Properties

### UmsatzsteuerNichtErmittelbar

#### Declaration

```
[JsonProperty("UmsatzsteuerNichtErmittelbar", NullValueHandling = NullValueHandling.Ignore)]  
public bool? UmsatzsteuerNichtErmittelbar { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Nullable<System.Boolean>	

# Class PurchaserAgency

## Inheritance

System.Object  
PurchaserAgency

## Inherited Members

System.Object.Equals(System.Object)  
System.Object.Equals(System.Object, System.Object)  
System.Object.GetHashCode()  
System.Object.GetType()  
System.Object.MemberwiseClone()  
System.Object.ReferenceEquals(System.Object, System.Object)  
System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class PurchaserAgency
```

## Properties

### Address

#### Declaration

```
[JsonProperty("address")]  
public AddressStrict Address { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">AddressStrict</a>	

### CustomFields

#### Declaration

```
[JsonProperty("custom_fields", NullValueHandling = NullValueHandling.Ignore)]  
public CustomFields CustomFields { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">CustomFields</a>	

### Id

Die Referenzierung aller Daten eines Agenturgebers für Agenturumsätze auf eine ID wird an dieser Position durchgeführt. Für die ID werden die Zahlen 1 - 99999999999 akzeptiert. Es werden nur ganze Zahlen akzeptiert. Die Reihenfolge muss in 1-er Schritten aufsteigend sein.

#### Declaration

```
[JsonProperty("id")]  
public long Id { get; set; }
```



#### Property Value

TYPE	DESCRIPTION
System.Int64	

#### Name

##### Declaration

```
[JsonProperty("name")]  
[JsonConverter(typeof(FluffyMinMaxLengthCheckConverter))]  
public string Name { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### TaxNumber

##### Declaration

```
[JsonProperty("tax_number")]  
[JsonConverter(typeof(IndecentMinMaxLengthCheckConverter))]  
public string TaxNumber { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### VatIdNumber

##### Declaration

```
[JsonProperty("vat_id_number", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(HilariousMinMaxLengthCheckConverter))]  
public string VatIdNumber { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

# Class PurpleTse

Für den gesamten Kassenabschluss gültige Informationen zur Technischen Sicherheitseinrichtung (TSE) im Sinne der deutschen Kassensicherungsverordnung - KassenSichV

## Inheritance

System.Object

PurpleTse

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class PurpleTse
```

## Properties

### Modules

Auflistung der im Kassenabschluss verwendeten TSEs

## Declaration

```
[JsonProperty("modules")]  
public List<Module> Modules { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">Module</a> >	

## ProcessDataEncoding

Das beim Erzeugen der process\_data verwendete Encoding - kann UTF-8 oder ASCII sein

## Declaration

```
[JsonProperty("process_data_encoding")]  
public ProcessDataEncoding ProcessDataEncoding { get; set; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">ProcessDataEncoding</a>	

# Class Reference

'Reference' beschreibt eine Referenz auf Taxonomie-Transaktion oder einen Lieferschein bzw. eine Rechnung aus einem Dritt-System

Inheritance

System.Object

Reference

Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public class Reference
```

## Properties

### CashPointClosing

Declaration

```
[JsonProperty("cash_point_closing", NullValueHandling = NullValueHandling.Ignore)]  
public long? CashPointClosing { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Nullable<System.Int64>	

### CashRegisterId

Declaration

```
[JsonProperty("cash_register_id", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]  
public string CashRegisterId { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

### Date

Declaration

```
[JsonProperty("date", NullValueHandling = NullValueHandling.Ignore)]  
public DateTimeOffset? Date { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Nullable<System.DateTimeOffset>	

## Id

### Declaration

```
[JsonProperty("id")]
[JsonConverter(typeof(PurpleMinMaxLengthCheckConverter))]
public string Id { get; set; }
```

### Property Value

TYPE	DESCRIPTION
System.String	

## Name

Name zur näheren Spezifikation der externen Referenz

### Declaration

```
[JsonProperty("name", NullValueHandling = NullValueHandling.Ignore)]
[JsonConverter(typeof(PurpleMinMaxLengthCheckConverter))]
public string Name { get; set; }
```

### Property Value

TYPE	DESCRIPTION
System.String	

## Type

### Declaration

```
[JsonProperty("type")]
public ReferenceType Type { get; set; }
```

### Property Value

TYPE	DESCRIPTION
<a href="#">ReferenceType</a>	

# Enum ReferenceType

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public enum ReferenceType
```

Fields

NAME	DESCRIPTION
ExterneRechnung	
ExternerLieferschein	
ExterneSonstige	
Transaktion	

# Class Serialize

## Inheritance

System.Object

Serialize

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public static class Serialize
```

## Methods

ToJson(Coordinate)

### Declaration

```
public static string ToJson(this Coordinate self)
```

### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">Coordinate</a>	self	

### Returns

TYPE	DESCRIPTION
System.String	

# Enum SignatureAlgorithm

Der von der TSE verwendete Signaturalgorithmus

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public enum SignatureAlgorithm
```

## Fields

NAME	DESCRIPTION
EcdsaPlainSha224	
EcdsaPlainSha256	
EcdsaPlainSha3224	
EcdsaPlainSha3256	
EcdsaPlainSha3384	
EcdsaPlainSha3512	
EcdsaPlainSha384	
EcdsaPlainSha512	
EcsdsaPlainSha224	
EcsdsaPlainSha256	
EcsdsaPlainSha3224	
EcsdsaPlainSha3256	
EcsdsaPlainSha3384	
EcsdsaPlainSha3512	
EcsdsaPlainSha384	
EcsdsaPlainSha512	

# Class Slave

## Inheritance

System.Object

Slave

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class Slave
```

## Properties

### Brand

Bezeichnet die Marke des Kassengeräts.

#### Declaration

```
[JsonProperty("brand", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]  
public string Brand { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### CustomFields

#### Declaration

```
[JsonProperty("custom_fields", NullValueHandling = NullValueHandling.Ignore)]  
public CustomFields CustomFields { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">CustomFields</a>	

### Model

Bezeichnet das Modell der jeweiligen Kasse.

#### Declaration

```
[JsonProperty("model", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]  
public string Model { get; set; }
```



#### Property Value

TYPE	DESCRIPTION
System.String	

### SerialNumber

Seriennummer der jeweiligen Slave-Kasse.

#### Declaration

```
[JsonProperty("serial_number")]  
[JsonConverter(typeof(AmbitiousMinMaxLengthCheckConverter))]  
public string SerialNumber { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### SlaveId

Die slave\_id ist zwingend anzugeben, wenn mehr als ein Terminal über eine id abgerechnet werden. Alle kassierenden Kassen müssen hier mit Ihrer id der abrechnenden Kasse zugeordnet werden.

#### Declaration

```
[JsonProperty("slave_id")]  
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]  
public string SlaveId { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### Software

#### Declaration

```
[JsonProperty("software", NullValueHandling = NullValueHandling.Ignore)]  
public SlaveSoftware Software { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">SlaveSoftware</a>	

# Class SlaveSoftware

## Inheritance

System.Object

SlaveSoftware

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class SlaveSoftware
```

## Properties

### Brand

Hier wird der Name der jeweiligen Kassensoftware aufgeführt.

#### Declaration

```
[JsonProperty("brand", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]  
public string Brand { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### Version

Hier erfolgt die Versionsangabe der jeweiligen Software.

#### Declaration

```
[JsonProperty("version", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]  
public string Version { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

# Class SourceCashRegister

## Inheritance

System.Object

SourceCashRegister

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class SourceCashRegister
```

## Properties

### Id

#### Declaration

```
[JsonProperty("id", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]  
public string Id { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### SlaveId

#### Declaration

```
[JsonProperty("slave_id", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]  
public string SlaveId { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

# Class StartTransaction

## Inheritance

System.Object  
StartTransaction

## Inherited Members

System.Object.Equals(System.Object)  
System.Object.Equals(System.Object, System.Object)  
System.Object.GetHashCode()  
System.Object.GetType()  
System.Object.MemberwiseClone()  
System.Object.ReferenceEquals(System.Object, System.Object)  
System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class StartTransaction
```

## Properties

### LogTime

Die Log-Time der StartTransaction-Operation der TSE nach ISO 8601 und RFC3339 - die Log-Time muss mindestens so genau wiedergegeben werden, wie sie die TSE zur Signierung verwendet hat

## Declaration

```
[JsonProperty("log_time")]  
public DateTimeOffset LogTime { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.DateTimeOffset	

# Class SubItem

Inheritance

System.Object

SubItem

Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public class SubItem
```

## Properties

### AmountPerVatId

Declaration

```
[JsonProperty("amount_per_vat_id")]  
public VatAmountGrossOrNet AmountPerVatId { get; set; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">VatAmountGrossOrNet</a>	

### CustomFields

Declaration

```
[JsonProperty("custom_fields", NullValueHandling = NullValueHandling.Ignore)]  
public CustomFields CustomFields { get; set; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">CustomFields</a>	

### GroupId

Eindeutige ID der Warengruppe, z.B. die Warengruppennummer

Declaration

```
[JsonProperty("group_id", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(PurpleMinMaxLengthCheckConverter))]  
public string GroupId { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

## GroupName

Declaration

```
[JsonProperty("group_name", NullValueHandling = NullValueHandling.Ignore)]
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]
public string GroupName { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

## Gtin

Declaration

```
[JsonProperty("gtin", NullValueHandling = NullValueHandling.Ignore)]
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]
public string Gtin { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

## Name

Declaration

```
[JsonProperty("name", NullValueHandling = NullValueHandling.Ignore)]
[JsonConverter(typeof(FluffyMinMaxLengthCheckConverter))]
public string Name { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

## Number

Declaration

```
[JsonProperty("number")]
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]
public string Number { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

## Quantity

## Declaration

```
[JsonProperty("quantity")]  
[JsonConverter(typeof(StickyMinMaxValueCheckConverter))]  
public double Quantity { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.Double	

## QuantityFactor

### Declaration

```
[JsonProperty("quantity_factor", NullValueHandling = NullValueHandling.Ignore)]  
public double? QuantityFactor { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.Nullable<System.Double>	

## QuantityMeasure

Measure bezeichnet die Maßeinheit. Ist das Feld Maßeinheit leer, so gilt automatisch die Einheit Stück

### Declaration

```
[JsonProperty("quantity_measure", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]  
public string QuantityMeasure { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.String	

# Class TaxonomyFileStore

Saves the taxonomy files to disk and handles unfinished cash point closings

## Inheritance

System.Object

LoggingBase

TaxonomyStore<TaxonomyFileStoreConfiguration>

TaxonomyFileStore

## Inherited Members

TaxonomyStore<TaxonomyFileStoreConfiguration>.Configuration

LoggingBase\_logger

LoggingBase\_logSource

LoggingBase.LogCritical(String, Object[])

LoggingBase.LogCritical(Exception, String, Object[])

LoggingBase.LogError(String, Object[])

LoggingBase.LogError(Exception, String, Object[])

LoggingBase.LogWarning(String, Object[])

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TaxonomyFileStore : TaxonomyStore<TaxonomyFileStoreConfiguration>
```

## Constructors

**TaxonomyFileStore(ILogger, TaxonomyFileStoreConfiguration)**

Constructor.

## Declaration

```
public TaxonomyFileStore(ILogger logger, TaxonomyFileStoreConfiguration configuration)
```

## Parameters

TYPE	NAME	DESCRIPTION
Microsoft.Extensions.Logging.ILogger	logger	An instance of an logger
<a href="#">TaxonomyFileStoreConfiguration</a>	configuration	the configuration for the storage

## Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>configuration</code> is set to null.

## Methods

**CleanCashPointClosing(Guid, Int32)**

cleans / removes all transactions and the cash point closing header

## Declaration

```
public override void CleanCashPointClosing(Guid uniqueClientId, int cashPointClosingNr)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Guid	uniqueClientId	The unique id of the client
System.Int32	cashPointClosingNr	The cash point closing number where the header should be stored

## Overrides

RetailForce.Fiscalisation.Implementation.Germany.Taxonomy.TaxonomyStore<RetailForce.Fiscalisation.Implementation.Germany.TaxonomyFileStoreConfiguration>.CleanCashPointClosing(System.Guid, System.Int32)

**GetOpenCashPointClosingNumber(Guid)**

Returns the a cash point closing number

## Declaration

```
public int GetOpenCashPointClosingNumber(Guid uniqueClientId)
```

## Parameters



TYPE	NAME	DESCRIPTION
System.Guid	uniqueClientId	The unique id of the client

Returns

TYPE	DESCRIPTION
System.Int32	CashPointClosingNumber of an cash point closing which isn't finalized if nothing is open it returns the next valid number

#### LoadCashPointClosing(Guid, Int32)

Load cash point closing

Declaration

```
public CashPointClosing LoadCashPointClosing(Guid uniqueClientId, int cashPointClosingNr)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Guid	uniqueClientId	The unique id of the client
System.Int32	cashPointClosingNr	The cash point closing number which should be loaded

Returns

TYPE	DESCRIPTION
<a href="#">CashPointClosing</a>	The loaded cash point closing

#### LoadCashPointClosingHeader(Guid, Int32)

Loads a cash point closing header

Declaration

```
public override CashPointClosingHead LoadCashPointClosingHeader(Guid uniqueClientId, int cashPointClosingNr)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Guid	uniqueClientId	The unique id of the client
System.Int32	cashPointClosingNr	The cash point closing number to load

Returns

TYPE	DESCRIPTION
<a href="#">CashPointClosingHead</a>	the cash point closing header

Overrides

RetailForce.Fiscalisation.Implementation.Germany.Taxonomy.TaxonomyStore<RetailForce.Fiscalisation.Implementation.Germany.TaxonomyFileStoreConfiguration>.LoadCashPointClosingHeader(System.Guid, System.Int32)

#### LoadCashPointClosings(Guid, DateTime, DateTime)

Loads all cashpoint closings between the given dates

Declaration

```
public override List<CashPointClosing> LoadCashPointClosings(Guid uniqueClientId, DateTime startDate, DateTime endDateTime)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Guid	uniqueClientId	The unique id of the client
System.DateTime	startDate	Date with the start date (will be checked >= )
System.DateTime	endDateTime	Date with the end date

Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">CashPointClosing</a> >	A list of cash point closings

Overrides  
RetailForce.Fiscalisation.Implementation.Germany.Taxonomy.TaxonomyStore<RetailForce.Fiscalisation.Implementation.Germany.TaxonomyFileStoreConfiguration>.LoadCashPointClosings(System.Guid, System.DateTime, System.DateTime)

#### LoadLastTransaction(Guid, Int32)

Loads the last transaction of a cash point closing

Declaration

```
public Transaction LoadLastTransaction(Guid uniqueClientId, int cashPointClosingNr)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Guid	uniqueClientId	The unique id of the client
System.Int32	cashPointClosingNr	The cash point closing number from which the transaction should be loaded

Returns

TYPE	DESCRIPTION
<a href="#">Transaction</a>	The last transaction of the cash point closing

#### LoadTransactionReferences(Guid)

loads the transaction references

Declaration

```
public override List<Reference> LoadTransactionReferences(Guid uniqueClientId)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Guid	uniqueClientId	The unique id of the client

Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">Reference</a> >	A list of all References, or null if file doesn't exist.

Overrides  
RetailForce.Fiscalisation.Implementation.Germany.Taxonomy.TaxonomyStore<RetailForce.Fiscalisation.Implementation.Germany.TaxonomyFileStoreConfiguration>.LoadTransactionReferences(System.Guid)

#### LoadTransactions(Guid, Int32)

Returns all Transactions of an cash point closing

Declaration

```
public override List<Transaction> LoadTransactions(Guid uniqueClientId, int cashPointClosingNr)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Guid	uniqueClientId	The unique id of the client
System.Int32	cashPointClosingNr	The number of the cashpointClosing to load

Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">Transaction</a> >	Returns a list of transaction from the cash point closing nr.

Overrides  
RetailForce.Fiscalisation.Implementation.Germany.Taxonomy.TaxonomyStore<RetailForce.Fiscalisation.Implementation.Germany.TaxonomyFileStoreConfiguration>.LoadTransactions(System.Guid, System.Int32)

#### StoreCashPointClosing(Guid, CashPointClosing)

Stores a cashpoint closing

Declaration

```
public override void StoreCashPointClosing(Guid uniqueClientId, CashPointClosing cashPointClosing)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Guid	uniqueClientId	The unique id of the client
<a href="#">CashPointClosing</a>	cashPointClosing	The cash point closing to store

#### Overrides

RetailForce.Fiscalisation.Implementation.Germany.Taxonomy.TaxonomyStore<RetailForce.Fiscalisation.Implementation.Germany.TaxonomyFileStoreConfiguration>.StoreCashPointClosing(System.Guid, RetailForce.Fiscalisation.Implementation.Germany.Taxonomy.CashPointClosing)

#### StoreCashPointClosingHeader(Guid, Int32, CashPointClosingHead)

stores a cash point closing header

#### Declaration

```
public override void StoreCashPointClosingHeader(Guid uniqueClientId, int cashPointClosingNr, CashPointClosingHead header)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Guid	uniqueClientId	The unique id of the client
System.Int32	cashPointClosingNr	The cash point closing number where the header should be stored
<a href="#">CashPointClosingHead</a>	header	the head object to store

#### Overrides

RetailForce.Fiscalisation.Implementation.Germany.Taxonomy.TaxonomyStore<RetailForce.Fiscalisation.Implementation.Germany.TaxonomyFileStoreConfiguration>.StoreCashPointClosingHeader(System.Guid, System.Int32, RetailForce.Fiscalisation.Implementation.Germany.Taxonomy.CashPointClosingHead)

#### StoreTransaction(Guid, Int32, Transaction)

Stores a transaction to the storage

#### Declaration

```
public override void StoreTransaction(Guid uniqueClientId, int cashPointClosingNr, Transaction transaction)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Guid	uniqueClientId	The unique id of the client
System.Int32	cashPointClosingNr	The number of the cashpoint closing to store
<a href="#">Transaction</a>	transaction	The transaction to store

#### Overrides

RetailForce.Fiscalisation.Implementation.Germany.Taxonomy.TaxonomyStore<RetailForce.Fiscalisation.Implementation.Germany.TaxonomyFileStoreConfiguration>.StoreTransaction(System.Guid, System.Int32, RetailForce.Fiscalisation.Implementation.Germany.Taxonomy.Transaction)

#### StoreTransactionReferences(Guid, List<Reference>)

stores the reference list to a zip file

#### Declaration

```
public override void StoreTransactionReferences(Guid uniqueClientId, List<Reference> references)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Guid	uniqueClientId	
System.Collections.Generic.List< <a href="#">Reference</a> >	references	

#### Overrides

RetailForce.Fiscalisation.Implementation.Germany.Taxonomy.TaxonomyStore<RetailForce.Fiscalisation.Implementation.Germany.TaxonomyFileStoreConfiguration>.StoreTransactionReferences(System.Guid, System.Collections.Generic.List<RetailForce.Fiscalisation.Implementation.Germany.Taxonomy.Reference>)

#### Remarks

removes the whole zip file if exists and creates a new one!

# Class TaxonomyStore<T>

Represents the local and cloud storage provider for Taxonomy Germany (DSFin-VK, DFKA).

## Inheritance

System.Object

[LoggingBase](#)

TaxonomyStore<T>

[TaxonomyFileStore](#)

## Inherited Members

[LoggingBase.\\_logger](#)

[LoggingBase.\\_logSource](#)

[LoggingBase.LogCritical\(String, Object\[\]\)](#)

[LoggingBase.LogCritical\(Exception, String, Object\[\]\)](#)

[LoggingBase.LogError\(String, Object\[\]\)](#)

[LoggingBase.LogError\(Exception, String, Object\[\]\)](#)

[LoggingBase.LogWarning\(String, Object\[\]\)](#)

[System.Object.Equals\(System.Object\)](#)

[System.Object.Equals\(System.Object, System.Object\)](#)

[System.Object.GetHashCode\(\)](#)

[System.Object.GetType\(\)](#)

[System.Object.MemberwiseClone\(\)](#)

[System.Object.ReferenceEquals\(System.Object, System.Object\)](#)

[System.Object.ToString\(\)](#)

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public abstract class TaxonomyStore<T> : LoggingBase where T : TaxonomyStoreConfiguration
```

## Type Parameters

NAME	DESCRIPTION
T	

## Constructors

[TaxonomyStore\(ILogger, String, T\)](#)

Constructor.

## Declaration

```
protected TaxonomyStore(ILogger logger, string logSource, T configuration)
```

## Parameters

TYPE	NAME	DESCRIPTION
Microsoft.Extensions.Logging.ILogger	logger	An instance of an logger
System.String	logSource	Name of the logging source

TYPE	NAME	DESCRIPTION
T	configuration	the configuration for the storage

#### Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>configuration</code> is set to null.

#### Fields

##### Configuration

the configuration type of TaxonomyStoreConfiguration

##### Declaration

```
protected readonly T Configuration
```

##### Field Value

TYPE	DESCRIPTION
T	

#### Methods

##### CleanCashPointClosing(Guid, Int32)

cleans / removes all transactions and the cash point closing header

##### Declaration

```
public abstract void CleanCashPointClosing(Guid uniqueClientId, int cashPointClosingNr)
```

##### Parameters

TYPE	NAME	DESCRIPTION
System.Guid	uniqueClientId	The unique id of the client
System.Int32	cashPointClosingNr	The cash point closing number where the header should be stored

##### LoadCashPointClosingHeader(Guid, Int32)

Loads a cash point closing header

##### Declaration

```
public abstract CashPointClosingHead LoadCashPointClosingHeader(Guid uniqueClientId, int cashPointClosingNr)
```

##### Parameters

TYPE	NAME	DESCRIPTION
System.Guid	uniqueClientId	The unique id of the client
System.Int32	cashPointClosingNr	The cash point closing number to load

#### Returns

TYPE	DESCRIPTION
<a href="#">CashPointClosingHead</a>	the cash point closing header

#### LoadCashPointClosings(Guid, DateTime, DateTime)

Loads all cashpoint closings between the given dates

#### Declaration

```
public abstract List<CashPointClosing> LoadCashPointClosings(Guid uniqueClientId, DateTime startDate, DateTime endDateTime)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Guid	uniqueClientId	The unique id of the client
System.DateTime	startDate	Date with the start date (will be checked >= )
System.DateTime	endDateTime	Date with the end date

#### Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">CashPointClosing</a> >	A list of cash point closings

#### LoadTransactionReferences(Guid)

loads the transaction references

#### Declaration

```
public abstract List<Reference> LoadTransactionReferences(Guid uniqueClientId)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Guid	uniqueClientId	The unique id of the client

Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">Reference</a> >	A list of all References, or null if file doesn't exist.

### LoadTransactions(Guid, Int32)

Returns all Transactions of an cash point closing

Declaration

```
public abstract List<Transaction> LoadTransactions(Guid uniqueClientId, int cashPointClosingNr)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Guid	uniqueClientId	The unique id of the client
System.Int32	cashPointClosingNr	The number of the cashpointClosing to load

Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">Transaction</a> >	Returns a list of transaction from the cash point closing nr.

### StoreCashPointClosing(Guid, CashPointClosing)

Stores a cashpoint closing

Declaration

```
public abstract void StoreCashPointClosing(Guid uniqueClientId, CashPointClosing cashPointClosing)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Guid	uniqueClientId	The unique id of the client
<a href="#">CashPointClosing</a>	cashPointClosing	The cash point closing to store

### StoreCashPointClosingHeader(Guid, Int32, CashPointClosingHead)

stores a cash point closing header

Declaration

```
public abstract void StoreCashPointClosingHeader(Guid uniqueClientId, int cashPointClosingNr, CashPointClosingHead header)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Guid	uniqueClientId	The unique id of the client
System.Int32	cashPointClosingNr	The cash point closing number where the header should be stored
<a href="#">CashPointClosingHead</a>	header	the head object to store

StoreTransaction(Guid, Int32, Transaction)

Stores a transaction to the storage

Declaration

```
public abstract void StoreTransaction(Guid uniqueClientId, int cashPointClosingNr, Transaction transaction)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Guid	uniqueClientId	The unique id of the client
System.Int32	cashPointClosingNr	The number of the cashpoint closing to store
<a href="#">Transaction</a>	transaction	The transaction to store

StoreTransactionReferences(Guid, List<Reference>)

stores the reference list to a zip file

Declaration

```
public abstract void StoreTransactionReferences(Guid uniqueClientId, List<Reference> references)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Guid	uniqueClientId	
System.Collections.Generic.List< <a href="#">Reference</a> >	references	

Remarks



removes the whole zip file if exists and creates a new one!

# Class Transaction

Bildet die Klammer um eine einzige Einzelbewegung. Ist also der Einzelbeleg bzw. der Einzelbon. Auch die Transaktion gliedert sich in Kopf- und Bewegungsdaten.

## Inheritance

System.Object

Transaction

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class Transaction
```

## Properties

### Data

Bildet die Klammer um alle Bewegungsdaten eines Einzelbons. TransactionData unterscheiden die Daten in Gesamtbetrag mit Aufteilung in Zahlarten und umsatzsteuerliche Sachverhalte, Zusatznotizen, BonPositionen mit Artikel oder Warengruppenbezug und Bon Positionen ohne Artikel oder Warengruppenbezug.

## Declaration

```
[JsonProperty("data")]  
public Data Data { get; set; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">Data</a>	

## Head

Der Transaktionskopf beinhaltet alle Stammdaten zur Einzelbewegung.

## Declaration

```
[JsonProperty("head")]  
public TransactionHead Head { get; set; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">TransactionHead</a>	

## Security

Container für Daten von Sicherheitseinrichtungen, die für eine einzelne Transaktion gelten.

#### Declaration

```
[JsonProperty("security", NullValueHandling = NullValueHandling.Ignore)]  
public TransactionSecurity Security { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">TransactionSecurity</a>	

# Class TransactionHead

Der Transaktionskopf beinhaltet alle Stammdaten zur Einzelbewegung.

## Inheritance

System.Object  
TransactionHead

## Inherited Members

System.Object.Equals(System.Object)  
System.Object.Equals(System.Object, System.Object)  
System.Object.GetHashCode()  
System.Object.GetType()  
System.Object.MemberwiseClone()  
System.Object.ReferenceEquals(System.Object, System.Object)  
System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TransactionHead
```

## Properties

### AllocationGroups

#### Declaration

```
[JsonProperty("allocation_groups", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(DecodeArrayConverter))]  
public List<string> AllocationGroups { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List<System.String>	

### Buyer

Bildet die Klammer um alle Daten zu einem Käufer. Hintergrund: Ab einem Rechnungsbetrag von 200,00€ ist die sogenannte Kleinbetragsgrenze einer Rechnung überschritten. Dann muss die Käuferadresse erfasst werden. Dazu dienen die Felder unter der Klammer [buyer]. Auch hier gibt es einen Namen und die entsprechende Adresse.

#### Declaration

```
[JsonProperty("buyer", NullValueHandling = NullValueHandling.Ignore)]  
public Buyer Buyer { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">Buyer</a>	

### ClosingCashRegister

#### Declaration

```
[JsonProperty("closing_cash_register", NullValueHandling = NullValueHandling.Ignore)]
public ClosingCashRegister ClosingCashRegister { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">ClosingCashRegister</a>	

#### CustomFields

##### Declaration

```
[JsonProperty("custom_fields", NullValueHandling = NullValueHandling.Ignore)]
public CustomFields CustomFields { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">CustomFields</a>	

#### Id

Id der Transaktion, die vom Kassensystem automatisiert und unabänderlich zugewiesen wird. Die Id muss innerhalb eines Kassenabschlusses eindeutig sein.

##### Declaration

```
[JsonProperty("id")]
[JsonConverter(typeof(PurpleMinMaxLengthCheckConverter))]
public string Id { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### Name

Optionaler Name der Transaktion (zwingend erforderlich für Transaktionstyp AVSonstige!)

##### Declaration

```
[JsonProperty("name", NullValueHandling = NullValueHandling.Ignore)]
[JsonConverter(typeof(FluffyMinMaxLengthCheckConverter))]
public string Name { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### Number

Die Bonnummer ist im Kassenabschluss fortlaufend zu führen. Sie kann sich jedoch im Lebenszyklus einer Kasse wiederholen.

##### Declaration

```
[JsonProperty("number")]
public long Number { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Int64	

## References

Referenzen auf externe Lieferscheine, Rechnungen oder Transaktionen eines Taxonomie-Kassenabschlusses

#### Declaration

```
[JsonProperty("references", NullValueHandling = NullValueHandling.Ignore)]
public List<Reference> References { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">Reference</a> >	

## Storno

Kennzeichnet einen globalen Stornovorgang auf Belegebene.

#### Declaration

```
[JsonProperty("storno")]
public bool Storno { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Boolean	

## TimestampEnd

Der Ende-Zeitstempel bezeichnet den Zeitpunkt des Abschlusses einer Einzelbewegung (Transaction). Er ist der Zeitstempel, der die Ausstellung der Einzelbewegung dokumentiert. Nach §14(4) UStG ist das Ausstellungsdatum eine Pflichtangabe auf der Rechnung. Aus diesem Grund muss der Ende-Zeitstempel für jede Einzelbewegung vorhanden sein.

#### Declaration

```
[JsonProperty("timestamp_end")]
public DateTimeOffset TimestampEnd { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.DateTimeOffset	

## TimestampStart

Der Start-Zeitstempel bezeichnet den Zeitpunkt der ersten Erfassung in einer Einzelbewegung(Transaction). Kassen, die diesen Zeitstempel vergeben, müssen dies auch in der Taxonomie dokumentieren. Kassen, die dies nicht leisten können, füllen dieses

Feld mit dem Wert aus timestamp\_end.

Declaration

```
[JsonProperty("timestamp_start")]  
public DateTimeOffset TimestampStart { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.DateTimeOffset	

Type

Declaration

```
[JsonProperty("type")]  
public TransactionType Type { get; set; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">TransactionType</a>	

User

Der Benutzer ist die Person, die offiziell für die Abrechnung der Einzelbewegung an der Kasse verantwortlich ist. (Bsp.: Bedienung erfasst bzw. boniert, User kassiert)

Declaration

```
[JsonProperty("user", NullValueHandling = NullValueHandling.Ignore)]  
public User User { get; set; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">User</a>	

# Class TransactionSecurity

Container für Daten von Sicherheitseinrichtungen, die für eine einzelne Transaktion gelten.

## Inheritance

System.Object

TransactionSecurity

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TransactionSecurity
```

## Properties

### Tse

Auf die Transaktion bezogene Daten der Technischen Sicherheitseinrichtung (TSE) im Sinne der deutschen Kassensicherungsverordnung - KassenSichV

## Declaration

```
[JsonProperty("tse", NullValueHandling = NullValueHandling.Ignore)]  
public FluffyTse Tse { get; set; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">FluffyTse</a>	



# Enum TransactionType

Der Transaktionstyp ordnet und unterteilt alle Vorgänge in Geschäftsvorfälle (Beleg) und andere Vorgänge. Durch diese Zuordnung wird auch die Weiterverarbeitung im Kassenabschluss gesteuert. Ausschließlich Einzelbewegungen mit dem Transaktionstyp Beleg besitzen Relevanz für den Kassenabschluss. Im Beleg werden z. Bsp.: Rechnungen, Lieferscheine, Korrekturen etc. dargestellt. Werden Einzelbewegungen aus anderen Grundaufzeichnungssystemen des Unternehmens heraus weiterverarbeitet, so dürfen diese Einzelbewegungen nicht den Transaktionstypen Beleg erhalten

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public enum TransactionType
```

## Fields

NAME	DESCRIPTION
AvBelegabbruch	
AvBelegstorno	
AvBestellung	
AvRechnung	
AvSachbezug	
AvSonstige	
AvTraining	
AvTransfer	
Beleg	

# Enum TypeEnum

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public enum TypeEnum
```

Fields

NAME	DESCRIPTION
Bar	
EckKarte	
ElZahlungsdienstleister	
GuthabenKarte	
Keine	
Kreditkarte	
Unbar	

# Class User

Der Benutzer ist die Person, die offiziell für die Abrechnung der Einzelbewegung an der Kasse verantwortlich ist. (Bsp.: Bedienung erfasst bzw. boniert, User kassiert)

## Inheritance

System.Object

User

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class User
```

## Properties

### Id

Der Benutzer hat eine unternehmensinterne Kennung.

#### Declaration

```
[JsonProperty("id")]  
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]  
public string Id { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### Name

Der Benutzer ist mit seinem Namen im Kassensystem hinterlegt.

#### Declaration

```
[JsonProperty("name", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(IndigoMinMaxLengthCheckConverter))]  
public string Name { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

# Class VatAmountGrossAndNet

Einem Geschäftsvorfall können ein oder mehrere Beträge getrennt nach Umsatzsteuersätzen zugewiesen werden.

## Inheritance

System.Object

VatAmountGrossAndNet

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class VatAmountGrossAndNet
```

## Properties

### ExclVat

#### Declaration

```
[JsonProperty("excl_vat")]  
[JsonConverter(typeof(PurpleMinMaxValueCheckConverter))]  
public double ExclVat { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Double	

### Id

#### Declaration

```
[JsonProperty("id")]  
public long Id { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Int64	

### InclVat

#### Declaration

```
[JsonProperty("incl_vat")]  
[JsonConverter(typeof(PurpleMinMaxValueCheckConverter))]  
public double InclVat { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Double	

## Vat

### Declaration

```
[JsonProperty("vat")]  
[JsonConverter(typeof(PurpleMinMaxValueCheckConverter))]  
public double Vat { get; set; }
```

### Property Value

TYPE	DESCRIPTION
System.Double	

# Class VatAmountGrossAndNetReceipt

Aufteilung des Gesamtbetrages einer Transaktion in die Einzelbeträge nach ausgewiesenen Umsatzsteuersätzen.

## Inheritance

System.Object

VatAmountGrossAndNetReceipt

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class VatAmountGrossAndNetReceipt
```

## Properties

### ExclVat

#### Declaration

```
[JsonProperty("excl_vat")]  
[JsonConverter(typeof(FluffyMinMaxValueCheckConverter))]  
public double ExclVat { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Double	

### Id

#### Declaration

```
[JsonProperty("id")]  
public long Id { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Int64	

### InclVat

#### Declaration

```
[JsonProperty("incl_vat")]  
[JsonConverter(typeof(FluffyMinMaxValueCheckConverter))]  
public double InclVat { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Double	

## Vat

### Declaration

```
[JsonProperty("vat")]  
[JsonConverter(typeof(FluffyMinMaxValueCheckConverter))]  
public double Vat { get; set; }
```

### Property Value

TYPE	DESCRIPTION
System.Double	

# Class VatAmountGrossOrNet

## Inheritance

System.Object

VatAmountGrossOrNet

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class VatAmountGrossOrNet
```

## Properties

### ExclVat

#### Declaration

```
[JsonProperty("excl_vat", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(PurpleMinMaxValueCheckConverter))]  
public double? ExclVat { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Nullable<System.Double>	

### Id

#### Declaration

```
[JsonProperty("id")]  
public long Id { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Int64	

### InclVat

#### Declaration

```
[JsonProperty("incl_vat", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(PurpleMinMaxValueCheckConverter))]  
public double? InclVat { get; set; }
```

#### Property Value



TYPE	DESCRIPTION
System.Nullable<System.Double>	

## Vat

### Declaration

```
[JsonProperty("vat", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(PurpleMinMaxValueCheckConverter))]  
public double? Vat { get; set; }
```

### Property Value

TYPE	DESCRIPTION
System.Nullable<System.Double>	

# Class VatAmountOnly

## Inheritance

System.Object  
VatAmountOnly

## Inherited Members

System.Object.Equals(System.Object)  
System.Object.Equals(System.Object, System.Object)  
System.Object.GetHashCode()  
System.Object.GetType()  
System.Object.MemberwiseClone()  
System.Object.ReferenceEquals(System.Object, System.Object)  
System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class VatAmountOnly
```

## Properties

### ExclVat

#### Declaration

```
[JsonProperty("excl_vat", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(PurpleMinMaxValueCheckConverter))]  
public double? ExclVat { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Nullable<System.Double>	

### Id

#### Declaration

```
[JsonProperty("id")]  
public long Id { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Int64	

### InclVat

#### Declaration

```
[JsonProperty("incl_vat", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(PurpleMinMaxValueCheckConverter))]  
public double? InclVat { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Nullable<System.Double>	

## Vat

### Declaration

```
[JsonProperty("vat", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(PurpleMinMaxValueCheckConverter))]  
public double? Vat { get; set; }
```

### Property Value

TYPE	DESCRIPTION
System.Nullable<System.Double>	

# Class VatDefinition

## Inheritance

System.Object

VatDefinition

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Taxonomy](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class VatDefinition
```

## Properties

### CustomFields

#### Declaration

```
[JsonProperty("custom_fields", NullValueHandling = NullValueHandling.Ignore)]  
public CustomFields CustomFields { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">CustomFields</a>	

## Description

#### Declaration

```
[JsonProperty("description", NullValueHandling = NullValueHandling.Ignore)]  
[JsonConverter(typeof(CunningMinMaxLengthCheckConverter))]  
public string Description { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

## Id

#### Declaration

```
[JsonProperty("id")]  
public long Id { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Int64	

## Percentage

### Declaration

```
[JsonProperty("percentage")]  
[JsonConverter(typeof(TentacledMinMaxValueCheckConverter))]  
public double Percentage { get; set; }
```

### Property Value

TYPE	DESCRIPTION
System.Double	

# Namespace

## RetailForce.Fiscalisation.Implementation.Germany.Tse

### Classes

[ATrustCloud](#)

[FiskalyCloud](#)

Implementation of cloud tse of fiskaly.

[SwissbitHardware](#)

Implementation of swissbit hardware tse.

[TestTse](#)

[TestTseStatus](#)

[TseBase](#)

Basic class for all tse interfaces.

[TseInformation](#)

### Enums

[TseStatus](#)

Represents the status of the connected tse.

# Class ATrustCloud

## Inheritance

System.Object

ATrustCloud

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class ATrustCloud
```

# Class FiskalyCloud

Implementation of cloud tse of fiskaly.

## Inheritance

System.Object

LoggingBase

TseBase

FiskalyCloud

## Implements

System.IDisposable

## Inherited Members

TseBase.Status

TseBase.StartTransaction(Guid)

TseBase.FinishTransaction(Guid, TseRequest)

TseBase.CancelTransaction(Guid, Int32, Int32, String)

TseBase.ClientId

LoggingBase.\_logger

LoggingBase.\_logSource

LoggingBase.LogCritical(String, Object[])

LoggingBase.LogCritical(Exception, String, Object[])

LoggingBase.LogError(String, Object[])

LoggingBase.LogError(Exception, String, Object[])

LoggingBase.LogWarning(String, Object[])

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public sealed class FiskalyCloud : TseBase, IDisposable
```

## Remarks

Interface documentation at: <https://kassensichv.io/api/docs/> Fiskaly dashboard at: <https://dashboard.fiskaly.com/kassensichv/dashboard>.

For more information regarding tse integration information see [TseBase](#).

## Constructors

FiskalyCloud(String, String, Guid, Guid, ILogger)

Constructor.

## Declaration

```
public FiskalyCloud(string apiKey, string apiSecret, Guid tssGuid, Guid clientId, ILogger logger)
```

## Parameters



TYPE	NAME	DESCRIPTION
System.String	apiKey	
System.String	apiSecret	
System.Guid	tssGuid	
System.Guid	clientId	
Microsoft.Extensions.Logging.ILogger	logger	

#### Exceptions

TYPE	CONDITION
System.ArgumentNullException	

#### Methods

##### CancelTransactionImplementation(Guid, Int32, Int32, String)

Cancels a transaction on the technical security system (tse) = fiskaly cloud.

#### Declaration

```
protected override TseResponse CancelTransactionImplementation(Guid clientId, int number, int lastRevision, string processType)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Guid	clientId	The client where the transaction should occur.
System.Int32	number	The number of the transaction to be canceled.
System.Int32	lastRevision	The actual revision of the transaction to be canceled.
System.String	processType	The type of the canceled transaction.

#### Returns

TYPE	DESCRIPTION
<a href="#">TseResponse</a>	

#### Overrides

[TseBase.CancelTransactionImplementation\(Guid, Int32, Int32, String\)](#)

#### Exceptions

TYPE	CONDITION
System.ArgumentOutOfRangeException	Thrown if <code>processType</code> is not one of the following values: "Kassenbeleg-V1", "Bestellung-V1" and "SonstigerVorgang".

### ConnectTest()

Tries to connect to the tse.

Declaration

```
public override void ConnectTest()
```

Overrides

[TseBase.ConnectTest\(\)](#)

### Dispose()

Called when the object is disposed.

Declaration

```
public void Dispose()
```

### FinishTransactionImplementation(Guid, TseRequest)

Finish a transaction on the technical security system (tse) = fiskaly cloud.

Declaration

```
protected override TseResponse FinishTransactionImplementation(Guid clientId, TseRequest request)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Guid	clientId	The client where the transaction should occur.
<a href="#">TseRequest</a>	request	The appropriate request of the transaction. Possible requests are <a href="#">TseReceipt</a> , <a href="#">TseOrder</a> or <a href="#">TseOtherTransaction</a> .

Returns

TYPE	DESCRIPTION
<a href="#">TseResponse</a>	A <a href="#">TseResponse</a> object representing the response of the tse.

Overrides

[TseBase.FinishTransactionImplementation\(Guid, TseRequest\)](#)

Exceptions

TYPE	CONDITION

TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>request</code> parameter is set to null or <code>clientId</code> is set to System.Guid.Empty.

### StartTransactionImplementation(Guid)

Starts a transaction on the technical security system (tse) = fiskaly cloud.

#### Declaration

```
protected override TseResponse StartTransactionImplementation(Guid clientId)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Guid	clientId	The client where the transaction should occur.

#### Returns

TYPE	DESCRIPTION
<a href="#">TseResponse</a>	A <a href="#">TseResponse</a> object representing the response of the tse.

#### Overrides

[TseBase.StartTransactionImplementation\(Guid\)](#)

#### Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>clientId</code> is set to System.Guid.Empty.

#### Implements

System.IDisposable

# Class SwissbitHardware

Implementation of swissbit hardware tse.

## Inheritance

System.Object

[LoggingBase](#)

[TseBase](#)

SwissbitHardware

## Inherited Members

[TseBase.Status](#)

[TseBase.StartTransaction\(Guid\)](#)

[TseBase.FinishTransaction\(Guid, TseRequest\)](#)

[TseBase.CancelTransaction\(Guid, Int32, Int32, String\)](#)

[TseBase.ClientId](#)

[LoggingBase.\\_logger](#)

[LoggingBase.\\_logSource](#)

[LoggingBase.LogCritical\(String, Object\[\]\)](#)

[LoggingBase.LogCritical\(Exception, String, Object\[\]\)](#)

[LoggingBase.LogError\(String, Object\[\]\)](#)

[LoggingBase.LogError\(Exception, String, Object\[\]\)](#)

[LoggingBase.LogWarning\(String, Object\[\]\)](#)

[System.Object.Equals\(System.Object\)](#)

[System.Object.Equals\(System.Object, System.Object\)](#)

[System.Object.GetHashCode\(\)](#)

[System.Object.GetType\(\)](#)

[System.Object.MemberwiseClone\(\)](#)

[System.Object.ReferenceEquals\(System.Object, System.Object\)](#)

[System.Object.ToString\(\)](#)

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public sealed class SwissbitHardware : TseBase
```

## Constructors

**SwissbitHardware(String, String)**

Constructor.

## Declaration

```
public SwissbitHardware(string statusFile, string communicationFile)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.String	statusFile	
System.String	communicationFile	

## Properties

## CommandTimeout

Gets or sets the command timeout for tse commands in seconds.

Declaration

```
public uint CommandTimeout { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.UInt32	

Remarks

Default is 240 seconds.

## TimeUpdateRequired

Declaration

```
public bool TimeUpdateRequired { get; }
```

Property Value

TYPE	DESCRIPTION
System.Boolean	

## TseStatus

Returns the current status of the tse.

Declaration

```
public SwissbitStatus TseStatus { get; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">SwissbitStatus</a>	

## Methods

### CancelTransactionImplementation(Guid, Int32, Int32, String)

Declaration

```
protected override TseResponse CancelTransactionImplementation(Guid clientId, int transactionNumber, int lastRevision, string processType)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Guid	clientId	
System.Int32	transactionNumber	
System.Int32	lastRevision	

TYPE	NAME	DESCRIPTION
System.String	processType	

#### Returns

TYPE	DESCRIPTION
<a href="#">TseResponse</a>	

#### Overrides

[TseBase.CancelTransactionImplementation\(Guid, Int32, Int32, String\)](#)

### Command(TseCmdBase)

Sends the given command to the tse and returns the command response (or a derived class of command response for special information).

#### Declaration

```
public TseCommandResponse Command(TseCmdBase command)
```

#### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">TseCmdBase</a>	command	

#### Returns

TYPE	DESCRIPTION
<a href="#">TseCommandResponse</a>	

#### Exceptions

TYPE	CONDITION
System.TimeoutException	Thrown if the command needs more than the time set in <a href="#">CommandTimeout</a> property.

### ConnectTest()

#### Declaration

```
public override void ConnectTest()
```

#### Overrides

[TseBase.ConnectTest\(\)](#)

### FinishTransactionImplementation(Guid, TseRequest)

#### Declaration

```
protected override TseResponse FinishTransactionImplementation(Guid clientId, TseRequest request)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Guid	clientId	
<a href="#">TseRequest</a>	request	

Returns

TYPE	DESCRIPTION
<a href="#">TseResponse</a>	

Overrides

[TseBase.FinishTransactionImplementation\(Guid, TseRequest\)](#)

**GetInitialAdminPin(String)**

Declaration

```
public string GetInitialAdminPin(string seed)
```

Parameters

TYPE	NAME	DESCRIPTION
System.String	seed	

Returns

TYPE	DESCRIPTION
System.String	

**GetInitialAdminPuk(String)**

Returns the intial admin puk from factory settings. This value is needed to

Declaration

```
public string GetInitialAdminPuk(string seed)
```

Parameters

TYPE	NAME	DESCRIPTION
System.String	seed	The security seed

Returns

TYPE	DESCRIPTION
System.String	The intial admin puk as string.

**GetInitialTimeAdminPin(String)**

Declaration

```
public string GetInitialTimeAdminPin(string seed)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.String	seed	

#### Returns

TYPE	DESCRIPTION
System.String	

### GetLocalSecuritySystems()

Returns all attached swissbit tse's.

#### Declaration

```
public static List<SwissbitHardwareDevice> GetLocalSecuritySystems()
```

#### Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">SwissbitHardwareDevice</a> >	A list of swissbit hardware devices.

### ListRegisteredClients(String)

#### Declaration

```
public List<string> ListRegisteredClients(string adminPin)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.String	adminPin	

#### Returns

TYPE	DESCRIPTION
System.Collections.Generic.List<System.String>	

### StartTransactionImplementation(Guid)

Implementation to send start transaction command to the tse.

#### Declaration

```
protected override TseResponse StartTransactionImplementation(Guid clientId)
```

#### Parameters



TYPE	NAME	DESCRIPTION
System.Guid	clientId	

Returns

TYPE	DESCRIPTION
<a href="#">TseResponse</a>	

Overrides

[TseBase.StartTransactionImplementation\(Guid\)](#)

### StringToByteArray(String)

Declaration

```
public static byte[] StringToByteArray(string hex)
```

Parameters

TYPE	NAME	DESCRIPTION
System.String	hex	

Returns

TYPE	DESCRIPTION
System.Byte[]	

# Class TestTse

Inheritance

System.Object

LoggingBase

TseBase

TestTse

Inherited Members

TseBase.Status

TseBase.StartTransaction(Guid)

TseBase.FinishTransaction(Guid, TseRequest)

TseBase.CancelTransaction(Guid, Int32, Int32, String)

TseBase.ClientId

LoggingBase.\_logger

LoggingBase.\_logSource

LoggingBase.LogCritical(String, Object[])

LoggingBase.LogCritical(Exception, String, Object[])

LoggingBase.LogError(String, Object[])

LoggingBase.LogError(Exception, String, Object[])

LoggingBase.LogWarning(String, Object[])

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public class TestTse : TseBase
```

## Constructors

TestTse(String, Guid, ILogger)

Declaration

```
public TestTse(string storagePath, Guid clientId, ILogger logger)
```

Parameters

TYPE	NAME	DESCRIPTION
System.String	storagePath	
System.Guid	clientId	
Microsoft.Extensions.Logging.ILogger	logger	

## Methods

CancelTransactionImplementation(Guid, Int32, Int32, String)

Declaration

```
protected override TseResponse CancelTransactionImplementation(Guid clientId, int transactionNumber, int lastRevision, string processType)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Guid	clientId	
System.Int32	transactionNumber	
System.Int32	lastRevision	
System.String	processType	

#### Returns

TYPE	DESCRIPTION
<a href="#">TseResponse</a>	

#### Overrides

[TseBase.CancelTransactionImplementation\(Guid, Int32, Int32, String\)](#)

#### ConnectTest()

##### Declaration

```
public override void ConnectTest()
```

#### Overrides

[TseBase.ConnectTest\(\)](#)

#### FinishTransactionImplementation(Guid, TseRequest)

##### Declaration

```
protected override TseResponse FinishTransactionImplementation(Guid clientId, TseRequest request)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Guid	clientId	
<a href="#">TseRequest</a>	request	

#### Returns

TYPE	DESCRIPTION
<a href="#">TseResponse</a>	

#### Overrides

[TseBase.FinishTransactionImplementation\(Guid, TseRequest\)](#)

#### StartTransactionImplementation(Guid)

##### Declaration

protected override TseResponse StartTransactionImplementation(Guid clientId)

Parameters

TYPE	NAME	DESCRIPTION
System.Guid	clientId	

Returns

TYPE	DESCRIPTION
<a href="#">TseResponse</a>	

Overrides

[TseBase.StartTransactionImplementation\(Guid\)](#)

# Class TestTseStatus

## Inheritance

System.Object

TestTseStatus

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TestTseStatus
```

## Properties

### DocumentNr

#### Declaration

```
public int DocumentNr { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Int32	

### Revision

#### Declaration

```
public int Revision { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Int32	

# Class TseBase

Basic class for all tse interfaces.

Inheritance

System.Object

[LoggingBase](#)

TseBase

[FiskalyCloud](#)

[SwissbitHardware](#)

[TestTse](#)

Inherited Members

[LoggingBase.\\_logger](#)

[LoggingBase.\\_logSource](#)

[LoggingBase.LogCritical\(String, Object\[\]\)](#)

[LoggingBase.LogCritical\(Exception, String, Object\[\]\)](#)

[LoggingBase.LogError\(String, Object\[\]\)](#)

[LoggingBase.LogError\(Exception, String, Object\[\]\)](#)

[LoggingBase.LogWarning\(String, Object\[\]\)](#)

[System.Object.Equals\(System.Object\)](#)

[System.Object.Equals\(System.Object, System.Object\)](#)

[System.Object.GetHashCode\(\)](#)

[System.Object.GetType\(\)](#)

[System.Object.MemberwiseClone\(\)](#)

[System.Object.ReferenceEquals\(System.Object, System.Object\)](#)

[System.Object.ToString\(\)](#)

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public abstract class TseBase : LoggingBase
```

## Constructors

**TseBase(Guid, ILogger)**

Constructor.

Declaration

```
public TseBase(Guid clientId, ILogger logger)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Guid	clientId	
Microsoft.Extensions.Logging.ILogger	logger	

Exceptions

TYPE	CONDITION
System.ArgumentNullException	

## Properties

### ClientId

The client for this tse.

#### Declaration

```
protected Guid ClientId { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Guid	

### Status

Returns the status of the connected tse.

#### Declaration

```
public TseStatus Status { get; protected set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">TseStatus</a>	

#### Remarks

For mor information concerning tse status see [TseStatus](#).

## Methods

### CancelTransaction(Guid, Int32, Int32, String)

Cancels a transaction on the technical security system (tse) = fiskaly cloud.

#### Declaration

```
public TseResponse CancelTransaction(Guid clientId, int transactionNumber, int lastRevision, string processType)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Guid	clientId	The client where the transaction should occur.
System.Int32	transactionNumber	The number of the transaction to be canceled.
System.Int32	lastRevision	The actual revision of the transaction to be canceled.

TYPE	NAME	DESCRIPTION
System.String	processType	The type of the canceled transaction.

#### Returns

TYPE	DESCRIPTION
<a href="#">TseResponse</a>	A <a href="#">TseResponse</a> object representing the response of the tse.

#### Exceptions

TYPE	CONDITION
System.ArgumentException	Thrown if the supplied <code>clientId</code> does not match <a href="#">ClientId</a> .
System.ArgumentOutOfRangeException	Thrown if <code>processType</code> is not one of the following values: "Kassenbeleg-V1", "Bestellung-V1" and "SonstigerVorgang".

### CancelTransactionImplementation(Guid, Int32, Int32, String)

Implementation method for [CancelTransaction\(Guid, Int32, Int32, String\)](#).

#### Declaration

```
protected abstract TseResponse CancelTransactionImplementation(Guid clientId, int transactionNumber, int lastRevision, string processType)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Guid	clientId	The client where the transaction should occur.
System.Int32	transactionNumber	The number of the transaction to be canceled.
System.Int32	lastRevision	The actual revision of the transaction to be canceled.
System.String	processType	The type of the canceled transaction.

#### Returns

TYPE	DESCRIPTION
<a href="#">TseResponse</a>	A <a href="#">TseResponse</a> object representing the response of the tse.



## ConnectTest()

Tries to connect to the tse.

Declaration

```
public abstract void ConnectTest()
```

## FinishTransaction(Guid, TseRequest)

Finish a transaction on the technical security system (tse) = fiskaly cloud.

Declaration

```
public TseResponse FinishTransaction(Guid clientId, TseRequest request)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Guid	clientId	The client where the transaction should occur.
<a href="#">TseRequest</a>	request	The appropriate request of the transaction. Possible requests are <a href="#">TseReceipt</a> , <a href="#">TseOrder</a> or <a href="#">TseOtherTransaction</a> .

Returns

TYPE	DESCRIPTION
<a href="#">TseResponse</a>	A <a href="#">TseResponse</a> object representing the response of the tse.

Exceptions

TYPE	CONDITION
System.ArgumentException	Thrown if the supplied <code>clientId</code> does not match <a href="#">ClientId</a> .

## FinishTransactionImplementation(Guid, TseRequest)

Implementation method for [FinishTransaction\(Guid, TseRequest\)](#).

Declaration

```
protected abstract TseResponse FinishTransactionImplementation(Guid clientId, TseRequest request)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Guid	clientId	The client where the transaction should occur.
<a href="#">TseRequest</a>	request	The appropriate request of the transaction. Possible requests are <a href="#">TseReceipt</a> , <a href="#">TseOrder</a> or <a href="#">TseOtherTransaction</a> .

Returns

TYPE	DESCRIPTION
<a href="#">TseResponse</a>	A <a href="#">TseResponse</a> object representing the response of the tse.

### StartTransaction(Guid)

Starts a transaction on the technical security system (tse) = fiskaly cloud.

Declaration

```
public TseResponse StartTransaction(Guid clientId)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Guid	clientId	The client where the transaction should occur.

Returns

TYPE	DESCRIPTION
<a href="#">TseResponse</a>	A <a href="#">TseResponse</a> object representing the response of the tse.

Exceptions

TYPE	CONDITION
System.ArgumentException	Thrown if the supplied <code>clientId</code> does not match <code>ClientId</code> .

### StartTransactionImplementation(Guid)

Implementation method for [StartTransaction\(Guid\)](#).

Declaration

```
protected abstract TseResponse StartTransactionImplementation(Guid clientId)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Guid	clientId	The client where the transaction should occur.

Returns

TYPE	DESCRIPTION
<a href="#">TseResponse</a>	A <a href="#">TseResponse</a> object representing the response of the tse.

# Class TseInformation

## Inheritance

System.Object  
TseInformation

## Inherited Members

System.Object.Equals(System.Object)  
System.Object.Equals(System.Object, System.Object)  
System.Object.GetHashCode()  
System.Object.GetType()  
System.Object.MemberwiseClone()  
System.Object.ReferenceEquals(System.Object, System.Object)  
System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseInformation
```

## Properties

### CertificateExpirationDate

#### Declaration

```
public DateTime CertificateExpirationDate { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.DateTime	

### MaxOpenTransactions

#### Declaration

```
public int MaxOpenTransactions { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Int32	

### MaxRegisteredCashRegister

#### Declaration

```
public int MaxRegisteredCashRegister { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Int32	

### RemainingSignatures

## Declaration

```
public int RemainingSignatures { get; }
```

## Property Value

TYPE	DESCRIPTION
System.Int32	

# Enum TseStatus

Represents the status of the connected tse.

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public enum TseStatus
```

## Fields

NAME	DESCRIPTION
Connected	Tse is connected or can connected without problems.
ConnectedWarning	Tse is connected or can connected without problem, but remaining signature counter is low.
Critical	Tse critical error, for instance: invalid credentials at logon.
Disconnected	Tse is disconnected or cannot be connected.

# Namespace

## RetailForce.Fiscalisation.Implementation.Germany.Tse.Fiskaly

### Classes

[ClientFactory](#)

[FiskalyConnector](#)

Represents the connection to the fiskaly tse cloud.

[InvalidCredentialsException](#)

[InvalidRequestUriException](#)

[PollyPolicyFactory](#)

# Class ClientFactory

## Inheritance

System.Object

ClientFactory

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Fiskaly](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public static class ClientFactory
```

## Methods

Create(String, String, Int32)

Creates an fiskaly http client (with automatic authentication and given timeout).

## Declaration

```
public static ValueTask<HttpClient> Create(string apiKey, string apiSecret, int commandTimeout)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.String	apiKey	
System.String	apiSecret	
System.Int32	commandTimeout	

## Returns

TYPE	DESCRIPTION
System.Threading.Tasks.ValueTask<System.Net.Http.HttpClient>	

# Class FiskalyConnector

Represents the connection to the fiskaly tse cloud.

## Inheritance

System.Object

[LoggingBase](#)

FiskalyConnector

## Implements

System.IDisposable

## Inherited Members

[LoggingBase.\\_logger](#)

[LoggingBase.\\_logSource](#)

[LoggingBase.LogCritical\(String, Object\[\]\)](#)

[LoggingBase.LogCritical\(Exception, String, Object\[\]\)](#)

[LoggingBase.LogError\(String, Object\[\]\)](#)

[LoggingBase.LogError\(Exception, String, Object\[\]\)](#)

[LoggingBase.LogWarning\(String, Object\[\]\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Fiskaly](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public sealed class FiskalyConnector : LoggingBase, IDisposable
```

## Constructors

[FiskalyConnector\(String, String, ILogger, Int32\)](#)

Constructor.

## Declaration

```
public FiskalyConnector(string apiKey, string apiSecret, ILogger logger, int commandTimeout = 3000)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.String	apiKey	The api key for the access to the fiskaly api.
System.String	apiSecret	The api secret to access the fiskaly api.
Microsoft.Extensions.Logging.ILogger	logger	The logger for this class.



TYPE	NAME	DESCRIPTION
System.Int32	commandTimeout	The command timeout in milliseconds when accessing the fiskaly http api. If set to 0 then it infinite.

#### Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>apiKey</code> , <code>apiSecret</code> or <code>logger</code> are set to null (or empty string).
System.InvalidOperationException	Thrown if no client can be created.
System.Threading.Tasks.TaskCanceledException	Thrown if the connection to the fiskaly cloud timeouts.

#### Methods

##### Dispose()

Disposes the object.

##### Declaration

```
public void Dispose()
```

##### Get<ReturnType>(String)

Sends a get request (async) to fiskaly cloud and waits for response.

##### Declaration

```
public ReturnType Get<ReturnType>(string url)
```

##### Parameters

TYPE	NAME	DESCRIPTION
System.String	url	The url for the put request.

##### Returns

TYPE	DESCRIPTION
ReturnType	An object of type <code>ReturnType</code> representing the response of the webservice.

##### Type Parameters

NAME	DESCRIPTION
ReturnType	The type of the return value.

## Put<ReturnType, PayloadType>(String, PayloadType)

Sends a put request (async) to fiskaly cloud and waits for response.

### Declaration

```
public ReturnType Put<ReturnType, PayloadType>(string url, PayloadType payload)
```

### Parameters

TYPE	NAME	DESCRIPTION
System.String	url	The url for the put request.
PayloadType	payload	The payload for the put request.

### Returns

TYPE	DESCRIPTION
ReturnType	An object of type <code>ReturnType</code> representing the response of the webservice.

### Type Parameters

NAME	DESCRIPTION
ReturnType	The type of the return value.
PayloadType	The type of the payload value.

### Implements

System.IDisposable

# Class InvalidCredentialsException

## Inheritance

System.Object  
System.Exception  
InvalidCredentialsException

## Implements

System.Runtime.Serialization.ISerializable

## Inherited Members

System.Exception.GetBaseException()  
System.Exception.GetObjectData(System.Runtime.Serialization.SerializationInfo, System.Runtime.Serialization.StreamingContext)  
System.Exception.GetType()  
System.Exception.ToString()  
System.Exception.Data  
System.Exception.HelpLink  
System.Exception.HResult  
System.Exception.InnerException  
System.Exception.Message  
System.Exception.Source  
System.Exception.StackTrace  
System.Exception.TargetSite  
System.Exception.SerializeObjectState  
System.Object.Equals(System.Object)  
System.Object.Equals(System.Object, System.Object)  
System.Object.GetHashCode()  
System.Object.MemberwiseClone()  
System.Object.ReferenceEquals(System.Object, System.Object)

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Fiskaly](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
[Serializable]  
public class InvalidCredentialsException : Exception, ISerializable
```

## Constructors

### InvalidCredentialsException(String)

#### Declaration

```
public InvalidCredentialsException(string message)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.String	message	

## Implements

System.Runtime.Serialization.ISerializable

# Class InvalidRequestUriException

## Inheritance

System.Object  
System.Exception  
InvalidRequestUriException

## Implements

System.Runtime.Serialization.ISerializable

## Inherited Members

System.Exception.GetBaseException()  
System.Exception.GetObjectData(System.Runtime.Serialization.SerializationInfo, System.Runtime.Serialization.StreamingContext)  
System.Exception.GetType()  
System.Exception.ToString()  
System.Exception.Data  
System.Exception.HelpLink  
System.Exception.HResult  
System.Exception.InnerException  
System.Exception.Message  
System.Exception.Source  
System.Exception.StackTrace  
System.Exception.TargetSite  
System.Exception.SerializeObjectState  
System.Object.Equals(System.Object)  
System.Object.Equals(System.Object, System.Object)  
System.Object.GetHashCode()  
System.Object.MemberwiseClone()  
System.Object.ReferenceEquals(System.Object, System.Object)

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Fiskaly](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
[Serializable]  
public class InvalidRequestUriException : Exception, ISerializable
```

## Constructors

### InvalidRequestUriException(String)

#### Declaration

```
public InvalidRequestUriException(string message)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.String	message	

## Implements

System.Runtime.Serialization.ISerializable

# Class PollyPolicyFactory

## Inheritance

System.Object  
PollyPolicyFactory

## Inherited Members

System.Object.Equals(System.Object)  
System.Object.Equals(System.Object, System.Object)  
System.Object.GetHashCode()  
System.Object.GetType()  
System.Object.MemberwiseClone()  
System.Object.ReferenceEquals(System.Object, System.Object)  
System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Fiskaly](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public static class PollyPolicyFactory
```

## Methods

### CreateAuthPolicy()

#### Declaration

```
public static AsyncPolicyWrap<HttpResponseMessage> CreateAuthPolicy()
```

#### Returns

TYPE	DESCRIPTION
Polly.Wrap.AsyncPolicyWrap<System.Net.Http.HttpResponseMessage>	

### CreateGeneralPolicy()

#### Declaration

```
public static AsyncPolicyWrap<HttpResponseMessage> CreateGeneralPolicy()
```

#### Returns

TYPE	DESCRIPTION
Polly.Wrap.AsyncPolicyWrap<System.Net.Http.HttpResponseMessage>	

# Namespace

## RetailForce.Fiscalisation.Implementation.Germany.Tse.Fiskaly. Model

### Classes

#### [TransactionData](#)

Represents the data for the transaction to fiskaly tse (processData = [Binary](#)).

#### [TransactionPayload](#)

The transaction payload to sign a request with the cloud.

#### [TransactionResponse](#)

Represents the response of the fiskaly cloud tse.

#### [TransactionResponse.SignatureClass](#)

Represents a signature object of the [TransactionResponse](#)

#### [Tss](#)

Represents a fiskaly technical security system (tse)

### Enums

#### [TransactionState](#)

# Class TransactionData

Represents the data for the transaction to fiskaly tse (processData = [Binary](#)).

## Inheritance

System.Object  
TransactionData

## Inherited Members

System.Object.Equals(System.Object)  
System.Object.Equals(System.Object, System.Object)  
System.Object.GetHashCode()  
System.Object.GetType()  
System.Object.MemberwiseClone()  
System.Object.ReferenceEquals(System.Object, System.Object)  
System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Fiskaly.Model](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TransactionData
```

## Constructors

[TransactionData\(TseRequest\)](#)

Constructor.

## Declaration

```
public TransactionData(TseRequest request)
```

## Parameters

TYPE	NAME	DESCRIPTION
<a href="#">TseRequest</a>	request	The request for the transaction.

## Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>request</code> is set to null.

## Properties

### Binary

Base 64 encoded utf8 string of the processData element.

## Declaration

```
[JsonProperty("binary")]  
public string Binary { get; }
```

## Property Value

TYPE	DESCRIPTION
System.String	



# Class TransactionPayload

The transaction payload to sign a request with the cloud.

## Inheritance

System.Object

TransactionPayload

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Fiskaly.Model](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TransactionPayload
```

## Constructors

**TransactionPayload(Guid, TransactionState)**

Constructor. Used to create a transaction.

## Declaration

```
public TransactionPayload(Guid clientId, TransactionState state)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Guid	clientId	The client for the transaction.
<a href="#">TransactionState</a>	state	The state for the transaction.

## Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>clientId</code> is set to System.Guid.Empty.

**TransactionPayload(Guid, TransactionState, TseRequest)**

Constructor. Used to finish a transaction.

## Declaration

```
public TransactionPayload(Guid clientId, TransactionState state, TseRequest request = null)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Guid	clientId	The client for the transaction.
<a href="#">TransactionState</a>	state	The state for the transaction.
<a href="#">TseRequest</a>	request	The request for the transaction. Depending on <code>state</code> if necessary. For more information see <a href="#">State</a> .

#### Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>clientId</code> is set to System.Guid.Empty.

#### TransactionPayload(Guid, TransactionState, String)

Constructor. Used to cancel a transaction.

#### Declaration

```
public TransactionPayload(Guid clientId, TransactionState state, string processType)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Guid	clientId	The client for the transaction.
<a href="#">TransactionState</a>	state	The state for the transaction.
System.String	processType	The processType for the transaction. Possible types are "Kassenbeleg-V1", "Bestellung-V1" and "SonstigerVorgang".

#### Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>clientId</code> is set to System.Guid.Empty.
System.ArgumentOutOfRangeException	Thrown if <code>processType</code> is not one of the following values: "Kassenbeleg-V1", "Bestellung-V1" and "SonstigerVorgang".

#### Properties

##### ClientId

The client id for the transaction.

The structure for the transaction...

#### Declaration

```
[JsonRequired]  
[JsonProperty("client_id")]  
public Guid ClientId { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Guid	

#### Data

The data of the transaction. Binary value (base64 encoded utf8 string). This is the processData according to "Anwendungserlass zu §146a AO".

#### Declaration

```
[JsonProperty("data", NullValueHandling = NullValueHandling.Ignore)]  
public TransactionData Data { get; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">TransactionData</a>	

#### State

The state for the transaction.

#### Declaration

```
[JsonConverter(typeof(TransactionStateConverter))]  
[JsonProperty("state")]  
[JsonRequired]  
public TransactionState State { get; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">TransactionState</a>	

#### Remarks

When using [Active](#) do not send a [TseRequest](#) in the constructor. When using [Finished](#) a [TseRequest](#) has to be send in the constructor.

#### Type

The Type of the transaction. This is the processType according to "Anwendungserlass zu §146a AO".

#### Declaration

```
[JsonProperty("type", NullValueHandling = NullValueHandling.Ignore)]  
public string Type { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

# Class TransactionResponse

Represents the response of the fiskaly cloud tse.

## Inheritance

System.Object

TransactionResponse

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Fiskaly.Model](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TransactionResponse
```

## Fields

### LatestRevision

The actual latest revision of the signed transaction.

#### Declaration

```
[JsonProperty("latest_revision")]  
public int LatestRevision
```

#### Field Value

TYPE	DESCRIPTION
System.Int32	

### Number

The number of the transaction.

#### Declaration

```
[JsonProperty("number")]  
public int Number
```

#### Field Value

TYPE	DESCRIPTION
System.Int32	

### QrCodeDataString

#### Declaration

```
[JsonProperty("qr_code_data")]  
public string QrCodeDataString
```

#### Field Value

TYPE	DESCRIPTION
System.String	

### Signature

The signature values of the signed transaction.

#### Declaration

```
[JsonProperty("signature")]  
public TransactionResponse.SignatureClass Signature
```

#### Field Value

TYPE	DESCRIPTION
<a href="#">TransactionResponse.SignatureClass</a>	

### State

The state of the signed transaction.

#### Declaration

```
[JsonProperty("state")]  
[JsonConverter(typeof(TransactionStateConverter))]  
public TransactionState State
```

#### Field Value

TYPE	DESCRIPTION
<a href="#">TransactionState</a>	

### TimeEnd

The end time of the transaction.

#### Declaration

```
[JsonProperty("time_end")]  
public long TimeEnd
```

#### Field Value

TYPE	DESCRIPTION
System.Int64	

#### Remarks

A timestamp / point in time measured in seconds since the Unix epoch.

### TimeStart

The start time of the transaction.

#### Declaration

```
[JsonProperty("time_start")]  
public long TimeStart
```

Field Value

TYPE	DESCRIPTION
System.Int64	

Remarks

A timestamp / point in time measured in seconds since the Unix epoch.

# Class TransactionResponse.SignatureClass

Represents a signature object of the [TransactionResponse](#)

## Inheritance

System.Object

TransactionResponse.SignatureClass

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Fiskaly.Model](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class SignatureClass
```

## Fields

### Algorithm

The signature algorithm of the signed transaction.

#### Declaration

```
[JsonProperty("algorithm")]  
public string Algorithm
```

#### Field Value

TYPE	DESCRIPTION
System.String	

### Counter

#### Declaration

```
[JsonProperty("counter")]  
public int Counter
```

#### Field Value

TYPE	DESCRIPTION
System.Int32	

### PublicKey

#### Declaration

```
[JsonProperty("public_key")]  
public string PublicKey
```

#### Field Value



TYPE	DESCRIPTION
System.String	

### Value

The signature value of the signed transaction.

### Declaration

```
[JsonProperty("value")]  
public string Value
```

### Field Value

TYPE	DESCRIPTION
System.String	

# Enum TransactionState

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Fiskaly.Model](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public enum TransactionState
```

## Fields

NAME	DESCRIPTION
Active	
Cancelled	
Finished	

# Class Tss

Represents a fiskaly technical security system (tse)

Inheritance

System.Object

Tss

Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Fiskaly.Model](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public class Tss
```

Properties

Certificate

Certificate of the tss.

Declaration

```
[JsonProperty("certificate")]  
public string Certificate { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

CertificateSerial

Serial number of the certificate of tss.

Declaration

```
[JsonProperty("certificate_serial")]  
public string CertificateSerial { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

Description

The description of the tss.

Declaration

```
[JsonProperty("description")]
public string Description { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### id

The fiskaly id of the tss.

#### Declaration

```
[JsonProperty("_id")]
public string id { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### Metadata

Meta properties (string dictionary).

#### Declaration

```
[JsonProperty("metadata")]
public Dictionary<string, string> Metadata { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.Dictionary<System.String, System.String>	

#### PublicKey

The cryptographic public key of the tss.

#### Declaration

```
[JsonProperty("public_key")]
public string PublicKey { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### SignatureAlgorithm

The used signature algorithm of the tss.

#### Declaration

```
[JsonProperty("signature_algorithm")]
public string SignatureAlgorithm { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### SignatureCounter

The actual signature counter of the tss.

#### Declaration

```
[JsonProperty("signature_counter")]
public long SignatureCounter { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Int64	

### SignatureTimestampFormat

The timestamp format of the signature time stamp.

#### Declaration

```
[JsonProperty("signature_timestamp_format")]
public string SignatureTimestampFormat { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### State

The state of the tss.

#### Declaration

```
[JsonProperty("state")]
public string State { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### Remarks

Possible values are: "UNINITIALIZED", "INITIALIZED" and "DISABLED"

### TimeCreation

Creation time of the tss.

## Declaration

```
[JsonProperty("time_creation")]  
public long TimeCreation { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.Int64	

## TimeDisable

Time when the tss is disabled.

## Declaration

```
[JsonProperty("time_disable")]  
public long TimeDisable { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.Int64	

## TimeInit

Initialisation time of the tss.

## Declaration

```
[JsonProperty("time_init")]  
public long TimeInit { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.Int64	

## TransactionCounter

The actual transaction of the tss.

## Declaration

```
[JsonProperty("transaction_counter")]  
public long TransactionCounter { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.Int64	

## TransactionDataEncoding

The data encoding of the tss.

## Declaration

```
[JsonProperty("transaction_data_encoding")]  
public string TransactionDataEncoding { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

# Namespace

## RetailForce.Fiscalisation.Implementation.Germany.Tse.Model

### Classes

#### [TseOrder](#)

Long term order processes/transactions (for example in gastronomy). This transactions have to be realized through this special operation. Just orders are used with this process, creating an invoice or receipt has to be done with [TseReceipt](#).

Type of the process: "Bestellung". ProcessType: "Bestellung-V1".

#### [TseOrder.TseOrderLine](#)

Represents an order line in a [TseOrder](#) request.

#### [TseOtherTransaction](#)

It is possible to use the technical security system (tse/tss) to secure any other data.

#### [TsePayment](#)

Represents the payment data in a tse receipt.

#### [TseReceipt](#)

Represents a receipt which is signed and calculated by the tse. Used for all closed processes which lead to issue a receipt (see §146a Abs. 2 AO)

Type of the process: "Kassenbeleg". ProcessType: "Kassenbeleg-V1".

#### [TseRequest](#)

Base class for a tse request (processData).

#### [TseRequestFormatBase](#)

Base class for tse requests with special functions to format the data.

#### [TseResponse](#)

Represents the return value of the tse after signing the transaction.



# Class TseOrder

Long term order processes/transactions (for example in gastronomy). This transactions have to be realized through this special operation. Just orders are used with this process, creating an invoice or receipt has to be done with [TseReceipt](#).

Type of the process: "Bestellung". ProcessType: "Bestellung-V1".

## Inheritance

System.Object

[TseRequestFormatBase](#)

[TseRequest](#)

TseOrder

## Inherited Members

[TseRequest.TransactionNumber](#)

[TseRequest.TransactionRevision](#)

[TseRequestFormatBase.FormatNumber\(Int32\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Model](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseOrder : TseRequest
```

## Remarks

For more information concerning using this type see "Anwendungserlass zu §146a AO" chapter 3.6.6.2 (german law) and actual description of "DSFin-VK, Anhang I Definition "Art" und "Daten" des Vorgangs; QR-Code.

## Constructors

[TseOrder\(Int32, Int32, List<TseOrder.TseOrderLine>\)](#)

Constructor.

## Declaration

```
public TseOrder(int transactionNumber, int transactionRevision, List<TseOrder.TseOrderLine> orderlineList)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Int32	transactionNumber	The transaction number of the request.
System.Int32	transactionRevision	The transaction revision of the request.

TYPE	NAME	DESCRIPTION
System.Collections.Generic.List< <a href="#">TseOrder.TseOrderLine</a> >	orderlineList	A list of tse order line objects. A tse order line represents a single order line in an order process.

## Properties

### OrderlineList

Represents a list of [TseOrder.TseOrderLine](#) objects.

#### Declaration

```
public IReadOnlyList<TseOrder.TseOrderLine> OrderlineList { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.IReadOnlyList< <a href="#">TseOrder.TseOrderLine</a> >	

### ProcessType

Returns the process type of the request.

#### Declaration

```
public override string ProcessType { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### Overrides

[TseRequest.ProcessType](#)

### Separator

Represents the field separator for the string representation of this object.

#### Declaration

```
protected override string Separator { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### Overrides

[TseRequestFormatBase.Separator](#)

## Methods

### ToString()

The string representation of this object; Can be used as processData according to TR-03151

([https://www.bsi.bund.de/DE/Publikationen/TechnischeRichtlinien/tr03151/index\\_hm.html](https://www.bsi.bund.de/DE/Publikationen/TechnischeRichtlinien/tr03151/index_hm.html)).

#### Declaration

```
public override string ToString()
```

#### Returns

TYPE	DESCRIPTION
System.String	A string representing the string representation of this object.

#### Overrides

System.Object.ToString()

# Class TseOrder.TseOrderLine

Represents an order line in a [TseOrder](#) request.

## Inheritance

System.Object

[TseRequestFormatBase](#)

TseOrder.TseOrderLine

## Inherited Members

[TseRequestFormatBase.FormatNumber\(Int32\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Model](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseOrderLine : TseRequestFormatBase
```

## Remarks

For more information concerning using this type see "Anwendungserlass zu §146a AO" chapter 3.6.6.2 (german law) and actual description of "DSFin-VK, Anhang I Definition "Art" und "Daten" des Vorgangs; QR-Code.

## Constructors

[TseOrderLine\(Decimal, String, Decimal\)](#)

Constructor.

## Declaration

```
public TseOrderLine(decimal quantity, string itemCaption, decimal grossPrice)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Decimal	quantity	The quantity of the order of this item. For more information see <a href="#">Quantity</a> .
System.String	itemCaption	The caption of the item. For more information see <a href="#">ItemCaption</a> .
System.Decimal	grossPrice	The gross price of the order of this item. For more information see <a href="#">GrossPrice</a> .

## Exceptions

TYPE	CONDITION
------	-----------

TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>itemCaption</code> is set to null or empty string.
System.ArgumentOutOfRangeException	Thrown if <code>grossPrice</code> is smaller or equal than 0.

## Properties

### GrossPrice

The gross price of the order of this item per unit (not the value).

Declaration

```
public decimal GrossPrice { get; }
```

Property Value

TYPE	DESCRIPTION
System.Decimal	

Remarks

Use Field "BRUTTO" of DSFinV-K. Only 2 digits are transferred.

### ItemCaption

The caption of the item.

Declaration

```
public string ItemCaption { get; }
```

Property Value

TYPE	DESCRIPTION
System.String	

Remarks

Use Field "ARTIKELTEXT" of DSFinV-K.

### Quantity

The quantity of the order of this item.

Declaration

```
public decimal Quantity { get; }
```

Property Value

TYPE	DESCRIPTION
System.Decimal	

Remarks

Use Field "MENGE" of DSFinV-K. Can have more than 2 digits.

## Separator

Represents the field separator for the string representation of this object.

### Declaration

```
protected override string Separator { get; }
```

### Property Value

TYPE	DESCRIPTION
System.String	

### Overrides

[TseRequestFormatBase.Separator](#)

## Methods

### ToString()

The string representation of this object; Is a part of processData according to TR-03151 ([https://www.bsi.bund.de/DE/Publikationen/TechnischeRichtlinien/tr03151/index\\_hm.html](https://www.bsi.bund.de/DE/Publikationen/TechnischeRichtlinien/tr03151/index_hm.html)).

### Declaration

```
public override string ToString()
```

### Returns

TYPE	DESCRIPTION
System.String	A string representing the string representation of this object.

### Overrides

[System.Object.ToString\(\)](#)

### Remarks

Format of quantity can have more than 2 digits. Price does not have more than 2 digits.

# Class TseOtherTransaction

It is possible to use the technical security system (tse/tss) to secure any other data.

## Inheritance

System.Object

[TseRequestFormatBase](#)

[TseRequest](#)

TseOtherTransaction

## Inherited Members

[TseRequest.TransactionNumber](#)

[TseRequest.TransactionRevision](#)

[TseRequestFormatBase.FormatNumber\(Int32\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Model](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseOtherTransaction : TseRequest
```

## Remarks

This type of process should be used if the system wants to store for instance opening the cash drawer or logon/logoff of an user. There is no regulation concerning the content ([Data](#)) for this element by the fiscal law.

For more information concerning using this type see "Anwendungserlass zu §146a AO" chapter 3.6.6.3 (german law) and actual description of "DSFin-VK, Anhang I Definition "Art" und "Daten" des Vorgangs; QR-Code.

## Constructors

[TseOtherTransaction\(Int32, Int32, String\)](#)

Constructor.

## Declaration

```
public TseOtherTransaction(int transactionNumber, int transactionRevision, string data)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Int32	transactionNumber	The transaction number of the request.
System.Int32	transactionRevision	The transaction revision of the request.
System.String	data	The data of the transaction, can be every type and defined by the sender.

## Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>data</code> is set to null or empty string.

## Properties

### Data

The data of the transaction, can be every type and defined by the sender.

### Declaration

```
public string Data { get; }
```

### Property Value

TYPE	DESCRIPTION
System.String	

### ProcessType

Returns the process Type of the request.

### Declaration

```
public override string ProcessType { get; }
```

### Property Value

TYPE	DESCRIPTION
System.String	

### Overrides

[TseRequest.ProcessType](#)

### Separator

Represents the field separator for the string representation of this object. Not used in this class.

### Declaration

```
protected override string Separator { get; }
```

### Property Value

TYPE	DESCRIPTION
System.String	

### Overrides

[TseRequestFormatBase.Separator](#)

## Methods

### ToString()

The string representation of this object; Can be used as processData according to TR-03151



([https://www.bsi.bund.de/DE/Publikationen/TechnischeRichtlinien/tr03151/index\\_hm.html](https://www.bsi.bund.de/DE/Publikationen/TechnischeRichtlinien/tr03151/index_hm.html)).

#### Declaration

```
public override string ToString()
```

#### Returns

TYPE	DESCRIPTION
System.String	A string representing the string representation of this object.

#### Overrides

System.Object.ToString()

# Class TsePayment

Represents the payment data in a tse receipt.

## Inheritance

System.Object

[TseRequestFormatBase](#)

TsePayment

## Inherited Members

[TseRequestFormatBase.FormatNumber\(Int32\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Model](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TsePayment : TseRequestFormatBase
```

## Constructors

TsePayment(Boolean, Int32, String)

Constructor.

## Declaration

```
public TsePayment(bool cashPayment, int amount, string currencyIsoCode = null)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Boolean	cashPayment	True if the payment was done in cash; otherwise false.
System.Int32	amount	The amount of the payment (in the respective currency). The amount is multiplied by 100 (cent representation in eur).
System.String	currencyIsoCode	The currency iso code for the payment. This must be an iso 4217 currency code. Can be omitted.

## Exceptions

TYPE	CONDITION
System.ArgumentOutOfRangeException	Thrown if <code>currencyIsoCode</code> is not a standard iso 4217 code.

## Properties

Amount

The amount of the payment.

Declaration

```
public int Amount { get; }
```

Property Value

TYPE	DESCRIPTION
System.Int32	

## CashPayment

True if the payment was done in cash (also foreign currency); otherwise false (creditcards, debitcards, vouchers, etc.)

Declaration

```
public bool CashPayment { get; }
```

Property Value

TYPE	DESCRIPTION
System.Boolean	

## CurrencyIsoCode

The currency iso code for this payment. This must be an iso 4217 currency code.

Declaration

```
public string CurrencyIsoCode { get; }
```

Property Value

TYPE	DESCRIPTION
System.String	

## Separator

Represents the field separator for the string representation of this object.

Declaration

```
protected override string Separator { get; }
```

Property Value

TYPE	DESCRIPTION
System.String	

Overrides

[TseRequestFormatBase.Separator](#)

## Methods

### ToString()

The string representation of this object; Can be used as processData according to TR-03151

([https://www.bsi.bund.de/DE/Publikationen/TechnischeRichtlinien/tr03151/index\\_hm.html](https://www.bsi.bund.de/DE/Publikationen/TechnischeRichtlinien/tr03151/index_hm.html)).

#### Declaration

```
public override string ToString()
```

#### Returns

TYPE	DESCRIPTION
System.String	A string representing the string representation of this object.

#### Overrides

System.Object.ToString()

# Class TseReceipt

Represents a receipt which is signed and calculated by the tse. Used for all closed processes which lead to issue a receipt (see §146a Abs. 2 AO)

Type of the process: "Kassenbeleg". ProcessType: "Kassenbeleg-V1".

## Inheritance

System.Object

[TseRequestFormatBase](#)

[TseRequest](#)

TseReceipt

## Inherited Members

[TseRequest.TransactionNumber](#)

[TseRequest.TransactionRevision](#)

[TseRequestFormatBase.FormatNumber\(Int32\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Model](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseReceipt : TseRequest
```

## Remarks

For more information concerning using this type see "Anwendungserlass zu §146a AO" chapter 3.6.6.1 (german law) and actual description of "DSFin-VK, Anhang I Definition "Art" und "Daten" des Vorgangs; QR-Code.

## Constructors

`TseReceipt(Int32, Int32, TransactionType, Int32, Int32, Int32, Int32, Int32, TsePayment[])`

Constructor.

## Declaration

```
public TseReceipt(int transactionNumber, int transactionRevision, TransactionType transactionType, int tax1, int tax2, int tax3, int tax4, int tax5, TsePayment[] payments = null)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Int32	transactionNumber	The transaction number of the request.
System.Int32	transactionRevision	The transaction revision of the request.

TYPE	NAME	DESCRIPTION
<a href="#">TransactionType</a>	transactionType	The type of the transaction according to regulation of type "Vorgang" of DSFin-VK.
System.Int32	tax1	Gross value according to tax rate 19% (common tax rate). EuroCent representation (multiple with 100).
System.Int32	tax2	Gross value according to tax rate 7% (reduced tax rate). EuroCent representation (multiple with 100).
System.Int32	tax3	Gross value according to "Durchschnittsatz (§24(1)Nr.3 UStG) (10.7%)". EuroCent representation (multiple with 100).
System.Int32	tax4	Gross value according to "Durchschnittsatz (§24(1)Nr.1 UStG) (5.5%)". EuroCent representation (multiple with 100).
System.Int32	tax5	Gross value according to 0% tax. EuroCent representation (multiple with 100).
<a href="#">TsePayment[]</a>	payments	A list of <a href="#">TsePayment</a> objects representing the payments for this transaction.

#### Exceptions

TYPE	CONDITION
System.ArgumentOutOfRangeException	Thrown if <code>transactionNumber</code> or <code>transactionRevision</code> is less 0. Also thrown when <code>transactionType</code> is out of range.

#### Properties

##### ProcessType

Returns the process Type of the request.

#### Declaration

```
public override string ProcessType { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### Overrides

[TseRequest.ProcessType](#)

#### Separator

Represents the main separator for formatting the request data (ToString method).

#### Declaration

```
protected override string Separator { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### Overrides

[TseRequestFormatBase.Separator](#)

## TransactionType

The type of the transaction according to DFKA Taxonomy / DSFin-VK.

#### Declaration

```
public TransactionType TransactionType { get; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">TransactionType</a>	

#### Remarks

Allowed transaction types are:

#### Methods

### AddPayment(Boolean, Int32, String)

Adds a payment to the payment collection.

#### Declaration

```
public void AddPayment(bool cashPayment, int amount, string currencyIsoCode = null)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Boolean	cashPayment	True if this payment was done by cash; otherwise false.
System.Int32	amount	The amount of the payment (multiplied with 100, eg. in EUR this is the cent representation: 3,54 EUR = 354).
System.String	currencyIsoCode	The currency iso code for the payment.

#### Remarks

Foreign currency values have to be sent with the foreign currency value.

## ToString()

The string representation of this object; Can be used as processData according to TR-03151 ([https://www.bsi.bund.de/DE/Publikationen/TechnischeRichtlinien/tr03151/index\\_htm.html](https://www.bsi.bund.de/DE/Publikationen/TechnischeRichtlinien/tr03151/index_htm.html)).

### Declaration

```
public override string ToString()
```

### Returns

TYPE	DESCRIPTION
System.String	A string representing the string representation of this object.

### Overrides

System.Object.ToString()



# Class TseRequest

Base class for a tse request (processData).

## Inheritance

System.Object

[TseRequestFormatBase](#)

TseRequest

[TseOrder](#)

[TseOtherTransaction](#)

[TseReceipt](#)

## Inherited Members

[TseRequestFormatBase.FormatNumber\(Int32\)](#)

[TseRequestFormatBase.Separator](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Model](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public abstract class TseRequest : TseRequestFormatBase
```

## Constructors

**TseRequest(Int32, Int32)**

Constructor.

## Declaration

```
public TseRequest(int transactionNumber, int transactionRevision)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Int32	transactionNumber	The transaction number of the request.
System.Int32	transactionRevision	The transaction revision of the request.

## Exceptions

TYPE	CONDITION
System.ArgumentOutOfRangeException	Thrown if <code>transactionNumber</code> or <code>transactionRevision</code> is less 0.

## Properties

## ProcessType

The process type for this request. Possible types are "Kassenbeleg-V1", "Bestellung-V1" and "SonstigerVorgang"

Declaration

```
public abstract string ProcessType { get; }
```

Property Value

TYPE	DESCRIPTION
System.String	

## TransactionNumber

The transaction number of the request.

Declaration

```
public int TransactionNumber { get; }
```

Property Value

TYPE	DESCRIPTION
System.Int32	

## TransactionRevision

The transaction revision of the request.

Declaration

```
public int TransactionRevision { get; }
```

Property Value

TYPE	DESCRIPTION
System.Int32	

# Class TseRequestFormatBase

Base class for tse requests with special functions to format the data.

## Inheritance

System.Object

TseRequestFormatBase

[TseOrder.TseOrderLine](#)

[TsePayment](#)

[TseRequest](#)

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Model](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public abstract class TseRequestFormatBase
```

## Properties

### Separator

Represents the main separator for formatting the request data (ToString method).

## Declaration

```
protected abstract string Separator { get; }
```

## Property Value

TYPE	DESCRIPTION
System.String	

## Methods

### FormatNumber(Int32)

Formats a number in following format.

## Declaration

```
protected string FormatNumber(int number)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Int32	number	An integer representing the number to format. The number will be divided by 100 to

## Returns

TYPE	DESCRIPTION
System.String	The formatted number as string.

# Class TseResponse

Represents the return value of the tse after signing the transaction.

## Inheritance

System.Object  
TseResponse

## Inherited Members

System.Object.Equals(System.Object)  
System.Object.Equals(System.Object, System.Object)  
System.Object.GetHashCode()  
System.Object.GetType()  
System.Object.MemberwiseClone()  
System.Object.ReferenceEquals(System.Object, System.Object)  
System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Model](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseResponse
```

## Constructors

TseResponse(Int32, Int32, Int64, String, String, String, Int64, Int64, Int64, String, String, String, String, String, String)

Constructor.

## Declaration

```
public TseResponse(int transactionNumber, int lastTransactionRevision, long tseId, string processData, string processType, string signature, long signatureCounter, long timeStart, long timeEnd, string errorDescription, string tseSerial, string tseTimeFormat, string tseHashAlgorithm, string tsePublicKey, string qrCodeDataString)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Int32	transactionNumber	The transaction number of the currently signed transaction.
System.Int32	lastTransactionRevision	The transaction revision of the currently signed transaction.
System.Int64	tseId	The unique id of the tss (technical security system).
System.String	processData	The process data of the signed transaction. Binary value (base64 encoded utf8 string). This is the processData according to "Anwendungserlass zu §146a AO".
System.String	processType	The process type of signed transaction. This is the processType according to "Anwendungserlass zu §146a AO".

TYPE	NAME	DESCRIPTION
System.String	signature	The signature of the tss for the signed transaction.
System.Int64	signatureCounter	The actual signature counter of the tss after signing the transaction.
System.Int64	timeStart	The start time of the transaction. A timestamp / point in time measured in seconds since the Unix epoch.
System.Int64	timeEnd	The end time of the transaction. A timestamp / point in time measured in seconds since the Unix epoch.
System.String	errorDescription	The error description if the fiscalisation process failed. Empty if everything went well.
System.String	tseSerial	The serialnumber of the tss module.
System.String	tseTimeFormat	The time format which is used by the tss.
System.String	tseHashAlgorithm	The hash algorithm which is used by the tss.
System.String	tsePublicKey	The public key of the tss.
System.String	qrCodeDataString	The qrcode data string (for printing a qr code at the receipt).

## Properties

### ErrorDescription

The error description if the fiscalisation process failed. Empty if everything went well.

#### Declaration

```
public string ErrorDescription { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### LastTransactionRevision

The transaction revision of the currently signed transaction.

#### Declaration

```
public int LastTransactionRevision { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Int32	

#### ProcessData

The process data of the signed transaction. Binary value (base64 encoded utf8 string). This is the processData according to "Anwendungserlass zu §146a AO".

#### Declaration

```
public string ProcessData { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### ProcessType

The process type of signed transaction. This is the processType according to "Anwendungserlass zu §146a AO". May not be null.

#### Declaration

```
public string ProcessType { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### QrCodeDataString

The qrcode data string (for printing a qr code at the receipt).

#### Declaration

```
public string QrCodeDataString { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### Signature

The signature of the tss for the signed transaction.

#### Declaration

```
public string Signature { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### TransactionEndTime

The end time of the transaction. A timestamp / point in time measured in seconds since the Unix epoch.

Declaration

```
public long TransactionEndTime { get; }
```

Property Value

TYPE	DESCRIPTION
System.Int64	

### TransactionNumber

The transaction number of the currently signed transaction.

Declaration

```
public int TransactionNumber { get; }
```

Property Value

TYPE	DESCRIPTION
System.Int32	

### TransactionStartTime

The start time of the transaction. A timestamp / point in time measured in seconds since the Unix epoch.

Declaration

```
public long TransactionStartTime { get; }
```

Property Value

TYPE	DESCRIPTION
System.Int64	

### TseHashAlgorithm

The hash algorithm which is used by the tss.

Declaration

```
public string TseHashAlgorithm { get; }
```

Property Value

TYPE	DESCRIPTION
System.String	



## TseId

The unique id of the tss (technical security system).

Declaration

```
public long TseId { get; }
```

Property Value

TYPE	DESCRIPTION
System.Int64	

## TsePublicKey

The public key of the tss.

Declaration

```
public string TsePublicKey { get; }
```

Property Value

TYPE	DESCRIPTION
System.String	

## TseSerial

The serialnumber of the tss module.

Declaration

```
public string TseSerial { get; }
```

Property Value

TYPE	DESCRIPTION
System.String	

## TseSignatureCounter

The actual signature counter of the tss after signing the transaction.

Declaration

```
public long TseSignatureCounter { get; }
```

Property Value

TYPE	DESCRIPTION
System.Int64	

## TseTimeFormat

The time format which is used by the tss.

Declaration

```
public string TseTimeFormat { get; }
```

Property Value

TYPE	DESCRIPTION
System.String	

# Namespace

## RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit

### Classes

#### [ByteArrayConverterBase](#)

Basic class to convert data from or to a 512 byte bytearray.

#### [SwissbitCommandException](#)

Represents a swissbit command exception (Raised if command fails).

#### [SwissbitHardwareDevice](#)

Represents a local swissbit information class.

### Enums

#### [TransactionType](#)

The transaction type for sending transactions to the tse (Start, Update, Finish).

# Class ByteArrayConverterBase

Basic class to convert data from or to a 512 byte bytearray.

## Inheritance

System.Object

ByteArrayConverterBase

[TseCommandResponse](#)

[SwissbitStatus](#)

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public abstract class ByteArrayConverterBase
```

## Constructors

**ByteArrayConverterBase(Byte[])**

Constructor.

## Declaration

```
public ByteArrayConverterBase(byte[] byteArray)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Byte[]	byteArray	The byte array for the conversion functions.

## Fields

**ByteArray**

## Declaration

```
protected byte[] ByteArray
```

## Field Value

TYPE	DESCRIPTION
System.Byte[]	

## Methods

**DecodeAscii(Byte[])**

Decodes the given byte array to ascii null terminated string.

#### Declaration

```
protected string DecodeAscii(byte[] buffer)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Byte[]	buffer	The byte array to decode.

#### Returns

TYPE	DESCRIPTION
System.String	The given byte array decoded to ascii null terminated string.

#### Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if parameter <code>buffer</code> is set to null.

### DecodeAscii(Int32, Int32)

Decodes the internal byte array at offset with size to ascii string. String is null terminated.

#### Declaration

```
protected string DecodeAscii(int offset, int size)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Int32	offset	The offset in the byte array to start.
System.Int32	size	The size of the string.

#### Returns

TYPE	DESCRIPTION
System.String	The internal byte array at offset with size to ascii string. String is null terminated.

#### Exceptions

TYPE	CONDITION
------	-----------

TYPE	CONDITION
System.ArgumentOutOfRangeException	Thrown if offset is smaller 0 or greater the internal array length.

### GetByteArrayFromNumber(UInt16, Boolean)

Converts the given value to big endian formatted byte array.

Declaration

```
public static byte[] GetByteArrayFromNumber(ushort value, bool isLittleEndian)
```

Parameters

TYPE	NAME	DESCRIPTION
System.UInt16	value	The value to convert.
System.Boolean	isLittleEndian	True if the exported bytes should be interpreted as little endian (default); otherwise false (big endian).

Returns

TYPE	DESCRIPTION
System.Byte[]	The requested byte array.

### GetByteArrayFromNumber(UInt32, Boolean)

Converts the given value to big endian formatted byte array.

Declaration

```
public static byte[] GetByteArrayFromNumber(uint value, bool isLittleEndian)
```

Parameters

TYPE	NAME	DESCRIPTION
System.UInt32	value	The value to convert.
System.Boolean	isLittleEndian	True if the exported bytes should be interpreted as little endian (default); otherwise false (big endian).

Returns

TYPE	DESCRIPTION
System.Byte[]	The requested byte array.

### GetByteArrayFromNumber(UInt64, Boolean)

Converts the given value to formatted byte array.

Declaration

```
public static byte[] GetByteArrayFromNumber(ulong value, bool isLittleEndian = true)
```

Parameters

TYPE	NAME	DESCRIPTION
System.UInt64	value	The value to convert.
System.Boolean	isLittleEndian	True if the exported bytes should be interpreted as little endian (default); otherwise false (big endian).

Returns

TYPE	DESCRIPTION
System.Byte[]	The requested byte array.

### GetBytesUntilZero(Byte[])

Returns the bytes in the given array until 0 value is found. If no 0 value is found, whole array is returned.

Declaration

```
protected byte[] GetBytesUntilZero(byte[] byteArray)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Byte[]	byteArray	The byte array to shorten up if 0 values are included.

Returns

TYPE	DESCRIPTION
System.Byte[]	The bytes in the given array until 0 value is found. If no 0 value is found, whole array is returned.

Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if parameter <code>byteArray</code> is set to null.

### GetIntFromArray(Int32, Boolean)

Returns the uint interpretation in little endian (or big endian) of the given byte array with offset and size.

Declaration

```
protected uint GetIntFromByteArray(int offset, bool isLittleEndian = true)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Int32	offset	The offset in the internal <a href="#">ByteArray</a> .
System.Boolean	isLittleEndian	True if the bytes should be interpreted as little endian (default); otherwise false (big endian).

#### Returns

TYPE	DESCRIPTION
System.UInt32	The uint interpretation in little endian of the given byte array with offset and size.

#### Exceptions

TYPE	CONDITION
System.ArgumentOutOfRangeException	Thrown if the internal byte array would be exceeded by the access (byte array is 512 bytes big).

### GetLongFromByteArray(Int32, Boolean)

Returns the ulong interpretation in little endian (or big endian) of the given byte array with offset and size.

#### Declaration

```
protected ulong GetLongFromByteArray(int offset, bool isLittleEndian = true)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Int32	offset	The offset in the internal <a href="#">ByteArray</a> .
System.Boolean	isLittleEndian	True if the bytes should be interpreted as little endian (default); otherwise false (big endian).

#### Returns

TYPE	DESCRIPTION
System.UInt64	The ulong interpretation in little endian of the given byte array with offset and size.

#### Exceptions

TYPE	CONDITION
------	-----------



TYPE	CONDITION
System.ArgumentOutOfRangeException	Thrown if the internal byte array would be exceeded by the access (byte array is 512 bytes big).

### GetShortFromByteArray(Int32, Boolean)

Returns the ushort interpretation in little endian (or big endian) of the given byte array with offset and size.

#### Declaration

```
protected ushort GetShortFromByteArray(int offset, bool isLittleEndian = true)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Int32	offset	The offset in the internal <a href="#">ByteArray</a> .
System.Boolean	isLittleEndian	True if the bytes should be interpreted as little endian (default); otherwise false (big endian).

#### Returns

TYPE	DESCRIPTION
System.UInt16	The ushort interpretation in little endian of the given byte array with offset and size.

#### Exceptions

TYPE	CONDITION
System.ArgumentOutOfRangeException	Thrown if the internal byte array would be exceeded by the access (byte array is 512 bytes big).

# Class SwissbitCommandException

Represents a swissbit command exception (Raised if command fails).

## Inheritance

System.Object  
System.Exception  
SwissbitCommandException

## Implements

System.Runtime.Serialization.ISerializable

## Inherited Members

System.Exception.GetBaseException()  
System.Exception.GetObjectData(System.Runtime.Serialization.SerializationInfo, System.Runtime.Serialization.StreamingContext)  
System.Exception.GetType()  
System.Exception.ToString()  
System.Exception.Data  
System.Exception.HelpLink  
System.Exception.HResult  
System.Exception.InnerException  
System.Exception.Message  
System.Exception.Source  
System.Exception.StackTrace  
System.Exception.TargetSite  
System.Exception.SerializeObjectState  
System.Object.Equals(System.Object)  
System.Object.Equals(System.Object, System.Object)  
System.Object.GetHashCode()  
System.Object.MemberwiseClone()  
System.Object.ReferenceEquals(System.Object, System.Object)

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class SwissbitCommandException : Exception, ISerializable
```

## Constructors

**SwissbitCommandException(TseCommandStatusResponse)**

## Declaration

```
public SwissbitCommandException(TseCommandStatusResponse statusResponse)
```

## Parameters

TYPE	NAME	DESCRIPTION
<a href="#">TseCommandStatusResponse</a>	statusResponse	

## Implements

System.Runtime.Serialization.ISerializable

# Class SwissbitHardwareDevice

Represents a local swissbit information class.

## Inheritance

System.Object

ByteArrayConverterBase

SwissbitStatus

SwissbitHardwareDevice

## Inherited Members

SwissbitStatus.FirmwareType

SwissbitStatus.FirmwareId

SwissbitStatus.TseCapacity

SwissbitStatus.TseCurrentSize

SwissbitStatus.TseSecurity

SwissbitStatus.TseSecurityValidTimeSet

SwissbitStatus.TseSecuritySelfTestPassed

SwissbitStatus.TseSecurityCtssInterfaceActive

SwissbitStatus.TseTsecurityExportAllowedIfCspTestFails

SwissbitStatus.TseInitializationState

SwissbitStatus.DataImportInitialized

SwissbitStatus.InitialPukChanged

SwissbitStatus.InitialAdminPinChanged

SwissbitStatus.InitialTimeAdminPinChanged

SwissbitStatus.TimeUntilNextSelftest

SwissbitStatus.StartedTransactions

SwissbitStatus.MaxStartedTransactions

SwissbitStatus.CreatedSignatures

SwissbitStatus.MaxSignatures

SwissbitStatus.RegisteredClients

SwissbitStatus.MaxRegisteredClients

SwissbitStatus.CertificateExpirationDate

SwissbitStatus.CertificateExpirationDateTimeOffset

SwissbitStatus.TseExportSize

SwissbitStatus.TseHardwareVersion

SwissbitStatus.TseSoftwareVersion

SwissbitStatus.TseFormFactor

SwissbitStatus.MaxTimeSynchronizationDelay

SwissbitStatus.MaxUpdateDelay

SwissbitStatus.LastHeaderBlockIndex

SwissbitStatus.TsePublicKeyLength

SwissbitStatus.TsePublicKey

SwissbitStatus.TsePublicKeyString

SwissbitStatus.TseSerial

SwissbitStatus.TseDescription

ByteArrayConverterBase.ByteArray

ByteArrayConverterBase.GetByteArrayFromNumber(UInt64, Boolean)

ByteArrayConverterBase.GetByteArrayFromNumber(UInt32, Boolean)

ByteArrayConverterBase.GetByteArrayFromNumber(UInt16, Boolean)

ByteArrayConverterBase.GetLongFromByteArray(Int32, Boolean)

ByteArrayConverterBase.GetIntFromByteArray(Int32, Boolean)

ByteArrayConverterBase.GetShortFromByteArray(Int32, Boolean)

[ByteArrayConverterBase.GetBytesUntilZero\(Byte\[\]\)](#)  
[ByteArrayConverterBase.DecodeAscii\(Int32, Int32\)](#)  
[ByteArrayConverterBase.DecodeAscii\(Byte\[\]\)](#)  
[System.Object.Equals\(System.Object\)](#)  
[System.Object.Equals\(System.Object, System.Object\)](#)  
[System.Object.GetHashCode\(\)](#)  
[System.Object.GetType\(\)](#)  
[System.Object.MemberwiseClone\(\)](#)  
[System.Object.ReferenceEquals\(System.Object, System.Object\)](#)

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit](#)

Assembly: RetailForce.Fiscalisation.dll

#### Syntax

```
public class SwissbitHardwareDevice : SwissbitStatus
```

#### Constructors

[SwissbitHardwareDevice\(String, String, Byte\[\]\)](#)

#### Declaration

```
public SwissbitHardwareDevice(string statusFilePath, string communicationFilePath, byte[] statusBytes)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.String	statusFilePath	
System.String	communicationFilePath	
System.Byte[]	statusBytes	

#### Properties

##### CommunicationFilePath

#### Declaration

```
public string CommunicationFilePath { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

##### StatusFilePath

#### Declaration

```
public string StatusFilePath { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

## Methods

### CreateInterface()

Creates a new swiss bit device interface using the given paths.

#### Declaration

```
public SwissbitHardware CreateInterface()
```

#### Returns

TYPE	DESCRIPTION
<a href="#">SwissbitHardware</a>	

### ToString()

#### Declaration

```
public override string ToString()
```

#### Returns

TYPE	DESCRIPTION
System.String	

#### Overrides

[SwissbitStatus.ToString\(\)](#)

# Enum TransactionType

The transaction type for sending transactions to the tse (Start, Update, Finish).

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public enum TransactionType : byte
```

## Fields

NAME	DESCRIPTION
TransactionFinish	Finishes a transaction on the tse.
TransactionStart	Starts a transaction on the tse.
TransactionUpdate	Updates a transaction on the tse.

# Namespace

## RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.

### Commands

#### Classes

##### [TseCmdAbortFilteredExport](#)

Aborts a currently running filtered export.

##### [TseCmdAcknowledgeExport](#)

Acknowledge of the data export to delete the data on the tse.

##### [TseCmdBase](#)

Base class for all tse commands

##### [TseCmdChangePin](#)

Changes the PIN of the given user.

##### [TseCmdChangePuk](#)

This command can be used to change the Admin PUK.

##### [TseCmdDataImportFinalize](#)

Command to finish up transfer data to the tse.

##### [TseCmdDataImportFinalize.Response](#)

Response class for command [TseCmdDataImportFinalize](#).

##### [TseCmdDataImportInitialize](#)

Initializes a Data Import.

##### [TseCmdDataImportInitialize.Response](#)

Response class for the command [TseCmdDataImportInitialize](#).

##### [TseCmdDataImportRollback](#)

Performs a rollback of the actual data import.

##### [TseCmdDecommissionTse](#)

When the TOE should not be used anymore, it must be decommissioned with this command.

##### [TseCmdDeleteExportedData](#)

Deletes all data that has been successfully exported before.

##### [TseCmdDeregisterClient](#)

Removes a client from the list of authorized clients.

##### [TseCmdDisableCtssInterface](#)

This command can be used to disable the CTSS Interface.

##### [TseCmdDisableExportIfCspTestFails](#)

Disables export if csp test fails.

## [TseCmdEnableCtssInterface](#)

This command can be used to enable the CTSS Interface.

## [TseCmdEnableExportIfCspTestFails](#)

The TOE allows to determine the behavior of the TOE with respect to the export of data if the CSP test fails during the self test.

## [TseCmdFetchCommandResponse](#)

This command must be used if and only if the Result Code of a previously executed command is 0xFD. It will then deliver the response of the previously issued command.

## [TseCmdFirmwareUpdateApply](#)

Applies a firmware update that was previously transferred to the TOE with command TSE Firmware Update Transfer.

## [TseCmdGetLastTransactionResponse](#)

This command can be used to query the last transaction's response.

## [TseCmdGetLogMessageCertificate](#)

Returns the certificate that is associated with the signatures created by the TOE.

## [TseCmdGetLogMessageCertificate.Response](#)

Response class for command [TseCmdGetLogMessageCertificate](#).

## [TseCmdInitializeTse](#)

Command to initialize the tse.

## [TseCmdListRegisteredClients](#)

Lists all registered clients in chunks of 16 clients.

## [TseCmdListRegisteredClients.Response](#)

Response class for command list registered clients.

## [TseCmdListStartedTransactions](#)

Lists all started transaction numbers in chunks of 62 transactions.

## [TseCmdListStartedTransactions.Response](#)

Response class for command [TseCmdListStartedTransactions](#).

## [TseCmdLogin](#)

Authenticates users of the TOE based on their PIN.

## [TseCmdLogout](#)

Logs out the given user. The user must be logged in, otherwise the command will fail with [0x1202: Given user is not authenticated].

## [TseCmdPollFilteredExport](#)

After a filtered export has been initiated with Start Filtered Export, the actual data must be queried in small chunks by repeatedly calling this command.

## [TseCmdPollFilteredExport.Response](#)

The response for the command [TseCmdPollFilteredExport](#).



## [TseCmdRegisterClient](#)

Registers a client (i.e. an ERS) as a valid system for self tests and transactions.

## [TseCmdSelfTestRun](#)

Runs a self test for the tse.

## [TseCmdStartFilteredExport](#)

This command starts a filtered export of stored Log Messages by supplying a filter.

## [TseCmdTseFirmwareUpdateTransfer](#)

Transfers a firmware update package to the TOE.

## [TseCmdTseFlashInformation](#)

Provides low level information about the flash storage.

## [TseCmdTseFlashInformation.Response](#)

Response class for the command [TseCmdTseFlashInformation](#).

## [TseCmdUnblockUser](#)

Unblocks a user or change the user pin if forgotten.

## [TseCmdUpdateTime](#)

Updates the time on the tse.

## [TseCommandResponse](#)

Represents a tse command response.

## Enums

### [TseCommandResultCode](#)

### [TseCommandStatusResponse](#)

# Class TseCmdAbortFilteredExport

Aborts a currently running filtered export.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdAbortFilteredExport

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.GetResponseTypes\(Byte\[\]\)](#)

[TseCmdBase.FormatCommandBytes\(\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdAbortFilteredExport : TseCmdBase
```

## Remarks

If no filtered export is in progress, the command also succeeds without errors.

## Constructors

[TseCmdAbortFilteredExport\(\)](#)

Constructor.

## Declaration

```
public TseCmdAbortFilteredExport()
```

## Properties

### PossibleErrorCodes

Returns the possible error codes for this command.

## Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

## Overrides



# Class TseCmdAcknowledgeExport

Acknowledge of the data export to delete the data on the tse.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdAcknowledgeExport

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.GetResponseTypes\(Byte\[\]\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdAcknowledgeExport : TseCmdBase
```

## Remarks

After doing an unfiltered export, the host application can notify the TOE that it successfully received the exported data in order to allow execution of the Delete Exported Data command.

## Constructors

**TseCmdAcknowledgeExport(UInt64)**

Constructor.

## Declaration

```
public TseCmdAcknowledgeExport(ulong exportSize)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.UInt64	exportSize	Size of successfully received export data in bytes. Big Endian.

## Properties

### PossibleErrorCodes

Returns the possible error codes for this command.

## Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

## Overrides

[TseCmdBase.PossibleErrorCodes](#)

## Methods

**FormatCommandBytes()**

## Declaration

```
protected override void FormatCommandBytes()
```

## Overrides

[TseCmdBase.FormatCommandBytes\(\)](#)

# Class TseCmdBase

Base class for all tse commands

## Inheritance

System.Object

TseCmdBase

[TseCmdAbortFilteredExport](#)

[TseCmdAcknowledgeExport](#)

[TseCmdChangePin](#)

[TseCmdChangePuk](#)

[TseCmdDataImportFinalize](#)

[TseCmdDataImportInitialize](#)

[TseCmdDataImportRollback](#)

[TseCmdDecommissionTse](#)

[TseCmdDeleteExportedData](#)

[TseCmdDeregisterClient](#)

[TseCmdDisableCtssInterface](#)

[TseCmdDisableExportIfCspTestFails](#)

[TseCmdEnableCtssInterface](#)

[TseCmdEnableExportIfCspTestFails](#)

[TseCmdFetchCommandResponse](#)

[TseCmdFirmwareUpdateApply](#)

[TseCmdGetLastTransactionResponse](#)

[TseCmdGetLogMessageCertificate](#)

[TseCmdInitializeTse](#)

[TseCmdListRegisteredClients](#)

[TseCmdListStartedTransactions](#)

[TseCmdLogin](#)

[TseCmdLogout](#)

[TseCmdPollFilteredExport](#)

[TseCmdRegisterClient](#)

[TseCmdSelfTestRun](#)

[TseCmdStartFilteredExport](#)

[TseCmdTseFirmwareUpdateTransfer](#)

[TseCmdTseFlashInformation](#)

[TseCmdUnblockUser](#)

[TseCmdUpdateTime](#)

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public abstract class TseCmdBase
```

## Constructors

### TseCmdBase(Int32)

Constructor.

Declaration

```
public TseCmdBase(int command)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Int32	command	

## Fields

### ByteStore

Declaration

```
protected List<byte> ByteStore
```

Field Value

TYPE	DESCRIPTION
System.Collections.Generic.List<System.Byte>	

## Command

Declaration

```
protected readonly int Command
```

Field Value

TYPE	DESCRIPTION
System.Int32	

## Properties

### CommandBytes

Returns the command as 512 byte formatted array.

Declaration

```
public byte[] CommandBytes { get; }
```

Property Value

TYPE	DESCRIPTION
System.Byte[]	

## PossibleErrorCodes

Returns the possible error codes for this command.

Declaration

```
public abstract TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

#### Methods

##### FormatCommandBytes()

###### Declaration

```
protected virtual void FormatCommandBytes()
```

##### GetResponseType(Byte[])

Returns the command response for this command (with payload).

###### Declaration

```
public virtual TseCommandResponse GetResponseType(byte[] payload)
```

###### Parameters

TYPE	NAME	DESCRIPTION
System.Byte[]	payload	The payload for the response.

###### Returns

TYPE	DESCRIPTION
<a href="#">TseCommandResponse</a>	The command response for this command.

###### Remarks

Most of the commands return [TseCommandResponse](#), certain commands have on command responses. Override this method to return the command specific command response.



# Class TseCmdChangePin

Changes the PIN of the given user.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdChangePin

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.GetResponseTypes\(Byte\[\]\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdChangePin : TseCmdBase
```

## Remarks

The user must have been logged in before with command Login User, otherwise the command will fail with [0x1202: Given user is not authenticated]. In order to change the PIN, the current PIN must be provided as well as the new PIN, which must be different from the current PIN (otherwise the command fails with [0x1007: Invalid parameter]).

The PIN has an associated retry counter. In case the provided PIN is wrong, the response SW is [0x11xx: Authentication failed, xx give the number of remaining retries] and the retry counter is decreased. If the retry counter is currently 1 and the wrong PIN is used (thus the retry counter reaches 0), the number of remaining retries will be set to 0 and the SW will be 0x1100. Afterwards, a PIN change with and without a valid PIN will return [0x1201: PIN is blocked].

If users were blocked by this command, they can be unblocked with command Unblock User.

## Constructors

TseCmdChangePin(Int32, String, String)

Constructor.

## Declaration

```
public TseCmdChangePin(int userId, string currentPin, string newPin)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Int32	userId	The userid of the user to change the pin. 0 = unidentified user, 1 = admin, 2 = timeAdmin

TYPE	NAME	DESCRIPTION
System.String	currentPin	The current pin.
System.String	newPin	The new pin.

#### Exceptions

TYPE	CONDITION
System.ArgumentOutOfRangeException	Thrown if parameter <code>userId</code> is not one of this values: 0, 1, 2.
System.ArgumentException	Thrown if parameter <code>currentPin</code> or parameter <code>newPin</code> are not 5 characters long.
System.ArgumentNullException	Thrown if <code>currentPin</code> or parameter <code>newPin</code> are set to null or empty string.

#### Properties

##### PossibleErrorCodes

Returns the possible error codes for this command.

##### Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

##### Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

##### Overrides

[TseCmdBase.PossibleErrorCodes](#)

#### Methods

##### FormatCommandBytes()

##### Declaration

```
protected override void FormatCommandBytes()
```

##### Overrides

[TseCmdBase.FormatCommandBytes\(\)](#)

# Class TseCmdChangePuk

This command can be used to change the Admin PUK.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdChangePuk

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.GetResponseTypes\(Byte\[\]\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdChangePuk : TseCmdBase
```

## Remarks

The new PUK must be different from the previous PUK, otherwise the command fails with [0x1007: Invalid parameter].

The PUK has an associated retry counter. In case the provided PUK is wrong, the response SW is [0x11xx: Authentication failed, xx give the number of remaining retries] and the retry counter is decreased. If the retry counter is currently 1 and the wrong PUK is used (thus the retry counter reaches 0), the number of remaining retries will be set to 0 and the SW will be 0x1100. Afterwards, both an authentication with and without a valid PUK will return [0x1201: PUK is blocked]. As a blocked PUK can not be recovered from, it is recommended to export all data and decommission the TOE. Afterwards, a new TSE should be used.

## Constructors

`TseCmdChangePuk(String, String)`

## Constructor

## Declaration

```
public TseCmdChangePuk(string currentPuk, string newPuk)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.String	currentPuk	The current puk.
System.String	newPuk	The new puk.

## Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if parameter <code>currentPuk</code> or parameter <code>newPuk</code> are set to null or empty string.
System.ArgumentException	Thrown if parameter <code>currentPuk</code> or parameter <code>newPuk</code> having a length of less or more than 6 characters.

## Properties

### PossibleErrorCodes

Returns the possible error codes for this command.

#### Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

#### Overrides

[TseCmdBase.PossibleErrorCodes](#)

## Methods

### FormatCommandBytes()

#### Declaration

```
protected override void FormatCommandBytes()
```

#### Overrides

[TseCmdBase.FormatCommandBytes\(\)](#)

# Class TseCmdDataImportFinalize

Command to finish up transfer data to the tse.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdDataImportFinalize

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.FormatCommandBytes\(\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdDataImportFinalize : TseCmdBase
```

## Remarks

After the TSE has received Process Data Length bytes as announced during Data Import Initialize, the transaction can be finalized, which will generate a signed Log Message of the transaction. Please note that after calling this command, the data that has been sent in Section 4.5.2 will not be readable again from the same addresses, because it will be copied into a Log Message.

## Constructors

TseCmdDataImportFinalize()

Constructor.

## Declaration

```
public TseCmdDataImportFinalize()
```

## Properties

### PossibleErrorCodes

Returns the possible error codes for this command.

## Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

Overrides

[TseCmdBase.PossibleErrorCodes](#)

## Methods

### GetResponseType(Byte[])

Returns the command response for this command (with payload).

Declaration

```
public override TseCommandResponse GetResponseType(byte[] payload)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Byte[]	payload	The payload for the response.

Returns

TYPE	DESCRIPTION
<a href="#">TseCommandResponse</a>	The command response for this command.

Overrides

[TseCmdBase.GetResponseType\(Byte\[\]\)](#)

Remarks

Most of the commands return [TseCommandResponse](#), certain commands have on command responses. Override this method to return the command specific command response.

# Class TseCmdDataImportFinalize.Response

Response class for command [TseCmdDataImportFinalize](#).

## Inheritance

System.Object

[ByteArrayConverterBase](#)

[TseCommandResponse](#)

TseCmdDataImportFinalize.Response

## Inherited Members

[TseCommandResponse.ResultCode](#)

[TseCommandResponse.CommandLength](#)

[TseCommandResponse.CommandResponse](#)

[TseCommandResponse.Payload](#)

[TseCommandResponse.ResponseBytes](#)

[ByteArrayConverterBase.ByteArray](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt64, Boolean\)](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt32, Boolean\)](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt16, Boolean\)](#)

[ByteArrayConverterBase.GetLongFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetIntFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetShortFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetBytesUntilZero\(Byte\[\]\)](#)

[ByteArrayConverterBase.DecodeAscii\(Int32, Int32\)](#)

[ByteArrayConverterBase.DecodeAscii\(Byte\[\]\)](#)

[System.Object.Equals\(System.Object\)](#)

[System.Object.Equals\(System.Object, System.Object\)](#)

[System.Object.GetHashCode\(\)](#)

[System.Object.GetType\(\)](#)

[System.Object.MemberwiseClone\(\)](#)

[System.Object.ReferenceEquals\(System.Object, System.Object\)](#)

[System.Object.ToString\(\)](#)

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class Response : TseCommandResponse
```

## Constructors

[Response\(Byte\[\]\)](#)

Constructor.

## Declaration

```
public Response(byte[] payload)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Byte[]	payload	The payload of the response in bytes.

## Properties

### LogTime

Timestamp as seconds since Unix Epoch. The timestamp will be interpreted as an unsigned number, which means only dates after 1970 are supported. Big Endian.

#### Declaration

```
public ulong LogTime { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.UInt64	

### LogTimeDateTimeOffset

Timestamp for signature creation as System.DateTimeOffset.

#### Declaration

```
public DateTimeOffset LogTimeDateTimeOffset { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.DateTimeOffset	

### SerialNumber

Serial Number of the recording device. This is a hash over the public key / certificate of the Smart Card.

#### Declaration

```
public byte[] SerialNumber { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Byte[]	

### Signature

The signature for the import.

#### Declaration

```
public byte[] Signature { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Byte[]	

### SignatureCounter

The signature counter for this signature.



#### Declaration

```
public ulong SignatureCounter { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.UInt64	

#### SignatureLength

The length of the signature.

#### Declaration

```
public ulong SignatureLength { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.UInt64	

#### SignatureString

The signature as ascii string.

#### Declaration

```
public string SignatureString { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### TransactionNumber

For Transaction Start: the newly assigned transaction number. For other types: the same transaction number that was used in the Initialize step.

#### Declaration

```
public ulong TransactionNumber { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.UInt64	

# Class TseCmdDataImportInitialize

Initializes a Data Import.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdDataImportInitialize

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdDataImportInitialize : TseCmdBase
```

## Remarks

By using command 90 00, the Data Import will be performed in High-Speed mode (preferred), with command 91 00 Simple Mode will be used. The parameter Transaction Type selects whether this Data Import shall start, update, or finish a transaction. For updating or finishing a transaction, the Transaction Number of a started transaction must be provided, otherwise this value must be set to 0. If the provided Transaction Number is not in the started state, the command will fail with[0x1008: Given transaction is not started]. The provided Client ID must have been previously registered (see Section 4.2.2), otherwise the operation will be rejected. All registered clients can update or finish transactions, even transactions that have been started by another client. In case a transaction gets updated by another client as the last update (or the start of the transaction if the transaction has never been updated before), ownership of the transaction gets transferred to the new client. The actual Process Data is omitted from the command and will be supplied afterwards(see Section 4.5.2). However, its length must be provided as Process Data Length. The allowed values for Process Type will be defined by Kassensicherungsverordnung.They are not evaluated by the TOE and will be transparently copied into the generated Log Message. The response field Transaction Payload Offset gives the sector offset in the TSE Store where the Process Data must be written during phase Data Import Transfer afterwards.

## Constructors

TseCmdDataImportInitialize(TransactionType, String, UInt64, UInt64, UInt64, String, Boolean)

Constructor.

## Declaration

```
public TseCmdDataImportInitialize(TransactionType transactionType, string clientId, ulong transactionNumber,
ulong processDataLength, ulong processTypeLength, string processType, bool highspeed = true)
```

## Parameters

TYPE	NAME	DESCRIPTION
<a href="#">TransactionType</a>	transactionType	The type of the transaction.
System.String	clientId	The client id (register) for the transaction.
System.UInt64	transactionNumber	The transaction number
System.UInt64	processDataLength	The length of the process data to store.
System.UInt64	processTypeLength	The length of the process type to store.
System.String	processType	The process type of the process.
System.Boolean	highspeed	True if highspeed mode should be used (default); otherwise false.

#### Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if parameter <code>clientId</code> or parameter <code>processType</code> are set to null or empty string.
System.ArgumentException	Thrown if length of parameter exceeds 30 characters or if transaction type is <a href="#">TransactionStart</a> and parameter <code>transactionNumber</code> is not 0.
System.ArgumentOutOfRangeException	Thrown if <code>processType</code> is not one of the following values: "Kassenbeleg-V1", "Bestellung-V1" and "SonstigerVorgang".

#### Properties

##### PossibleErrorCodes

Returns the possible error codes for this command.

#### Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

Overrides

[TseCmdBase.PossibleErrorCodes](#)

## Methods

### FormatCommandBytes()

Declaration

```
protected override void FormatCommandBytes()
```

Overrides

[TseCmdBase.FormatCommandBytes\(\)](#)

### GetResponseType(Byte[])

Returns the command response for this command (with payload).

Declaration

```
public override TseCommandResponse GetResponseType(byte[] payload)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Byte[]	payload	The payload for the response.

Returns

TYPE	DESCRIPTION
<a href="#">TseCommandResponse</a>	The command response for this command.

Overrides

[TseCmdBase.GetResponseType\(Byte\[\]\)](#)

Remarks

Most of the commands return [TseCommandResponse](#), certain commands have on command responses. Override this method to return the command specific command response.

# Class TseCmdDataImportInitialize.Response

Response class for the command [TseCmdDataImportInitialize](#).

## Inheritance

System.Object

[ByteArrayConverterBase](#)

[TseCommandResponse](#)

TseCmdDataImportInitialize.Response

## Inherited Members

[TseCommandResponse.ResultCode](#)

[TseCommandResponse.CommandLength](#)

[TseCommandResponse.CommandResponse](#)

[TseCommandResponse.Payload](#)

[TseCommandResponse.ResponseBytes](#)

[ByteArrayConverterBase.ByteArray](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt64, Boolean\)](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt32, Boolean\)](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt16, Boolean\)](#)

[ByteArrayConverterBase.GetLongFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetIntFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetShortFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetBytesUntilZero\(Byte\[\]\)](#)

[ByteArrayConverterBase.DecodeAscii\(Int32, Int32\)](#)

[ByteArrayConverterBase.DecodeAscii\(Byte\[\]\)](#)

[System.Object.Equals\(System.Object\)](#)

[System.Object.Equals\(System.Object, System.Object\)](#)

[System.Object.GetHashCode\(\)](#)

[System.Object.GetType\(\)](#)

[System.Object.MemberwiseClone\(\)](#)

[System.Object.ReferenceEquals\(System.Object, System.Object\)](#)

[System.Object.ToString\(\)](#)

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class Response : TseCommandResponse
```

## Constructors

[Response\(Byte\[\]\)](#)

Constructor.

## Declaration

```
public Response(byte[] payload)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Byte[]	payload	The payload of the response in bytes.

## Properties

TransactionPayloadSectorOffset

Transaction Payload-Sector Offset

### Declaration

```
public ulong TransactionPayloadSectorOffset { get; }
```

### Property Value

TYPE	DESCRIPTION
System.UInt64	

# Class TseCmdDataImportRollback

Performs a rollback of the actual data import.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdDataImportRollback

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.GetResponseTypes\(Byte\[\]\)](#)

[TseCmdBase.FormatCommandBytes\(\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdDataImportRollback : TseCmdBase
```

## Remarks

In case there are any errors on the host while performing a Data Import (e.g. the host application crashes), host and TOE might go out of sync and the import cannot be completed successfully.

In that case, the import can be rolled back, which clears all pending data from the TSE Store and allows a new import to be started. The TOE will behave as if Data Import Initialize was never called.

Rolling back a Data Import is only possible before the Log Messages has been generated and signed during Data Import Finalize. Afterwards, the Data Import was already persisted and is thus not allowed to be rolled back. If there is no Data Import in progress while calling this command, it will still return with [0x0000: Execution successful], but have no effect.

## Constructors

TseCmdDataImportRollback()

Constructor.

## Declaration

```
public TseCmdDataImportRollback()
```

## Properties

### PossibleErrorCodes

Returns the possible error codes for this command.

## Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

Overrides

[TseCmdBase.PossibleErrorCodes](#)



# Class TseCmdDecommissionTse

When the TOE should not be used anymore, it must be decommissioned with this command.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdDecommissionTse

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.GetResponseTypes\(Byte\[\]\)](#)

[TseCmdBase.FormatCommandBytes\(\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdDecommissionTse : TseCmdBase
```

## Remarks

Successful execution of this command will permanently remove the ability to store new transactions in the TOE as the CSP can no longer perform signatures afterwards. After issuing this command, the TSEInitialized state (see Section 4.1) will be deactivated permanently and command Initialize TSE will be blocked to prevent reinitialization of the TSE.

Decommissioning is only allowed if there are no unfinished transactions, otherwise the command will fail with [0x1014: TSE contains unfinished transactions].

## Constructors

TseCmdDecommissionTse()

Constructor.

## Declaration

```
public TseCmdDecommissionTse()
```

## Properties

### PossibleErrorCodes

Returns the possible error codes for this command.

## Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

Overrides

[TseCmdBase.PossibleErrorCodes](#)

# Class TseCmdDeleteExportedData

Deletes all data that has been successfully exported before.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdDeleteExportedData

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.GetResponseTypes\(Byte\[\]\)](#)

[TseCmdBase.FormatCommandBytes\(\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdDeleteExportedData : TseCmdBase
```

## Remarks

This command requires a complete, unfiltered export and acknowledgement of the ERS (see Section 4.6.5) before data can be deleted.

No new data must have been generated since the last export in order to successfully execute this command.

Please note that after the TSE Store has been filled with more than 3gb of data, the next deletion might take up to 15 minutes, because the TSE runs an internal garbage collection to restore flash health and performance. This limitation does not apply if the deletion is performed with a TSE Store that is not filled with so much data.

## Constructors

[TseCmdDeleteExportedData\(\)](#)

Constructor.

## Declaration

```
public TseCmdDeleteExportedData()
```

## Properties

### PossibleErrorCodes

Returns the possible error codes for this command.

## Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

Overrides

[TseCmdBase.PossibleErrorCodes](#)

# Class TseCmdDeregisterClient

Removes a client from the list of authorized clients.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdDeregisterClient

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.GetResponseTypes\(Byte\[\]\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdDeregisterClient : TseCmdBase
```

## Remarks

In case the client is not registered, this command will fail with [0x1011: Client not registered]. Before a client can be deregistered, all transactions belonging to that client must be finished first, otherwise the command will fail with [0x1013: Client has unfinished transactions].

An unfinished transaction always belongs to the client that updated it most recently (or started the transaction in case it was never updated at all). Please be aware that for passing the self test (see Section 4.2.1) at least one client must be registered.

## Constructors

TseCmdDeregisterClient(String)

Constructor.

## Declaration

```
public TseCmdDeregisterClient(string clientId)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.String	clientId	ASCII string representing the unique serial number of the client to register.

## Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if parameter <code>clientId</code> is set to null or empty string.
System.ArgumentException	Thrown if parameter <code>clientId</code> is longer than 30 characters.

## Properties

### PossibleErrorCodes

Returns the possible error codes for this command.

#### Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

#### Overrides

[TseCmdBase.PossibleErrorCodes](#)

## Methods

### FormatCommandBytes()

#### Declaration

```
protected override void FormatCommandBytes()
```

#### Overrides

[TseCmdBase.FormatCommandBytes\(\)](#)

# Class TseCmdDisableCtssInterface

This command can be used to disable the CTSS Interface.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdDisableCtssInterface

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.GetResponseTypes\(Byte\[\]\)](#)

[TseCmdBase.FormatCommandBytes\(\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdDisableCtssInterface : TseCmdBase
```

## Remarks

An enabled CTSS interface is a pre-requisite for many other commands that are described in this specification. The current status of the CTSS interface can be obtained by reading bit 2 from the TSE Security value from TSE Status.

After disabling the interface, commands that require the CTSSInterfaceState to be active can not be executed anymore. Thus, when sending the TSE to maintenance, it is recommended to disable the CTSS interface in order to prevent reading the recorded transactions.

The setting that is changed by this command is persisted across power cycles.

## Constructors

[TseCmdDisableCtssInterface\(\)](#)

Constructor.

## Declaration

```
public TseCmdDisableCtssInterface()
```

## Properties

### PossibleErrorCodes

Returns the possible error codes for this command.

## Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

Overrides

[TseCmdBase.PossibleErrorCodes](#)



# Class TseCmdDisableExportIfCspTestFails

Disables export if csp test fails.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdDisableExportIfCspTestFails

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.GetResponseTypes\(Byte\[\]\)](#)

[TseCmdBase.FormatCommandBytes\(\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdDisableExportIfCspTestFails : TseCmdBase
```

## Remarks

The TOE allows to determine the behavior of the TOE with respect to the export of data if the CSP test fails during the self test.

To disable the functionality of export and prevent any data from being exported if the CSP test fails, use this command. Please note that in case of a broken CSP, the data on the TOE is then lost and can not be recovered. This is the factory default behavior.

This setting can only be changed while the CSP test is still passing. As soon as the test fails, it is too late to change this setting and this command will fail. This setting is persisted across power cycles.

## Constructors

[TseCmdDisableExportIfCspTestFails\(\)](#)

Constructor.

## Declaration

```
public TseCmdDisableExportIfCspTestFails()
```

## Properties

### PossibleErrorCodes

Returns the possible error codes for this command.

## Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

Overrides

[TseCmdBase.PossibleErrorCodes](#)

# Class TseCmdEnableCtssInterface

This command can be used to enable the CTSS Interface.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdEnableCtssInterface

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.GetResponseTypes\(Byte\[\]\)](#)

[TseCmdBase.FormatCommandBytes\(\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdEnableCtssInterface : TseCmdBase
```

## Remarks

An enabled CTSS interface is a pre-requisite for many other commands that are described in this specification. The current status of the CTSS interface can be obtained by reading bit 2 from the TSE Security value from TSE Status.

## Constructors

TseCmdEnableCtssInterface()

Constructor.

## Declaration

```
public TseCmdEnableCtssInterface()
```

## Properties

### PossibleErrorCodes

Returns the possible error codes for this command.

## Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

Overrides

[TseCmdBase.PossibleErrorCodes](#)

# Class TseCmdEnableExportIfCspTestFails

The TOE allows to determine the behavior of the TOE with respect to the export of data if the CSP test fails during the self test.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdEnableExportIfCspTestFails

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.GetResponseTypes\(Byte\[\]\)](#)

[TseCmdBase.FormatCommandBytes\(\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdEnableExportIfCspTestFails : TseCmdBase
```

## Remarks

By default, no data can be exported anymore if the CSP test fails due to a broken security module. To allow data to be exportable if the CSP test fails, this command can be used. Please note that this command will only allow to do a complete export (see Section 3.3) of the tar archive; the export commands given in Section 4.6 will still be disabled. Also, all commands of the TOE that require a successful self test for their execution will still be inaccessible. This command can only be used while the CSP self test is still passing. As soon as the test fails, it is too late to change this setting and this command will fail.

This setting is persisted across power cycles.

## Constructors

**TseCmdEnableExportIfCspTestFails()**

Constructor.

## Declaration

```
public TseCmdEnableExportIfCspTestFails()
```

## Properties

### PossibleErrorCodes

Returns the possible error codes for this command.

## Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

Overrides

[TseCmdBase.PossibleErrorCodes](#)

# Class TseCmdFetchCommandResponse

This command must be used if and only if the Result Code of a previously executed command is 0xFD. It will then deliver the response of the previously issued command.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdFetchCommandResponse

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.GetResponseTypes\(Byte\[\]\)](#)

[TseCmdBase.FormatCommandBytes\(\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdFetchCommandResponse : TseCmdBase
```

## Remarks

No further commands will be accepted by the TOE if the last command's Result Code was 0xFD until Fetch Command Response is issued. In that case, any other command will simply be ignored, which can be detected as the Write Index in the command response is not increased then.

## Constructors

TseCmdFetchCommandResponse()

## Constructor

## Declaration

```
public TseCmdFetchCommandResponse()
```

## Properties

### PossibleErrorCodes

Returns the possible error codes for this command.

## Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

Overrides

[TseCmdBase.PossibleErrorCodes](#)



# Class TseCmdFirmwareUpdateApply

Applies a firmware update that was previously transferred to the TOE with command TSE Firmware Update Transfer.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdFirmwareUpdateApply

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.GetResponseTypes\(Byte\[\]\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdFirmwareUpdateApply : TseCmdBase
```

## Remarks

The firmware will be checked by the CSP for authenticity and integrity before being applied. Please note that this is a long running operation, which – depending on the size of the firmware update – might take several minutes to complete. It must be ensured that there is no power loss while applying the firmware update, as this might brick the device and make it unusable. Therefore it is recommended to export all data before applying a firmware update. However, only the last seconds of the firmware update process are critical and must not be interrupted, losing power anywhere prior does not affect the TOE at all.

In case the firmware update succeeds, the TSE automatically performs a power cycle. In that case the Write Index in the response will be set to 0. Since this situation can not be distinguished from a power cycle that happened randomly during the update process, the ERS should read the currently installed TSE Software Version (see Section 3.2) before applying the update and read it again after the update has been completed. If the new value is numerical bigger than the old value, the update was successfully applied.

If the Firmware Update Package Size is 0 or not a multiple of 512, this command will fail with [0x1007: Invalid parameter]. If the decrypted firmware package can not be parsed, this command will fail with [0x1064: Firmware Update: Wrong format]. If the firmware package to be installed does not have a higher version number as the one currently installed, this command will fail with [0x1067: Firmware Update: downgrade prohibited] to prevent downgrading the TOE to an earlier version.

## Constructors

**TseCmdFirmwareUpdateApply(UInt32)**

Constructor.

## Declaration

```
public TseCmdFirmwareUpdateApply(uint firmwareUpdatePackageSize)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.UInt32	firmwareUpdatePackageSize	Total size of the firmware package that has been transferred with TSE Firmware Update Transfer. Big Endian.

## Properties

### PossibleErrorCodes

Returns the possible error codes for this command.

#### Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

#### Overrides

[TseCmdBase.PossibleErrorCodes](#)

## Methods

### FormatCommandBytes()

#### Declaration

```
protected override void FormatCommandBytes()
```

#### Overrides

[TseCmdBase.FormatCommandBytes\(\)](#)

# Class TseCmdGetLastTransactionResponse

This command can be used to query the last transaction's response.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdGetLastTransactionResponse

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.GetResponseTypes\(Byte\[\]\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdGetLastTransactionResponse : TseCmdBase
```

## Remarks

Optionally, instead of returning the newest transaction response, the last transaction response that was created by a specific client can be queried by providing a non zero-length Client ID to filter for.

This command is useful in case the ERS loses track of the last transaction result(e.g.because it crashes or loses power). In that case, the ERS might not know if the last executed transaction was properly finalized or not and can query the last transaction's response with this command to sync its internal state with the TOE state.

## Constructors

[TseCmdGetLastTransactionResponse\(String\)](#)

Constructor.

## Declaration

```
public TseCmdGetLastTransactionResponse(string clientId)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.String	clientId	ASCII string representing the unique serial number of the client to register.

## Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if parameter <code>clientId</code> is set to null or empty string.
System.ArgumentException	Thrown if parameter <code>clientId</code> is longer than 30 characters.

## Properties

### PossibleErrorCodes

Returns the possible error codes for this command.

#### Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

#### Overrides

[TseCmdBase.PossibleErrorCodes](#)

## Methods

### FormatCommandBytes()

#### Declaration

```
protected override void FormatCommandBytes()
```

#### Overrides

[TseCmdBase.FormatCommandBytes\(\)](#)

# Class TseCmdGetLogMessageCertificate

Returns the certificate that is associated with the signatures created by the TOE.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdGetLogMessageCertificate

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdGetLogMessageCertificate : TseCmdBase
```

## Remarks

This certificate can be used to verify the signatures of all Log Messages created by the TOE.

The returned data is a single PEM file, which contains the complete certificate chain.

To verify a signature, only the leaf certificate(the first one in the PEM file) is required.However, in order to ensure that the certificate whose key has been used stems from the correct PKI, the certificate chain shall be verified back to the root of the PKI.Please refer to [AGD] for more details on how the root key of the PKI can be obtained. Since the whole data might not fit into one response block, a Data Offset must be provided to select which parts of the certificate file should be returned.In case this number is equal to or bigger than the stored certificate file, the command will fail with[0x1007: Invalid parameter].

## Constructors

TseCmdGetLogMessageCertificate(UInt32)

Constructor.

## Declaration

```
public TseCmdGetLogMessageCertificate(uint dataOffset)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.UInt32	dataOffset	Selects from which offset the certificate data should be returned.

## Properties

## PossibleErrorCodes

Returns the possible error codes for this command.

Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

Overrides

[TseCmdBase.PossibleErrorCodes](#)

Methods

FormatCommandBytes()

Declaration

```
protected override void FormatCommandBytes()
```

Overrides

[TseCmdBase.FormatCommandBytes\(\)](#)

GetResponseType(Byte[])

Returns the command response for this command (with payload).

Declaration

```
public override TseCommandResponse GetResponseType(byte[] payload)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Byte[]	payload	The payload for the response.

Returns

TYPE	DESCRIPTION
<a href="#">TseCommandResponse</a>	The command response for this command.

Overrides

[TseCmdBase.GetResponseType\(Byte\[\]\)](#)

Remarks

Most of the commands return [TseCommandResponse](#), certain commands have on command responses. Override this method to return the command specific command response.

# Class TseCmdGetLogMessageCertificate.Response

Response class for command [TseCmdGetLogMessageCertificate](#).

## Inheritance

System.Object

[ByteArrayConverterBase](#)

[TseCommandResponse](#)

TseCmdGetLogMessageCertificate.Response

## Inherited Members

[TseCommandResponse.ResultCode](#)

[TseCommandResponse.CommandLength](#)

[TseCommandResponse.CommandResponse](#)

[TseCommandResponse.Payload](#)

[TseCommandResponse.ResponseBytes](#)

[ByteArrayConverterBase.ByteArray](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt64, Boolean\)](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt32, Boolean\)](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt16, Boolean\)](#)

[ByteArrayConverterBase.GetLongFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetIntFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetShortFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetBytesUntilZero\(Byte\[\]\)](#)

[ByteArrayConverterBase.DecodeAscii\(Int32, Int32\)](#)

[ByteArrayConverterBase.DecodeAscii\(Byte\[\]\)](#)

[System.Object.Equals\(System.Object\)](#)

[System.Object.Equals\(System.Object, System.Object\)](#)

[System.Object.GetHashCode\(\)](#)

[System.Object.GetType\(\)](#)

[System.Object.MemberwiseClone\(\)](#)

[System.Object.ReferenceEquals\(System.Object, System.Object\)](#)

[System.Object.ToString\(\)](#)

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class Response : TseCommandResponse
```

## Constructors

[Response\(Byte\[\]\)](#)

Constructor.

## Declaration

```
public Response(byte[] payload)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Byte[]	payload	The payload of the response in bytes.

## Properties

### CertificateData

Returns the certificate data.

#### Declaration

```
public byte[] CertificateData { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Byte[]	

### CertificateDataLength

Length of the certificate data in this response block.

#### Declaration

```
public ushort CertificateDataLength { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.UInt16	



# Class TseCmdInitializeTse

Command to initialize the tse.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdInitializeTse

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.GetResponseTypes\(Byte\[\]\)](#)

[TseCmdBase.FormatCommandBytes\(\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdInitializeTse : TseCmdBase
```

## Remarks

By initializing the TOE, the user takes ownership of the TOE and activates the TSEInitialized state (see Section 4.1), which allows commands that need this state to be active to be executed.

## Constructors

TseCmdInitializeTse()

Constructor.

## Declaration

```
public TseCmdInitializeTse()
```

## Properties

### PossibleErrorCodes

Returns the possible error codes for this command.

## Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

Overrides

[TseCmdBase.PossibleErrorCodes](#)

# Class TseCmdListRegisteredClients

Lists all registered clients in chunks of 16 clients.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdListRegisteredClients

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdListRegisteredClients : TseCmdBase
```

## Remarks

By providing a non-zero value for Client Offset, this amount of clients can be skipped from the beginning of the returned list. For example, a value of 0 will return the first 16 registered clients and a value of 3 will return the 4th to 19th registered clients.

The Amount field in the response gives the amount of client IDs that are stored in the response. If this is smaller than 16, then there are no further clients registered.

## Constructors

TseCmdListRegisteredClients(Int32)

Constructor.

## Declaration

```
public TseCmdListRegisteredClients(int clientOffset)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Int32	clientOffset	The offset from where the clients should be read.

## Properties

### PossibleErrorCodes

Returns the possible error codes for this command.

## Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

#### Overrides

[TseCmdBase.PossibleErrorCodes](#)

#### Methods

##### FormatCommandBytes()

#### Declaration

```
protected override void FormatCommandBytes()
```

#### Overrides

[TseCmdBase.FormatCommandBytes\(\)](#)

##### GetResponseType(Byte[])

Returns the command response for this command (with payload).

#### Declaration

```
public override TseCommandResponse GetResponseType(byte[] payload)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Byte[]	payload	The payload for the response.

#### Returns

TYPE	DESCRIPTION
<a href="#">TseCommandResponse</a>	The command response for this command.

#### Overrides

[TseCmdBase.GetResponseType\(Byte\[\]\)](#)

#### Remarks

Most of the commands return [TseCommandResponse](#), certain commands have on command responses. Override this method to return the command specific command response.

# Class TseCmdListRegisteredClients.Response

Response class for command list registered clients.

## Inheritance

System.Object

[ByteArrayConverterBase](#)

[TseCommandResponse](#)

TseCmdListRegisteredClients.Response

## Inherited Members

[TseCommandResponse.ResultCode](#)

[TseCommandResponse.CommandLength](#)

[TseCommandResponse.CommandResponse](#)

[TseCommandResponse.Payload](#)

[TseCommandResponse.ResponseBytes](#)

[ByteArrayConverterBase.ByteArray](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt64, Boolean\)](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt32, Boolean\)](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt16, Boolean\)](#)

[ByteArrayConverterBase.GetLongFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetIntFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetShortFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetBytesUntilZero\(Byte\[\]\)](#)

[ByteArrayConverterBase.DecodeAscii\(Int32, Int32\)](#)

[ByteArrayConverterBase.DecodeAscii\(Byte\[\]\)](#)

[System.Object.Equals\(System.Object\)](#)

[System.Object.Equals\(System.Object, System.Object\)](#)

[System.Object.GetHashCode\(\)](#)

[System.Object.GetType\(\)](#)

[System.Object.MemberwiseClone\(\)](#)

[System.Object.ReferenceEquals\(System.Object, System.Object\)](#)

[System.Object.ToString\(\)](#)

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class Response : TseCommandResponse
```

## Constructors

[Response\(Byte\[\]\)](#)

Constructor.

## Declaration

```
public Response(byte[] payload)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Byte[]	payload	The payload of the response in bytes.

## Properties

### ClientCount

Returns the count of returned clients with this command.

#### Declaration

```
public int ClientCount { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Int32	

### Clients

Returns the client as maximum 30 characters strings in a list.

#### Declaration

```
public List<string> Clients { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List<System.String>	

# Class TseCmdListStartedTransactions

Lists all started transaction numbers in chunks of 62 transactions.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdListStartedTransactions

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdListStartedTransactions : TseCmdBase
```

## Remarks

By providing a non-zero value for Transaction Offset, this amount of transaction numbers can be skipped from the beginning of the returned list. For example, a value of 0 will return the first 62 started transaction numbers and a value of 3 will return the 4th to 65th transaction numbers.

The Amount field in the response gives the amount of transaction numbers that are stored in the response. If this is smaller than 62, then there are no further started transactions.

Optionally, only transactions belonging to a specific client can be queried by providing a non zero-length Client ID to filter for. An unfinished transaction always belongs to the client that updated it most recently (or started the transaction in case it was never updated at all). That means that if a transaction is started by client A and then updated by client B, this command will return this specific transaction number only when filtering for transactions belonging to client B (or when not filtering at all), not when filtering for transactions belonging to client A, because client B was the last client that updated the transaction.

## Constructors

TseCmdListStartedTransactions(UInt32, String)

Constructor.

## Declaration

```
public TseCmdListStartedTransactions(uint skipTransactionOffset, string clientId)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.UInt32	skipTransactionOffset	

TYPE	NAME	DESCRIPTION
System.String	clientId	ASCII string representing the unique serial number of the client to register.

#### Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if parameter <code>clientId</code> is set to null or empty string.
System.ArgumentException	Thrown if parameter <code>clientId</code> is longer than 30 characters.

#### Properties

##### PossibleErrorCodes

Returns the possible error codes for this command.

##### Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

##### Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

##### Overrides

[TseCmdBase.PossibleErrorCodes](#)

#### Methods

##### FormatCommandBytes()

##### Declaration

```
protected override void FormatCommandBytes()
```

##### Overrides

[TseCmdBase.FormatCommandBytes\(\)](#)

##### GetResponseType(Byte[])

Returns the command response for this command (with payload).

##### Declaration

```
public override TseCommandResponse GetResponseType(byte[] payload)
```

##### Parameters

TYPE	NAME	DESCRIPTION
System.Byte[]	payload	The payload for the response.



#### Returns

TYPE	DESCRIPTION
<a href="#">TseCommandResponse</a>	The command response for this command.

#### Overrides

[TseCmdBase.GetResponseTypes\(Byte\[\]\)](#)

#### Remarks

Most of the commands return [TseCommandResponse](#), certain commands have on command responses. Override this method to return the command specific command response.

# Class TseCmdListStartedTransactions.Response

Response class for command [TseCmdListStartedTransactions](#).

## Inheritance

System.Object

[ByteArrayConverterBase](#)

[TseCommandResponse](#)

TseCmdListStartedTransactions.Response

## Inherited Members

[TseCommandResponse.ResultCode](#)

[TseCommandResponse.CommandLength](#)

[TseCommandResponse.CommandResponse](#)

[TseCommandResponse.Payload](#)

[TseCommandResponse.ResponseBytes](#)

[ByteArrayConverterBase.ByteArray](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt64, Boolean\)](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt32, Boolean\)](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt16, Boolean\)](#)

[ByteArrayConverterBase.GetLongFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetIntFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetShortFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetBytesUntilZero\(Byte\[\]\)](#)

[ByteArrayConverterBase.DecodeAscii\(Int32, Int32\)](#)

[ByteArrayConverterBase.DecodeAscii\(Byte\[\]\)](#)

[System.Object.Equals\(System.Object\)](#)

[System.Object.Equals\(System.Object, System.Object\)](#)

[System.Object.GetHashCode\(\)](#)

[System.Object.GetType\(\)](#)

[System.Object.MemberwiseClone\(\)](#)

[System.Object.ReferenceEquals\(System.Object, System.Object\)](#)

[System.Object.ToString\(\)](#)

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class Response : TseCommandResponse
```

## Constructors

[Response\(Byte\[\]\)](#)

Constructor.

## Declaration

```
public Response(byte[] payload)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Byte[]	payload	The payload of the response in bytes.

## Properties

### Count

Returns the number of started transactions in the response. Maximum is 61.

#### Declaration

```
public int Count { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Int32	

### TransactionList

Returns the list of open transactions.

#### Declaration

```
public List<ulong> TransactionList { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List<System.UInt64>	

# Class TseCmdLogin

Authenticates users of the TOE based on their PIN.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdLogin

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.GetResponseTypes\(Byte\[\]\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdLogin : TseCmdBase
```

## Remarks

After successful execution of this command by a user, the corresponding role will be added to the set of active roles, which might allow to execute privileged commands. For example: if the command is called with the Admin's User ID and is successfully executed, the user will be allowed to execute commands that require the Admin role afterwards. These changes to the role context are applied immediately after the command returns. If the command fails, the roles that are associated with the current user context do not change. In this case, the command returns [0x11xx: Authentication failed, xx give the number of remaining retries].

The current user context can be associated with multiple roles at the same time. If multiple users with different roles are logged in, the effective privileges are the union of all logged in roles (e.g. if Admin and TimeAdmin are logged in, the time can be set and administrative commands can be sent).

After a reboot of the TOE, all users are logged out again.

In case the provided PIN is wrong, the command will respond with [0x11xx: Authentication failed, xx give the number of remaining retries] and the retry counter is decreased. If the retry counter is currently 1 and the wrong PIN is used (thus the retry counter reaches 0), the number of remaining retries will be set to 0 and the SW will be 0x1100. Afterwards, both an authentication with and without a valid PIN will return [0x1201: PIN is blocked]. In order to login the user again, the user must be unblocked with command Unblock User. This command causes a Log Message to be signed and thus can only be executed if the CSP is still operational.

## Constructors

TseCmdLogin(Int32, String)

Constructor.

## Declaration

```
public TseCmdLogin(int userId, string pin)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Int32	userId	The userid of the user to login. Must be one of this values: 0, 1, 2. (0 = normal, 1 = admin, 2 = time admin).
System.String	pin	The pin of the user for logon.

## Exceptions

TYPE	CONDITION
System.ArgumentOutOfRangeException	Thrown if parameter <code>userId</code> is not one of this values: 0, 1, 2.
System.ArgumentException	Thrown if parameter <code>pin</code> is not 5 characters long.

## Properties

### PossibleErrorCodes

Returns the possible error codes for this command.

#### Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

#### Overrides

[TseCmdBase.PossibleErrorCodes](#)

## Methods

### FormatCommandBytes()

#### Declaration

```
protected override void FormatCommandBytes()
```

#### Overrides

[TseCmdBase.FormatCommandBytes\(\)](#)

# Class TseCmdLogout

Logs out the given user. The user must be logged in, otherwise the command will fail with [0x1202: Given user is not authenticated].

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdLogout

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.GetResponse\(Byte\[\]\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdLogout : TseCmdBase
```

## Remarks

On successful execution, the user's role will be immediately removed from the active roles and privileged commands might not be executable anymore. Please refer to Login User for more details about the relationship between users and their roles.

This command causes a Log Message to be signed and thus can only be executed if the CSP is still operational.

## Constructors

TseCmdLogout(Int32)

Constructor.

## Declaration

```
public TseCmdLogout(int userId)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Int32	userId	The userid for logout.

## Exceptions

TYPE	CONDITION
------	-----------

TYPE	CONDITION
System.ArgumentOutOfRangeException	Thrown if parameter <code>userId</code> is not one of this values: 0, 1, 2.

## Fields

### `_userId`

Declaration

```
protected readonly int _userId
```

Field Value

TYPE	DESCRIPTION
System.Int32	

## Properties

### `PossibleErrorCodes`

Returns the possible error codes for this command.

Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

Overrides

[TseCmdBase.PossibleErrorCodes](#)

## Methods

### `FormatCommandBytes()`

Declaration

```
protected override void FormatCommandBytes()
```

Overrides

[TseCmdBase.FormatCommandBytes\(\)](#)

# Class TseCmdPollFilteredExport

After a filtered export has been initiated with Start Filtered Export, the actual data must be queried in small chunks by repeatedly calling this command.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdPollFilteredExport

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.FormatCommandBytes\(\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdPollFilteredExport : TseCmdBase
```

## Remarks

The returned data must be concatenated to form the final TAR archive.

The export is complete if this command returns a zero length chunk.

A filtered export is a very time consuming operation. The TSE will collect the data that matches the filter in the background and waits for the ERS to collect them. If the TOE did not find new matching data since the last call, the command will fail with [0x2002: Filtered Export: no new data, keep polling]. In that case, the ERS should repeat the command after a short delay to give the TOE some time to search for new data.

A filtered export either completely finishes by returning a zero length chunk, fails because of an error, or must be aborted with Abort Filtered Export. If the TSE loses power during a filtered export, the export will be aborted automatically and must be restarted from scratch.

If no data could be found that matches the supplied filter, this command will fail with [0x2003: Filtered Export: no matching entries, export would be empty].

## Constructors

TseCmdPollFilteredExport()

Constructor.

## Declaration

```
public TseCmdPollFilteredExport()
```

## Properties



## PossibleErrorCodes

Returns the possible error codes for this command.

Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

Overrides

[TseCmdBase.PossibleErrorCodes](#)

## Methods

### GetResponseType(Byte[])

Returns the command response for this command (with payload).

Declaration

```
public override TseCommandResponse GetResponseType(byte[] payload)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Byte[]	payload	The payload for the response.

Returns

TYPE	DESCRIPTION
<a href="#">TseCommandResponse</a>	The command response for this command.

Overrides

[TseCmdBase.GetResponseType\(Byte\[\]\)](#)

Remarks

Most of the commands return [TseCommandResponse](#), certain commands have on command responses. Override this method to return the command specific command response.

# Class TseCmdPollFilteredExport.Response

The response for the command [TseCmdPollFilteredExport](#).

## Inheritance

System.Object

[ByteArrayConverterBase](#)

[TseCommandResponse](#)

TseCmdPollFilteredExport.Response

## Inherited Members

[TseCommandResponse.ResultCode](#)

[TseCommandResponse.CommandLength](#)

[TseCommandResponse.CommandResponse](#)

[TseCommandResponse.Payload](#)

[TseCommandResponse.ResponseBytes](#)

[ByteArrayConverterBase.ByteArray](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt64, Boolean\)](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt32, Boolean\)](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt16, Boolean\)](#)

[ByteArrayConverterBase.GetLongFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetIntFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetShortFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetBytesUntilZero\(Byte\[\]\)](#)

[ByteArrayConverterBase.DecodeAscii\(Int32, Int32\)](#)

[ByteArrayConverterBase.DecodeAscii\(Byte\[\]\)](#)

[System.Object.Equals\(System.Object\)](#)

[System.Object.Equals\(System.Object, System.Object\)](#)

[System.Object.GetHashCode\(\)](#)

[System.Object.GetType\(\)](#)

[System.Object.MemberwiseClone\(\)](#)

[System.Object.ReferenceEquals\(System.Object, System.Object\)](#)

[System.Object.ToString\(\)](#)

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class Response : TseCommandResponse
```

## Constructors

[Response\(Byte\[\]\)](#)

Constructor.

## Declaration

```
public Response(byte[] payload)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Byte[]	payload	The payload of the response in bytes.

## Properties

### ExportData

Export data.

Declaration

```
public byte[] ExportData { get; }
```

Property Value

TYPE	DESCRIPTION
System.Byte[]	

### ExportDataLength

Length of the exported data in this response block. If this is 0, the end of the exported data has been reached and the export is complete. Big Endian.

Declaration

```
public ushort ExportDataLength { get; }
```

Property Value

TYPE	DESCRIPTION
System.UInt16	

# Class TseCmdRegisterClient

Registers a client (i.e. an ERS) as a valid system for self tests and transactions.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdRegisterClient

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.GetResponseTypes\(Byte\[\]\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdRegisterClient : TseCmdBase
```

## Remarks

A client is identified by its ID, which shall be a unique string (e.g.its serial number). If the same client is already registered, the command will be successful, but the client will not be registered twice.

The amount of currently and maximally registered clients can be obtained from TSE Status.If this number has been reached and the command is executed again, it will fail with [0x1010: Maximum registered clients reached].

## Constructors

[TseCmdRegisterClient\(String\)](#)

Constructor.

## Declaration

```
public TseCmdRegisterClient(string clientId)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.String	clientId	ASCII string representing the unique serial number of the client to register.

## Exceptions

TYPE	CONDITION
------	-----------

TYPE	CONDITION
System.ArgumentNullException	Thrown if parameter <code>clientId</code> is set to null or empty string.
System.ArgumentException	Thrown if parameter <code>clientId</code> is longer than 30 characters.

## Properties

### PossibleErrorCodes

Returns the possible error codes for this command.

Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

Overrides

[TseCmdBase.PossibleErrorCodes](#)

## Methods

### FormatCommandBytes()

Declaration

```
protected override void FormatCommandBytes()
```

Overrides

[TseCmdBase.FormatCommandBytes\(\)](#)

# Class TseCmdSelfTestRun

Runs a self test for the tse.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdSelfTestRun

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.GetResponseTypes\(Byte\[\]\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdSelfTestRun : TseCmdBase
```

## Remarks

After each power cycle, the TOE runs a self test to ensure proper operation of its internal modules. The self test consists of three parts:

1. Test of the TOE itself (e.g. data consistency). This part of the self test includes a health test of the random number generator. If this test fails, the command fails with [0x1300: Self test of FW failed] or with [0x1320: Self test of RNG failed] in the case that the source of the error is the RNG.
2. Test of the CSP. If this test fails, the command fails with [0x1310: Self test of CSP failed].
3. Test of the ERS. If this test fails, the command fails with [0x1011: Client not registered].

Since the self test depends on the Client ID provided by the ERS, the self test can only be completed successfully by issuing this command and thus must be run as first command after the TOE boots, otherwise no other command can be executed. The client must have been registered before with command Register Client, otherwise this command will fail with [0x1011: Client not registered].

The self test can be repeated whenever it is desired by the ERS, but it must be run at least once every 25 hours. Otherwise, the TOE will set the state selfTestRun to inactive, which makes all future commands fail until the self test is run successfully again. The time until the selfTestRun state will be made inactive can be retrieved as Time Until Next Selftest from TSE Status.

The self test is a potentially long running operation that might take up to 60 seconds to complete.

Please note that the CSP gets power cycled during the self test and thus the internal time will be set back to zero and must be set again after a successful self test.

## Constructors

TseCmdSelfTestRun(String)

Constructor.

## Declaration

```
public TseCmdSelfTestRun(string clientId)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.String	clientId	ASCII string representing the unique serial number of the client. Maximum of 30 characters.

## Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if parameter <code>clientId</code> is set to null or empty string.
System.ArgumentException	Thrown if parameter <code>clientId</code> is longer than 30 characters.

## Properties

### PossibleErrorCodes

Returns the possible error codes for this command.

## Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

## Overrides

[TseCmdBase.PossibleErrorCodes](#)

## Methods

### FormatCommandBytes()

## Declaration

```
protected override void FormatCommandBytes()
```

## Overrides

[TseCmdBase.FormatCommandBytes\(\)](#)

# Class TseCmdStartFilteredExport

This command starts a filtered export of stored Log Messages by supplying a filter.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdStartFilteredExport

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.GetResponseTypes\(Byte\[\]\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdStartFilteredExport : TseCmdBase
```

## Remarks

The Log Messages are collected in the background and can be fetched by repeatedly calling Poll Filtered Export.

The exported Log Messages can be filtered based on their timestamp, transaction number, and the client that created the transaction. Filter criteria can be combined as defined in [BSI - TR - 03153]. It is possible to filter based on • Transaction Number and Client-ID • StartTransactionNumber to EndTransactionNumber and Client-ID • TimeStampStart to TimeStampEnd and Client-ID

All System and Audit Log Messages that were created between the first included Log Message belonging to a transaction start and the last included Log Message belonging to a transaction finish, will also be included in the exported data.

If the supplied filter is inconsistent, i.e. Timestamp End is lower than Timestamp Start or Transaction Number End is lower than Transaction Number Start, this command will fail with [0x1007: Invalid parameter].

## Constructors

TseCmdStartFilteredExport(UInt64, UInt64, UInt64, UInt64, String)

Constructor.

## Declaration

```
public TseCmdStartFilteredExport(ulong timestampStart, ulong timestampEnd, ulong transactionNumberStart, ulong transactionNumberNumberEnd, string clientId)
```

## Parameters

TYPE	NAME	DESCRIPTION



TYPE	NAME	DESCRIPTION
System.UInt64	timestampStart	Timestamp as seconds since Unix Epoch. The timestamp will be interpreted as an unsigned number, which means only dates after 1970 are supported. If 0, it will be treated as the beginning of time. Big Endian.
System.UInt64	timestampEnd	Timestamp as seconds since Unix Epoch. The timestamp will be interpreted as an unsigned number, which means only dates after 1970 are supported. If 0xFFFFFFFFFFFFFFFF, it will be treated as infinity. Big Endian.
System.UInt64	transactionNumberStart	Start transaction number (inclusive). Big Endian.
System.UInt64	transactionNumberNumberEnd	End transaction number (inclusive). If 0xFFFFFFFFFFFFFFFF, all transactions will be returned. If this is the same as Transaction Number Start, only transaction data belonging to this single transaction will be exported. Big Endian.
System.String	clientId	ASCII string representing the unique serial number of the client. Use a zero length string to not filter for a client ID.

#### Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if parameter <code>clientId</code> is set to null or empty string.
System.ArgumentException	Thrown if parameter <code>clientId</code> is longer than 30 characters.

#### Properties

##### PossibleErrorCodes

Returns the possible error codes for this command.

##### Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

##### Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

##### Overrides

[TseCmdBase.PossibleErrorCodes](#)

#### Methods

##### FormatCommandBytes()

##### Declaration

```
protected override void FormatCommandBytes()
```

Overrides

[TseCmdBase.FormatCommandBytes\(\)](#)

# Class TseCmdTseFirmwareUpdateTransfer

Transfers a firmware update package to the TOE.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdTseFirmwareUpdateTransfer

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.GetResponseTypes\(Byte\[\]\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdTseFirmwareUpdateTransfer : TseCmdBase
```

## Remarks

Since the firmware package can be quite large, it must be transferred in multiple chunks. The first chunk will be transmitted with a Chunk Offset set to 0 and an arbitrary Chunk Length L1. The next chunk will be transmitted with a Chunk Offset equal to L1 and a Chunk Length of L2. Another chunk will be transferred with a Chunk Offset of L1 + L2 and a Chunk Length of L3 and so on until the final chunk has been transferred. To then apply the update, call command TSE Firmware Update Apply. If the Chunk Offset is bigger than the reserved space for a firmware update package, this command will fail with [0x1007: Invalid parameter]. Additionally, Chunk Offset and Chunk Length must be multiples of 16, otherwise this command will fail with [0x1007: Invalid parameter].

## Constructors

TseCmdTseFirmwareUpdateTransfer(UInt32, UInt16, Byte[])

Constructor.

## Declaration

```
public TseCmdTseFirmwareUpdateTransfer(uint chunkOffset, ushort chunkLength, byte[] chunkData)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.UInt32	chunkOffset	Offset in the firmware package where Chunk Data is stored. Big Endian.
System.UInt16	chunkLength	Size of the current chunk in bytes. Big Endian.

TYPE	NAME	DESCRIPTION
System.Byte[]	chunkData	Raw data of the current chunk.

#### Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if parameter <code>chunkData</code> is set to null.
System.ArgumentException	Thrown if parameter <code>chunkData</code> is an empty array.

#### Properties

##### PossibleErrorCodes

Returns the possible error codes for this command.

##### Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

##### Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

##### Overrides

[TseCmdBase.PossibleErrorCodes](#)

#### Methods

##### FormatCommandBytes()

##### Declaration

```
protected override void FormatCommandBytes()
```

##### Overrides

[TseCmdBase.FormatCommandBytes\(\)](#)

# Class TseCmdTseFlashInformation

Provides low level information about the flash storage.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdTseFlashInformation

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.FormatCommandBytes\(\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdTseFlashInformation : TseCmdBase
```

## Remarks

This command can be used to monitor the flash storage health and detect possible future defects before they occur and apply predictive maintenance.

As a recommendation, the following simple guidance is provided:

1. If Uncorrectable ECC errors is different from 0, the TSE should be replaced.
2. If Percentage Remaining Spare Blocks All gets below 25%, the TSE should be replaced.
3. If the average erase count (calculated as Block Erases / (Flash Block Count \* 256)) is bigger than 2940, the TSE should be replaced.

Please note that based on the use case of the TSE, which does not involve many flash read or write operations compared to other use cases, it is not expected that any of these conditions will ever be fulfilled during the lifetime of the TSE.

The lowest wear level class (WL) and highest wear level class (WH) fields give the range of wear level classes that are currently in use. Blocks that are not subject to the wear leveling are not counted. The wear level threshold (T) gives the size of a wear level class, minus 1, in units of flash memory block erases. Thus, the number of block erases that the flash blocks have seen is between  $WL(T+1)$  and  $WH(T+1)-1$ .

A spare block is a flash block that will be used as a replacement for defect blocks.

## Constructors

TseCmdTseFlashInformation()

Constructor.

## Declaration

```
public TseCmdTseFlashInformation()
```

## Properties

### PossibleErrorCodes

Returns the possible error codes for this command.

#### Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

#### Overrides

[TseCmdBase.PossibleErrorCodes](#)

## Methods

### GetResponseType(Byte[])

Returns the command response for this command (with payload).

#### Declaration

```
public override TseCommandResponse GetResponseType(byte[] payload)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Byte[]	payload	The payload for the response.

#### Returns

TYPE	DESCRIPTION
<a href="#">TseCommandResponse</a>	The command response for this command.

#### Overrides

[TseCmdBase.GetResponseType\(Byte\[\]\)](#)

#### Remarks

Most of the commands return [TseCommandResponse](#), certain commands have on command responses. Override this method to return the command specific command response.

# Class TseCmdTseFlashInformation.Response

Response class for the command [TseCmdTseFlashInformation](#).

## Inheritance

System.Object

[ByteArrayConverterBase](#)

[TseCommandResponse](#)

TseCmdTseFlashInformation.Response

## Inherited Members

[TseCommandResponse.ResultCode](#)

[TseCommandResponse.CommandLength](#)

[TseCommandResponse.CommandResponse](#)

[TseCommandResponse.Payload](#)

[TseCommandResponse.ResponseBytes](#)

[ByteArrayConverterBase.ByteArray](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt64, Boolean\)](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt32, Boolean\)](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt16, Boolean\)](#)

[ByteArrayConverterBase.GetLongFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetIntFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetShortFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetBytesUntilZero\(Byte\[\]\)](#)

[ByteArrayConverterBase.DecodeAscii\(Int32, Int32\)](#)

[ByteArrayConverterBase.DecodeAscii\(Byte\[\]\)](#)

[System.Object.Equals\(System.Object\)](#)

[System.Object.Equals\(System.Object, System.Object\)](#)

[System.Object.GetHashCode\(\)](#)

[System.Object.GetType\(\)](#)

[System.Object.MemberwiseClone\(\)](#)

[System.Object.ReferenceEquals\(System.Object, System.Object\)](#)

[System.Object.ToString\(\)](#)

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class Response : TseCommandResponse
```

## Constructors

[Response\(Byte\[\]\)](#)

Constructor.

## Declaration

```
public Response(byte[] payload)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Byte[]	payload	The payload of the response in bytes.

## Properties

### BlockErases

Total number of block erases. Big Endian.

#### Declaration

```
public ulong BlockErases { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.UInt64	

### CorrectableEccErrors

Number of correctable ECC errors(not including startup ECC errors). Big Endian.

#### Declaration

```
public uint CorrectableEccErrors { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.UInt32	

### DefectBlocks

Number of manufacturer marked defect blocks. Big Endian.

#### Declaration

```
public ushort DefectBlocks { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.UInt16	

### EraseCountTarget

Maximum flash block erase count target, in wear level class units. Big Endian.

#### Declaration

```
public ushort EraseCountTarget { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.UInt16	

### FlashBlockCount

Number of flash blocks, in units of 256 blocks. Big Endian.



#### Declaration

```
public ushort FlashBlockCount { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.UInt16	

#### HighestWearLevelClass

Big Endian.

#### Declaration

```
public ushort HighestWearLevelClass { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.UInt16	

#### InitialSpareBlocksSum

Number of initial spare blocks (sum over all interleave units). Big Endian.

#### Declaration

```
public ushort InitialSpareBlocksSum { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.UInt16	

#### InitialSpareBlocksWorst

Number of initial spare blocks (worst interleave unit). Big Endian.

#### Declaration

```
public ushort InitialSpareBlocksWorst { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.UInt16	

#### LowestWearLevelClass

Big Endian-

#### Declaration

```
public ushort LowestWearLevelClass { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.UInt16	

### PercentageRemainingSpareBlocksAll

Percentage of remaining spare blocks(all interleave units).

Declaration

```
public byte PercentageRemainingSpareBlocksAll { get; }
```

Property Value

TYPE	DESCRIPTION
System.Byte	

### PercentageRemainingSpareBlocksWorst

Percentage of remaining spare blocks(worst interleave unit).

Declaration

```
public byte PercentageRemainingSpareBlocksWorst { get; }
```

Property Value

TYPE	DESCRIPTION
System.Byte	

### PowerOnCount

Big Endian.

Declaration

```
public uint PowerOnCount { get; }
```

Property Value

TYPE	DESCRIPTION
System.UInt32	

### UncorrectableEccErrors

Number of uncorrectable ECC errors(not including startup ECC errors). Big Endian.

Declaration

```
public ushort UncorrectableEccErrors { get; }
```

Property Value

TYPE	DESCRIPTION
System.UInt16	

## WearLevelThreshold

Big Endian.

Declaration

```
public ushort WearLevelThreshold { get; }
```

Property Value

TYPE	DESCRIPTION
System.UInt16	

# Class TseCmdUnblockUser

Unblocks a user or change the user pin if forgotten.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdUnblockUser

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.GetResponseTypes\(Byte\[\]\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdUnblockUser : TseCmdBase
```

## Remarks

This command serves two distinct purposes: On the one hand, the command can be used to unblock a user that has been blocked due to too many unsuccessful authentication attempts. On the other hand, the command can be used to change the PIN of a user. Therefore, it can be used to recover the credentials of a user in case of a forgotten PIN.

As both commands are administrative commands, the PUK must be provided.

The new PIN must be different from the previous one (even when just unblocking the user), otherwise the command will fail with [0x1007: Invalid parameter].

The PUK has an associated retry counter. In case the provided PUK is wrong, the response SW is [0x11xx: Authentication failed, xx give the number of remaining retries] and the retry counter is decreased. If the retry counter is currently 1 and the wrong PUK is used (thus the retry counter reaches 0), the number of remaining retries will be set to 0 and the SW will be 0x1100. Afterwards, both an authentication with and without a valid PUK will return [0x1201: PUK is blocked]. As a blocked PUK can not be recovered from, it is recommended to export all data and decommission the TOE. Afterwards, a new TSE should be used.

This command causes a Log Message to be signed and thus can only be executed if the CSP is still operational.

## Constructors

`TseCmdUnblockUser(Int32, String, String)`

## Constructor

## Declaration

```
public TseCmdUnblockUser(int userId, string puk, string pin)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Int32	userId	The user to unblock.
System.String	puk	The administrative puk to authorise this transaction.
System.String	pin	The new pin for the user.

#### Exceptions

TYPE	CONDITION
System.ArgumentOutOfRangeException	Thrown if parameter <code>userId</code> is not one of this values: 0, 1, 2.
System.ArgumentNullException	Thrown if parameter <code>puk</code> or parameter <code>pin</code> are set to null or empty string.

#### Properties

##### PossibleErrorCodes

Returns the possible error codes for this command.

##### Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

##### Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

##### Overrides

[TseCmdBase.PossibleErrorCodes](#)

##### Methods

##### FormatCommandBytes()

##### Declaration

```
protected override void FormatCommandBytes()
```

##### Overrides

[TseCmdBase.FormatCommandBytes\(\)](#)

# Class TseCmdUpdateTime

Updates the time on the tse.

## Inheritance

System.Object

[TseCmdBase](#)

TseCmdUpdateTime

## Inherited Members

[TseCmdBase.Command](#)

[TseCmdBase.ByteStore](#)

[TseCmdBase.CommandBytes](#)

[TseCmdBase.GetResponseTypes\(Byte\[\]\)](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class TseCmdUpdateTime : TseCmdBase
```

## Remarks

After each power cycle, the TSE Store is locked and no transactions are possible until the time of the ERS has been synchronized with the time of the TOE using this command.

The TOE will forward the timestamp to its CSP and will use this time to properly timestamp Log Messages. Depending on the accuracy of the CSP's internal clock, this command must also be called regularly to keep the host and TOE time synchronized. How often the time must be synchronized is announced in TSE Status. Applications should take care to not synchronize the time too frequently as this negatively affects the endurance of the CSP. It is thus recommended to synchronize the time as close as possible to the interval that is announced in TSE Status.

## Constructors

**TseCmdUpdateTime()**

Constructor. Sets the timestamp to now.

## Declaration

```
public TseCmdUpdateTime()
```

**TseCmdUpdateTime(DateTimeOffset)**

Constructor.

## Declaration

```
public TseCmdUpdateTime(DateTimeOffset timeStamp)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.DateTimeOffset	timeStamp	Timestamp as seconds since Unix Epoch. The timestamp will be interpreted as an unsigned number, which means only dates after 1970 are supported.

#### Exceptions

TYPE	CONDITION
System.ArgumentOutOfRangeException	Thrown if timestamp represents a year before 1970.

#### Properties

##### PossibleErrorCodes

Returns the possible error codes for this command.

#### Declaration

```
public override TseCommandStatusResponse[] PossibleErrorCodes { get; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse[]</a>	

#### Overrides

[TseCmdBase.PossibleErrorCodes](#)

#### Methods

##### FormatCommandBytes()

#### Declaration

```
protected override void FormatCommandBytes()
```

#### Overrides

[TseCmdBase.FormatCommandBytes\(\)](#)

# Class TseCommandResponse

Represents a tse command response.

## Inheritance

System.Object

[ByteArrayConverterBase](#)

TseCommandResponse

[TseCmdDataImportFinalize.Response](#)

[TseCmdDataImportInitialize.Response](#)

[TseCmdGetLogMessageCertificate.Response](#)

[TseCmdListRegisteredClients.Response](#)

[TseCmdListStartedTransactions.Response](#)

[TseCmdPollFilteredExport.Response](#)

[TseCmdTseFlashInformation.Response](#)

## Inherited Members

[ByteArrayConverterBase.ByteArray](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt64, Boolean\)](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt32, Boolean\)](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt16, Boolean\)](#)

[ByteArrayConverterBase.GetLongFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetIntFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetShortFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetBytesUntilZero\(Byte\[\]\)](#)

[ByteArrayConverterBase.DecodeAscii\(Int32, Int32\)](#)

[ByteArrayConverterBase.DecodeAscii\(Byte\[\]\)](#)

[System.Object.Equals\(System.Object\)](#)

[System.Object.Equals\(System.Object, System.Object\)](#)

[System.Object.GetHashCode\(\)](#)

[System.Object.GetType\(\)](#)

[System.Object.MemberwiseClone\(\)](#)

[System.Object.ReferenceEquals\(System.Object, System.Object\)](#)

[System.Object.ToString\(\)](#)

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: [RetailForce.Fiscalisation.dll](#)

## Syntax

```
public class TseCommandResponse : ByteArrayConverterBase
```

## Constructors

[TseCommandResponse\(Byte\[\]\)](#)

Constructor.

## Declaration

```
public TseCommandResponse(byte[] responseBytes)
```

## Parameters

TYPE	NAME	DESCRIPTION



TYPE	NAME	DESCRIPTION
System.Byte[]	responseBytes	Response bytes of the tse. Must be an array of length 512.

#### Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if parameter <code>responseBytes</code> is set to null.
System.ArgumentException	Thrown if byte array is not of 512 bytes long.

#### Properties

##### CommandLength

The length of the command response in bytes.

#### Declaration

```
public int CommandLength { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Int32	

##### CommandResponse

Returns the command response as [TseCommandStatusResponse](#)

#### Declaration

```
public TseCommandStatusResponse CommandResponse { get; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandStatusResponse</a>	

##### Payload

The payload of the response (not including first 7 bytes) and not including status word.

#### Declaration

```
public byte[] Payload { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Byte[]	

## ResponseBytes

Full response bytes of the command response.

Declaration

```
public byte[] ResponseBytes { get; }
```

Property Value

TYPE	DESCRIPTION
System.Byte[]	

## ResultCode

Returns the result code of the command. Just for program flow. Please use [CommandResponse](#) for detailed command response information.

Declaration

```
public TseCommandResultCode ResultCode { get; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">TseCommandResultCode</a>	

# Enum TseCommandResultCode

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public enum TseCommandResultCode
```

Fields

NAME	DESCRIPTION
CommandCompleted	
CommandNotCompleted	
CommandResponseAvailable	

# Enum TseCommandStatusResponse

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Commands](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public enum TseCommandStatusResponse
```

## Fields

NAME	DESCRIPTION
AuthenticationFailedRemainingRetries0	Authentication failed, 0x11xx: xx give the number of remaining retries
AuthenticationFailedRemainingRetries1	Authentication failed, 0x11xx: xx give the number of remaining retries
AuthenticationFailedRemainingRetries2	Authentication failed, 0x11xx: xx give the number of remaining retries
AuthenticationFailedRemainingRetries3	Authentication failed, 0x11xx: xx give the number of remaining retries
AuthenticationFailedRemainingRetries4	Authentication failed, 0x11xx: xx give the number of remaining retries
AuthenticationFailedRemainingRetries5	Authentication failed, 0x11xx: xx give the number of remaining retries
AuthenticationFailedRemainingRetries6	Authentication failed, 0x11xx: xx give the number of remaining retries
CertificateExpired	Certificate expired
ClientHasUnfinishedTransactions	Client has unfinished transactions
ClientNotRegistered	Client not registered
CommandNotFound	Command not found
ExecutionSuccessful	Execution successful
FailedToDeleteDataNotCompletelyExported	Failed to delete, data not completely exported

NAME	DESCRIPTION
FilteredExportNoExportInProgress	Filtered Export: no export in progress
FilteredExportNoMatchingEntries	Filtered Export: no matching entries, export would be empty
FilteredExportNoNewDataKeepPolling	Filtered Export: no new data, keep polling
FirmwareUpdateBaseFwUpdateError	Firmware Update: Base FW update error
FirmwareUpdateCspUpdateError	Firmware Update: CSP update error
FirmwareUpdateDecryptionFailed	Firmware Update: Decryption failed
FirmwareUpdateDowngradeProhibited	Firmware Update: downgrade prohibited
FirmwareUpdateFwExtensionUpdateError	Firmware Update: FW Extension update error
FirmwareUpdateIntegrityCheckFailed	Firmware Update: Integrity check failed
FirmwareUpdateInternalError	Firmware Update: Internal error
FirmwareUpdateWrongFormat	Firmware Update: Wrong format
GivenTransactionNotStarted	Given transaction is not started
GivenUserIsNotAuthenticated	Given user is not authenticated
InvalidCommandSyntax	Invalid command syntax
InvalidParameter	Invalid parameter
MaximumParallelTransactionsReached	Maximum parallel transactions reached

NAME	DESCRIPTION
MaximumRegisteredClientsReached	Maximum registered clients reached
NoLastTransactionToFetch	No last transaction to fetch
NotAuthorized	Not authorized
NotEnoughDataWrittenDuringTransaction	Not enough data written during transaction
NoTransactionInProgress	No transaction in progress
NotSupported	Status word is not supported by the interface.
OperationFailedNotEnoughRemainingCapacity	Operation failed, not enough remaining capacity in TSE Store
PinIsBlocked	PIN/PUK is blocked
SelfTestCspFailed	Self test of CSP failed
SelfTestFwFailed	Self test of FW failed
SelfTestRngFailed	Self test of RNG failed
SignatureCreationError	Signature creation error
SignaturesExceeded	Signatures exceeded
TimeNotSet	Time not set
TseContainsUnfinishedTransactions	TSE contains unfinished transactions
UnspecifiedInternalProcessError	Unspecified, internal processing error

NAME	DESCRIPTION
WrongStateActiveCtssInterfaceRequired	Wrong state, active CTSS interface required
WrongStateChangedPinRequired	Wrong state, changed PIN required
WrongStateChangedPukRequired	Wrong state, changed PUK required
WrongStateNoCommandResponseToFetch	Wrong state, no command response to fetch
WrongStateOnGoingDataImportMustBeFinished	Wrong state, ongoing Data Import must be finished before this command is allowed.
WrongStateOnGoingFilteredExportMustBeFinished	Wrong state, ongoing Filtered Export must be finished before this command is allowed
WrongStatePassedSelfTestRequired	Wrong state, passed self test required
WrongStateSelfTestMustBeRunFirst	Wrong state, self test must be run first
WrongStateTseAlreadyInitialized	Wrong state, TSE already initialized
WrongStateTseDecomissioned	Wrong state, TSE decomissioned
WrongStateTseNotInitialized	Wrong state, TSE not initialized

# Namespace

RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.

## Status

### Classes

[SwissbitStatus](#)

Represents the status of the swissbit tse.

### Enums

[TseInitializationState](#)



# Class SwissbitStatus

Represents the status of the swissbit tse.

## Inheritance

System.Object

[ByteArrayConverterBase](#)

SwissbitStatus

[SwissbitHardwareDevice](#)

## Inherited Members

[ByteArrayConverterBase.ByteArray](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt64, Boolean\)](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt32, Boolean\)](#)

[ByteArrayConverterBase.GetByteArrayFromNumber\(UInt16, Boolean\)](#)

[ByteArrayConverterBase.GetLongFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetIntFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetShortFromByteArray\(Int32, Boolean\)](#)

[ByteArrayConverterBase.GetBytesUntilZero\(Byte\[\]\)](#)

[ByteArrayConverterBase.DecodeAscii\(Int32, Int32\)](#)

[ByteArrayConverterBase.DecodeAscii\(Byte\[\]\)](#)

[System.Object.Equals\(System.Object\)](#)

[System.Object.Equals\(System.Object, System.Object\)](#)

[System.Object.GetHashCode\(\)](#)

[System.Object.GetType\(\)](#)

[System.Object.MemberwiseClone\(\)](#)

[System.Object.ReferenceEquals\(System.Object, System.Object\)](#)

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Status](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class SwissbitStatus : ByteArrayConverterBase
```

## Constructors

### SwissbitStatus(Byte[])

#### Declaration

```
public SwissbitStatus(byte[] statusBytes)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Byte[]	statusBytes	

## Properties

### CertificateExpirationDate

Timestamp (as seconds since Unix Epoch) after which the certificate of this TSE will be invalid. The timestamp will be interpreted as an unsigned number, which means only dates after 1970 are supported. Big Endian.

#### Declaration

```
public ulong CertificateExpirationDate { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.UInt64	

#### CertificateExpirationDateTimeOffset

Timestamp (as DateTimeOffset) after which the certificate of this TSE will be invalid. The timestamp will be interpreted as an unsigned number, which means only dates after 1970 are supported. Big Endian.

#### Declaration

```
public DateTimeOffset CertificateExpirationDateTimeOffset { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.DateTimeOffset	

#### CreatedSignatures

Amount of signatures that have been created with this TSE. Please note that this value might exceed Max Signatures, since Max Signatures is only a soft-cap and it might be possible to actually create more signatures. Big Endian.

#### Declaration

```
public uint CreatedSignatures { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.UInt32	

#### DataImportInitialized

False is not data import is initialized; true if a data import is initialized.

#### Declaration

```
public bool DataImportInitialized { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Boolean	

#### FirmwareId

If Firmware Type is "TST", then this contains an internal id that identifies the test build. Otherwise, this field is set to 0.

#### Declaration

```
public uint FirmwareId { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.UInt32	

### FirmwareType

Either "RLS" for production ready FW, "DEV" for development FW that can be used by ECR vendors, or "TST" for internal test revisions. The string is null-terminated, i.e. the last byte is set to 0.

Declaration

```
public string FirmwareType { get; }
```

Property Value

TYPE	DESCRIPTION
System.String	

### InitialAdminPinChanged

True if the initial admin pin (from factory) was changed; otherwise false.

Declaration

```
public bool InitialAdminPinChanged { get; }
```

Property Value

TYPE	DESCRIPTION
System.Boolean	

### InitialPukChanged

True if the initial puk (from factory) was changed; otherwise false.

Declaration

```
public bool InitialPukChanged { get; }
```

Property Value

TYPE	DESCRIPTION
System.Boolean	

### InitialTimeAdminPinChanged

True if the initial time admin pin (from factory) was changed; otherwise false.

Declaration

```
public bool InitialTimeAdminPinChanged { get; }
```

Property Value

TYPE	DESCRIPTION
System.Boolean	

TYPE	DESCRIPTION

### LastHeaderBlockIndex

Sector offset of last TSE entry. This allows to read the TSE Store starting from the end. Only valid if the TSE Store is readable(see Section 3.3), otherwise 0. Big Endian.

Declaration

```
public uint LastHeaderBlockIndex { get; }
```

Property Value

TYPE	DESCRIPTION
System.UInt32	

### MaxRegisteredClients

Maximum number of clients that can be registered. In the current revision, this is 100. Big Endian.

Declaration

```
public uint MaxRegisteredClients { get; }
```

Property Value

TYPE	DESCRIPTION
System.UInt32	

### MaxSignatures

Maximum amount of signatures that can be created with this TSE. Big Endian.

Declaration

```
public uint MaxSignatures { get; }
```

Property Value

TYPE	DESCRIPTION
System.UInt32	

### MaxStartedTransactions

Maximum number of started transactions, i.e. amount of transactions that can be started in parallel. In the current revision, this is 512. Big Endian.

Declaration

```
public uint MaxStartedTransactions { get; }
```

Property Value

TYPE	DESCRIPTION
System.UInt32	

### MaxTimeSynchronizationDelay

Interval (in seconds) after which command Update Time must be sent. Big endian.

Declaration

```
public uint MaxTimeSynchronizationDelay { get; }
```

Property Value

TYPE	DESCRIPTION
System.UInt32	

### MaxUpdateDelay

Interval (in seconds) after which a started transaction must have received an update in case new data is available on the cash register. This is currently set to 45 seconds according to MAX\_UPDATE\_DELAY from [BSI - TR - 03116 - 5]. Big endian.

Declaration

```
public uint MaxUpdateDelay { get; }
```

Property Value

TYPE	DESCRIPTION
System.UInt32	

### RegisteredClients

Number of currently registered clients (see Section 4.2.2). Big Endian.

Declaration

```
public uint RegisteredClients { get; }
```

Property Value

TYPE	DESCRIPTION
System.UInt32	

### StartedTransactions

Number of transactions that have not been finished, yet. If this equals Max Started Transactions, no new transactions can be started until at least one transaction has been finished. Only valid if the TSE Store is readable (see Section 3.3), otherwise 0. Big Endian.

Declaration

```
public uint StartedTransactions { get; }
```

Property Value

TYPE	DESCRIPTION
System.UInt32	

### TimeUntilNextSelftest

Timeout in seconds after which the state selfTestRun will automatically be made inactive. Please see Section 4.2.1 for details.

Declaration

```
public uint TimeUntilNextSelftest { get; }
```

Property Value

TYPE	DESCRIPTION
System.UInt32	

### TseCapacity

Size of TSE Store in sectors. Big endian.

Declaration

```
public uint TseCapacity { get; }
```

Property Value

TYPE	DESCRIPTION
System.UInt32	

### TseCurrentSize

Used size of TSE Store. Only valid if the TSE Store is readable (see Section 3.3), otherwise 0. Big endian.

Declaration

```
public uint TseCurrentSize { get; }
```

Property Value

TYPE	DESCRIPTION
System.UInt32	

### TseDescription

NULL terminated ASCII string containing a short description of the TSE.

Declaration

```
public string TseDescription { get; }
```

Property Value

TYPE	DESCRIPTION
System.String	

## TseExportSize

Size of the whole TSE Store in bytes, if exported (see Section 3.4). Only valid if the TSE Store is readable(see Section 3.3), otherwise 0. Big Endian.

### Declaration

```
public ulong TseExportSize { get; }
```

### Property Value

TYPE	DESCRIPTION
System.UInt64	

## TseFormFactor

Either "uSD", "SD", or "USB" as null-terminated string. The remaining bytes are filled with zeros.

### Declaration

```
public string TseFormFactor { get; }
```

### Property Value

TYPE	DESCRIPTION
System.String	

## TseHardwareVersion

Returns the hardware version of the tse.

### Declaration

```
public Version TseHardwareVersion { get; }
```

### Property Value

TYPE	DESCRIPTION
System.Version	

## TseInitializationState

0: Uninitialized, 1: Initialized, 2: Decommissioned

### Declaration

```
public TseInitializationState TseInitializationState { get; }
```

### Property Value

TYPE	DESCRIPTION
<a href="#">TseInitializationState</a>	

## TsePublicKey

Public key that belongs to the private key generating signatures, formatted according to[BSI - TR - 03111] 3.2.1 Uncompressed Encoding.Bytes after TSE Public Key Length are filled with 0x0 and can be discarded. This key can be used to verify all signatures

created by the TSE.

Declaration

```
public byte[] TsePublicKey { get; }
```

Property Value

TYPE	DESCRIPTION
System.Byte[]	

### TsePublicKeyLength

Usable length of TSE Public Key. Maximum length is 100 Bytes.

Declaration

```
public ushort TsePublicKeyLength { get; }
```

Property Value

TYPE	DESCRIPTION
System.UInt16	

### TsePublicKeyString

Public key that belongs to the private key generating signatures, formatted according to [BSI - TR - 03111] 3.2.1 Uncompressed Encoding. Bytes after TSE Public Key Length are filled with 0x0 and can be discarded. This key can be used to verify all signatures created by the TSE.

Declaration

```
public string TsePublicKeyString { get; }
```

Property Value

TYPE	DESCRIPTION
System.String	

### TseSecurity

Security byte of tse status

Declaration

```
public byte TseSecurity { get; }
```

Property Value

TYPE	DESCRIPTION
System.Byte	

### TseSecurityCtssInterfaceActive

Returns whether the ctss interface is active.

Declaration



```
public bool TseSecurityCtssInterfaceActive { get; }
```

Property Value

TYPE	DESCRIPTION
System.Boolean	

### TseSecuritySelfTestPassed

Returns whether the last self test was passed.

Declaration

```
public bool TseSecuritySelfTestPassed { get; }
```

Property Value

TYPE	DESCRIPTION
System.Boolean	

### TseSecurityValidTimeSet

Returns whether the time is set.

Declaration

```
public bool TseSecurityValidTimeSet { get; }
```

Property Value

TYPE	DESCRIPTION
System.Boolean	

### TseSerial

Raw SHA-256 hash over the public key that belongs to the private key generating signatures. This can be used as TSE unique ID.

Declaration

```
public string TseSerial { get; }
```

Property Value

TYPE	DESCRIPTION
System.String	

### TseSoftwareVersion

Returns the software version of the tse.

Declaration

```
public Version TseSoftwareVersion { get; }
```

Property Value

TYPE	DESCRIPTION
System.Version	

### TseTsecurityExportAllowedIfCspTestFails

Returns whether the export is allowed (if csp test failed).

Declaration

```
public bool TseTsecurityExportAllowedIfCspTestFails { get; }
```

Property Value

TYPE	DESCRIPTION
System.Boolean	

### Methods

#### ToString()

Declaration

```
public override string ToString()
```

Returns

TYPE	DESCRIPTION
System.String	

Overrides

System.Object.ToString()

# Enum TseInitializationState

Namespace: [RetailForce.Fiscalisation.Implementation.Germany.Tse.Swissbit.Status](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public enum TseInitializationState
```

Fields

NAME	DESCRIPTION
Decommissioned	
Initialized	
Uninitialized	

# Namespace RetailForce.Fiscalisation.Logger

## Classes

[FiscalLogger](#)

Fiscal Logger

[FiscalLoggerProvider](#)

Fiscal logger provider

# Class FiscalLogger

Fiscal Logger

Inheritance

System.Object

FiscalLogger

Implements

Microsoft.Extensions.Logging.ILogger

Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Logger](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public class FiscalLogger : ILogger
```

## Constructors

**FiscalLogger(FiscalLoggerProvider, LogLevel, Boolean)**

Constructor

Declaration

```
public FiscalLogger(FiscalLoggerProvider loggerProvider, LogLevel minLogLevel, bool isService)
```

Parameters

TYPE	NAME	DESCRIPTION
<a href="#">FiscalLoggerProvider</a>	loggerProvider	
Microsoft.Extensions.Logging.LogLevel	minLogLevel	
System.Boolean	isService	

## Methods

**BeginScope<TState>(TState)**

Declaration

```
public IDisposable BeginScope<TState>(TState state)
```

Parameters

TYPE	NAME	DESCRIPTION
TState	state	

#### Returns

TYPE	DESCRIPTION
System.IDisposable	

#### Type Parameters

NAME	DESCRIPTION
TState	

### GetLogMessages(Nullable<Int64>)

Get log messages TODO not static

#### Declaration

```
public List<LogMessage<string>> GetLogMessages(long? fromTimestamp)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Nullable<System.Int64>	fromTimestamp	

#### Returns

TYPE	DESCRIPTION
System.Collections.Generic.List<LogMessage<System.String>>	

### IsEnabled(LogLevel)

#### Declaration

```
public bool IsEnabled(LogLevel logLevel)
```

#### Parameters

TYPE	NAME	DESCRIPTION
Microsoft.Extensions.Logging.LogLevel	logLevel	

#### Returns

TYPE	DESCRIPTION
System.Boolean	

### Log<TState>(LogLevel, EventId, TState, Exception, Func<TState, Exception, String>)

#### Declaration

```
public void Log<TState>(LogLevel logLevel, EventId eventId, TState state, Exception exception, Func<TState, Exception, string> formatter)
```

#### Parameters

TYPE	NAME	DESCRIPTION
Microsoft.Extensions.Logging.LogLevel	logLevel	
Microsoft.Extensions.Logging.EventId	eventId	
TState	state	
System.Exception	exception	
System.Func<TState, System.Exception, System.String>	formatter	

#### Type Parameters

NAME	DESCRIPTION
TState	

#### Implements

Microsoft.Extensions.Logging.ILogger

# Class FiscalLoggerProvider

Fiscal logger provider

## Inheritance

System.Object

FiscalLoggerProvider

## Implements

Microsoft.Extensions.Logging.ILoggerProvider

System.IDisposable

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Logger](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class FiscalLoggerProvider : ILoggerProvider, IDisposable
```

## Constructors

FiscalLoggerProvider(LogLevel, Boolean, String)

### Constructor

#### Declaration

```
public FiscalLoggerProvider(LogLevel minLogLevel, bool isService, string logfilePath)
```

#### Parameters

TYPE	NAME	DESCRIPTION
Microsoft.Extensions.Logging.LogLevel	minLogLevel	
System.Boolean	isService	
System.String	logfilePath	

## Methods

CreateLogger(String)

Creates the new Logger instance

#### Declaration

```
public ILogger CreateLogger(string categoryName)
```

#### Parameters



TYPE	NAME	DESCRIPTION
System.String	categoryName	

#### Returns

TYPE	DESCRIPTION
Microsoft.Extensions.Logging.ILogger	

#### Dispose()

Dispose

#### Declaration

```
public void Dispose()
```

#### Implements

Microsoft.Extensions.Logging.ILoggerProvider

System.IDisposable

# Namespace RetailForce.Fiscalisation.Model

## Classes

### [DocumentJsonConverter](#)

Json Converter to read document json.

### [DocumentValidationBase](#)

Basic class for all document classes for validation.

### [Partner](#)

The partner for a document.

### [Payment](#)

Payment for payment stock.

### [User](#)

The user for a document.

### [Vat](#)

Represents the value added tax for document and document positions.

## Enums

### [BusinessTransactionType](#)

The type for the business transaction.

### [PartnerType](#)

The type of the partner.

# Enum BusinessTransactionType

The type for the business transaction.

Namespace: [RetailForce.Fiscalisation.Model](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public enum BusinessTransactionType
```

Remarks

When adding a new business transaction type add validation for the new type at .

Fields

NAME	DESCRIPTION
CashDifference	Cash difference of the cash register when checking the cash stock.
Discount	Discount of line item of the cash register system.
MoneyTransfer	Money Transfer from or to the cash register (for instance from/to bank).
PayIn	Pay in to the cash register system.
PayOut	Pay out for the cash register system.
Revenue	Revenue of the cash register system.

# Class DocumentJsonConverter

Json Converter to read document json.

## Inheritance

System.Object

Newtonsoft.Json.JsonConverter

DocumentJsonConverter

## Inherited Members

Newtonsoft.Json.JsonConverter.CanRead

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Model](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class DocumentJsonConverter : JsonConverter
```

## Properties

### CanWrite

#### Declaration

```
public override bool CanWrite { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Boolean	

## Overrides

Newtonsoft.Json.JsonConverter.CanWrite

## Methods

### CanConvert(Type)

#### Declaration

```
public override bool CanConvert(Type objectType)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Type	objectType	

## Returns

TYPE	DESCRIPTION
System.Boolean	

Overrides

Newtonsoft.Json.JsonConverter.CanConvert(System.Type)

ReadJson(JsonReader, Type, Object, JsonSerializer)

Declaration

```
public override object ReadJson(JsonReader reader, Type objectType, object existingValue, JsonSerializer serializer)
```

Parameters

TYPE	NAME	DESCRIPTION
Newtonsoft.Json.JsonReader	reader	
System.Type	objectType	
System.Object	existingValue	
Newtonsoft.Json.JsonSerializer	serializer	

Returns

TYPE	DESCRIPTION
System.Object	

Overrides

Newtonsoft.Json.JsonConverter.ReadJson(Newtonsoft.Json.JsonReader, System.Type, System.Object, Newtonsoft.Json.JsonSerializer)

WriteJson(JsonWriter, Object, JsonSerializer)

Declaration

```
public override void WriteJson(JsonWriter writer, object value, JsonSerializer serializer)
```

Parameters

TYPE	NAME	DESCRIPTION
Newtonsoft.Json.JsonWriter	writer	
System.Object	value	
Newtonsoft.Json.JsonSerializer	serializer	

Overrides

Newtonsoft.Json.JsonConverter.WriteJson(Newtonsoft.Json.JsonWriter, System.Object, Newtonsoft.Json.JsonSerializer)

# Class DocumentValidationBase

Basic class for all document classes for validation.

Inheritance

System.Object

[ValidationBase<DocumentValidationError>](#)

[ValidationPropertyBase<DocumentValidationError>](#)

DocumentValidationBase

[Discount](#)

[Document](#)

[DocumentPayment](#)

[DocumentPositionBase](#)

[DocumentReference](#)

Inherited Members

[ValidationPropertyBase<DocumentValidationError>.Validate\(\)](#)

[ValidationPropertyBase<DocumentValidationError>.ValidateProperties\(\)](#)

[ValidationPropertyBase<DocumentValidationError>.ValidatePropertiesAbstract<RequiredAttributeType>\(Boolean\)](#)

[ValidationBase<DocumentValidationError>.ValidateElement\(\)](#)

[System.Object.Equals\(System.Object\)](#)

[System.Object.Equals\(System.Object, System.Object\)](#)

[System.Object.GetHashCode\(\)](#)

[System.Object.GetType\(\)](#)

[System.Object.MemberwiseClone\(\)](#)

[System.Object.ReferenceEquals\(System.Object, System.Object\)](#)

[System.Object.ToString\(\)](#)

Namespace: [RetailForce.Fiscalisation.Model](#)

Assembly: [RetailForce.Fiscalisation.dll](#)

Syntax

```
[Serializable]
public abstract class DocumentValidationBase : ValidationPropertyBase<DocumentValidationError>
```

## Properties

### DocumentLevel

The level for the document.

Declaration

```
protected abstract DocumentLevel DocumentLevel { get; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">DocumentLevel</a>	

### VALIDATION\_ERROR\_SOURCE

The validation error source for all classes derived from this class.

Declaration

```
protected override string VALIDATION_ERROR_SOURCE { get; }
```

Property Value

TYPE	DESCRIPTION
System.String	

Overrides

[RetailForce.Fiscalisation.ValidationBase<RetailForce.Fiscalisation.Model.Document.DocumentValidationError>.VALIDATION\\_ERROR\\_SOURCE](#)

## Methods

### AddPropertyError(ErrorLevel, String, String, String)

Adds a property attribute error with to correct implementation of ValidationErrorType.

Declaration

```
protected override DocumentValidationError AddPropertyError(ErrorLevel level, string declaringTypeName, string propertyName, string errorString)
```

Parameters

TYPE	NAME	DESCRIPTION
<a href="#">ErrorLevel</a>	level	The level of the property error.
System.String	declaringTypeName	The name of the declaring type of the property with the validation error.
System.String	propertyName	The name of the property with the validation error.
System.String	errorString	The error description of the property error.

#### Returns

TYPE	DESCRIPTION
<a href="#">DocumentValidationError</a>	An <a href="#">DocumentValidationError</a> representing the ValidationError.

#### Overrides

RetailForce.Fiscalisation.ValidationPropertyBase<RetailForce.Fiscalisation.Model.Document.DocumentValidationError>.AddPropertyError(RetailForce.Fiscalisation.ErrorLevel, System.String, System.String, System.String)

# Class Partner

The partner for a document.

## Inheritance

System.Object

[Address](#)

Partner

## Inherited Members

[Address.Street](#)

[Address.StreetNumber](#)

[Address.PostalCode](#)

[Address.City](#)

[Address.CountryCode](#)

[Address.FullStreet](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Model](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class Partner : Address
```

## Remarks

Possible examples for a document partner: Customer, Supplier, Store, ...

## Properties

### Address

The address of the partner

## Declaration

```
public Address Address { get; set; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">Address</a>	

## Caption

The caption (=name) of the partner.

## Declaration

```
public string Caption { get; set; }
```

## Property Value



TYPE	DESCRIPTION
System.String	

## Id

The id of the partner.

Declaration

```
public string Id { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

## PartnerClassification

The classification of group or type of the partner (not the [PartnerType](#)).

Declaration

```
public string PartnerClassification { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

Remarks

This field can be used for subclassing customers (for instance). Therefore it can be used for customer groups, supplier groups etc.

## PartnerType

The type of this partner. For possible types see [PartnerType](#).

Declaration

```
public PartnerType PartnerType { get; set; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">PartnerType</a>	

## VatNumber

The vat number of the partner

Declaration

```
public string VatNumber { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

# Enum PartnerType

The type of the partner.

Namespace: [RetailForce.Fiscalisation.Model](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public enum PartnerType
```

Fields

NAME	DESCRIPTION
Customer	Represents a customer (buyer).

# Class Payment

Payment for payment stock.

Inheritance

System.Object

Payment

Implements

System.IEquatable<[Payment](#)>

Inherited Members

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Model](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public class Payment : IEquatable<Payment>
```

## Properties

### Amount

The amount of the payment in currency of the fiscal client.

Declaration

```
public decimal Amount { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Decimal	

### Caption

The caption of the payment.

Declaration

```
public string Caption { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

### CurrencyIsoCode

The currency code of the payment.

Declaration

```
public string CurrencyIsoCode { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### Remarks

It is not allowed to have 2 different currency codes on the same [UniqueReadablePaymentIdentifier](#) within one fiscal client closing report.

#### ForeignAmount

The foreign amount of the payment (according to [CurrencyIsoCode](#)).

#### Declaration

```
public decimal ForeignAmount { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Decimal	

#### ForeignAmountExchangeRate

The exchange rate for the foreign amount to the currency of the [FiscalClient](#).

#### Declaration

```
public decimal ForeignAmountExchangeRate { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Decimal	

#### IsCash

True if it is an cash payment; otherwise false (electronic, voucher, etc.)

#### Declaration

```
public bool IsCash { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Boolean	

#### UniqueReadablePaymentIdentifier

The unique identifier for this payment.

#### Declaration

```
public string UniqueReadablePaymentIdentifier { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### Methods

##### Equals(DocumentPayment)

#### Declaration

```
public bool Equals(DocumentPayment payment)
```

#### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">DocumentPayment</a>	payment	

#### Returns

TYPE	DESCRIPTION
System.Boolean	

##### Equals(Payment)

#### Declaration

```
public bool Equals(Payment other)
```

#### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">Payment</a>	other	

#### Returns

TYPE	DESCRIPTION
System.Boolean	

##### Equals(Object)

#### Declaration

```
public override bool Equals(object obj)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Object	obj	

#### Returns

TYPE	DESCRIPTION
System.Boolean	

Overrides

System.Object.Equals(System.Object)

Invert()

Inverts the payment (amount will be turned negative).

Declaration

```
public Payment Invert()
```

Returns

TYPE	DESCRIPTION
<a href="#">Payment</a>	The inverted payment.

ToDocumentPayment()

Returns a [DocumentPayment](#) position out of this payment.

Declaration

```
public DocumentPayment ToDocumentPayment()
```

Returns

TYPE	DESCRIPTION
<a href="#">DocumentPayment</a>	A converted <a href="#">DocumentPayment</a> position.

Operators

Equality(DocumentPayment, Payment)

Declaration

```
public static bool operator ==(DocumentPayment payment, Payment payment1)
```

Parameters

TYPE	NAME	DESCRIPTION
<a href="#">DocumentPayment</a>	payment	
<a href="#">Payment</a>	payment1	

Returns

TYPE	DESCRIPTION
System.Boolean	

## Equality(Payment, DocumentPayment)

### Declaration

```
public static bool operator ==(Payment payment1, DocumentPayment payment)
```

### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">Payment</a>	payment1	
<a href="#">DocumentPayment</a>	payment	

### Returns

TYPE	DESCRIPTION
System.Boolean	

## Equality(Payment, Payment)

### Declaration

```
public static bool operator ==(Payment payment1, Payment payment2)
```

### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">Payment</a>	payment1	
<a href="#">Payment</a>	payment2	

### Returns

TYPE	DESCRIPTION
System.Boolean	

## Inequality(DocumentPayment, Payment)

### Declaration

```
public static bool operator !=(DocumentPayment payment, Payment payment1)
```

### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">DocumentPayment</a>	payment	
<a href="#">Payment</a>	payment1	

### Returns

TYPE	DESCRIPTION
System.Boolean	



## Inequality(Payment, DocumentPayment)

### Declaration

```
public static bool operator !=(Payment payment1, DocumentPayment payment)
```

### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">Payment</a>	payment1	
<a href="#">DocumentPayment</a>	payment	

### Returns

TYPE	DESCRIPTION
System.Boolean	

## Inequality(Payment, Payment)

### Declaration

```
public static bool operator !=(Payment payment1, Payment payment2)
```

### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">Payment</a>	payment1	
<a href="#">Payment</a>	payment2	

### Returns

TYPE	DESCRIPTION
System.Boolean	

## Implements

System.IEquatable<T>

# Class User

The user for a document.

## Inheritance

System.Object

User

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Model](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class User
```

## Properties

### Caption

The caption / name of the user.

#### Declaration

```
public string Caption { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### Id

The id of the user.

#### Declaration

```
public string Id { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

# Class Vat

Represents the value added tax for document and document positions.

## Inheritance

System.Object

Vat

## Implements

System.ICloneable

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Model](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
[Serializable]  
public class Vat : ICloneable
```

## Properties

### Caption

The caption for this tax item.

#### Declaration

```
public string Caption { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### SkipVatPercentageValidation

if true the percentage validation for this vat entry will be skipped default value is false

#### Declaration

```
[Required]  
public bool SkipVatPercentageValidation { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Boolean	

### ValidFrom

defines the start date from when the vat object is valid default value is

defines the start date from when the vat object is valid default value is  
RetailForce.Fiscalisation.Constants.CommonConstants.MinDate

Declaration

```
[Required]  
public DateTime ValidFrom { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.DateTime	

## ValidTo

defines the end date from when the vat object is valid default value is  
RetailForce.Fiscalisation.Constants.CommonConstants.MaxDate

Declaration

```
[Required]  
public DateTime ValidTo { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.DateTime	

## VatIdentification

The vat identification number.

Declaration

```
[Required]  
public int VatIdentification { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Int32	

## VatPercents

The percentage for this item.

Declaration

```
[Required]  
public List<decimal> VatPercents { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List<System.Decimal>	

## Methods

## Clone()

Clones the current object.

Declaration

```
public object Clone()
```

Returns

TYPE	DESCRIPTION
System.Object	A copy of this object.

## GetGrossValue(Decimal, Decimal)

Returns the gross value out of the given net value.

Declaration

```
public static decimal GetGrossValue(decimal vatPercent1, decimal netValue)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Decimal	vatPercent1	The percentage for calculation.
System.Decimal	netValue	The net value for calculation.

Returns

TYPE	DESCRIPTION
System.Decimal	The calculated gross value.

## GetNetValue(Decimal, Decimal)

Returns the net value out of the given gross value.

Declaration

```
public static decimal GetNetValue(decimal vatPercent1, decimal grossValue)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Decimal	vatPercent1	The percentage for calculation.
System.Decimal	grossValue	The gross value for calculation.

Returns

TYPE	DESCRIPTION
System.Decimal	The calculated net value.

**Implements**

System.ICloneable

# Namespace RetailForce.Fiscalisation.Model.Document

## Classes

### [Discount](#)

Represents a discount of a position.

### [Document](#)

Represents a fiscal document.

### [DocumentExtension](#)

### [DocumentPayment](#)

Payment position of the document.

### [DocumentPositionBase](#)

Base class for all positions.

### [DocumentPositionBooking](#)

Represents a booking position. A booking position can be used for booking values (instead of items).

### [DocumentPositionItem](#)

One position of one document. Document positions can have multiple types.

### [DocumentPositionItemBase](#)

Base class for item and subitem.

### [DocumentPositionReference](#)

A document position reference.

### [DocumentPositionSubItem](#)

Represents a sub item (like a set)

### [DocumentPositionText](#)

Represents a text position.

### [DocumentPositionTotal](#)

Total position. Must be the last position.

### [DocumentPositionVatPosition](#)

Base class for all positions having vat.

### [DocumentReference](#)

A document reference used for referencing other documents (when canceling, linking, etc.).

### [DocumentTaxPosition](#)

Represents a tax position (summary for all tax items on a document).

### [DocumentTypeExtensions](#)

### [DocumentValidationError](#)

Represents a document validation error.

## QuantityUnit

Represents a quantity unit of a position.

## Interfaces

### IBusinessTransactionTypePosition

Interface for all positions containing a business transaction type.

### IVatPosition

Interface for all positions having vat.

## Enums

### DiscountType

The type of the discount.

### DocumentLevel

The level of the error in the document.

### DocumentPositionType

Represents the possible types of a document position.

### DocumentType

The type of the document.

### ReferenceType

The reference type of the document (position) reference.



# Class Discount

Represents a discount of a position.

## Inheritance

System.Object

[ValidationBase<DocumentValidationError>](#)

[ValidationPropertyBase<DocumentValidationError>](#)

[DocumentValidationBase](#)

Discount

## Inherited Members

[DocumentValidationBase.VALIDATION\\_ERROR\\_SOURCE](#)

[DocumentValidationBase.AddPropertyError\(ErrorLevel, String, String, String\)](#)

[ValidationPropertyBase<DocumentValidationError>.Validate\(\)](#)

[ValidationPropertyBase<DocumentValidationError>.ValidateProperties\(\)](#)

[ValidationPropertyBase<DocumentValidationError>.ValidatePropertiesAbstract<RequiredAttributeType>\(Boolean\)](#)

[System.Object.Equals\(System.Object\)](#)

[System.Object.Equals\(System.Object, System.Object\)](#)

[System.Object.GetHashCode\(\)](#)

[System.Object.GetType\(\)](#)

[System.Object.MemberwiseClone\(\)](#)

[System.Object.ReferenceEquals\(System.Object, System.Object\)](#)

[System.Object.ToString\(\)](#)

Namespace: [RetailForce.Fiscalisation.Model.Document](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
[Serializable]
public class Discount : DocumentValidationBase
```

## Properties

### Caption

The name of the discount.

### Declaration

```
public string Caption { get; set; }
```

### Property Value

TYPE	DESCRIPTION
System.String	

### DiscountOrder

The order of the discount.

### Declaration

```
public int DiscountOrder { get; set; }
```

### Property Value

TYPE	DESCRIPTION
System.Int32	

Remarks

This is the order of the discount calculation. First calculated discount is 0.

### DiscountValue

The calculated value of the discount.

Declaration

```
[Required]
public decimal DiscountValue { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Decimal	

Remarks

The calculated value means a discount if sign is positive. 2 means a discount of 2 and -2 means an extra charge of 2.

### DocumentLevel

The validation level for this element.

Declaration

```
protected override DocumentLevel DocumentLevel { get; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">DocumentLevel</a>	

Overrides

[DocumentValidationBase.DocumentLevel](#)

### Type

The type of the discount.

Declaration

```
[Required]
public DiscountType Type { get; set; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">DiscountType</a>	

### TypeValue

The type value of the discount.

#### Declaration

```
public decimal TypeValue { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Decimal	

#### Remarks

The type value corresponds to the [Type](#) of the discount. Is the [Type](#) = [Discount](#) then a [TypeValue](#) of 10 has a meaning of 10 percent. The type value is always seen as a discount if sign of type value is positive. This means that a type value of 10 represents a discount of 10 percent (if type is percentage) and a type value of -10 represents an extra charge of 10 percent.

#### Methods

##### ValidateElement()

Validates the element and returns a list of [DocumentValidationError](#) objects.

#### Declaration

```
protected override List<DocumentValidationError> ValidateElement()
```

#### Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">DocumentValidationError</a> >	A list of <a href="#">DocumentValidationError</a> objects.

#### Overrides

[RetailForce.Fiscalisation.ValidationBase<RetailForce.Fiscalisation.Model.Document.DocumentValidationError>.ValidateElement\(\)](#)

# Enum DiscountType

The type of the discount.

Namespace: [RetailForce.Fiscalisation.Model.Document](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public enum DiscountType
```

Remarks

The type of the discount can be a value or percentage.

Fields

NAME	DESCRIPTION
Allowance	Represents a value discount.
Discount	Represents a percentage discount.

# Class Document

Represents a fiscal document.

## Inheritance

System.Object

ValidationBase<DocumentValidationError>

ValidationPropertyBase<DocumentValidationError>

DocumentValidationBase

Document

## Inherited Members

DocumentValidationBase.VALIDATION\_ERROR\_SOURCE

DocumentValidationBase.AddPropertyError(ErrorLevel, String, String, String)

ValidationPropertyBase<DocumentValidationError>.Validate()

ValidationPropertyBase<DocumentValidationError>.ValidateProperties()

ValidationPropertyBase<DocumentValidationError>.ValidatePropertiesAbstract<RequiredAttributeType>(Boolean)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Model.Document](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class Document : DocumentValidationBase
```

## Constructors

### Document()

Constructor.

#### Declaration

```
public Document()
```

### Document(FiscalResponse)

Constructor.

#### Declaration

```
public Document(FiscalResponse response)
```

## Parameters

TYPE	NAME	DESCRIPTION
<a href="#">FiscalResponse</a>	response	A <a href="#">FiscalResponse</a> object representing the fiscal response for starting a transaction.

## Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>response</code> parameter is set to null.

## Properties

### AllocationGroups

The allocation group for the document.

#### Declaration

```
public List<string> AllocationGroups { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List<System.String>	

#### Remarks

Country specific implementation:

- 

### BookDate

The storage date of the document.

#### Declaration

```
[Required]
public DateTime BookDate { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.DateTime	

### CancellationDocument

True if this document cancels another document; otherwise false.

#### Declaration

```
public bool CancellationDocument { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Boolean	

#### Remarks

If this property is set to true the document reference must be set (with [ReferenceType Cancellation](#)).

### CreateDate

The creation date of the document. Must be set when the document was initially created.

Declaration

```
[Required]
public DateTime CreateDate { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.DateTime	

## DocumentGuid

The identification of the document.

Declaration

```
public Guid DocumentGuid { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Guid	

Remarks

Not required, if not set it will be automatically set by the fiscal system.

## DocumentId

The unique identification of the document.

Declaration

```
public string DocumentId { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

Remarks

Should be continuous and unique identification of all documents. required, max length = 40.

## DocumentLevel

The validation level for this element.

Declaration

```
protected override DocumentLevel DocumentLevel { get; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">DocumentLevel</a>	

Overrides

[DocumentValidationBase.DocumentLevel](#)

## DocumentNumber

The number of the document (of the external system).

Declaration

```
public string DocumentNumber { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

## DocumentReference

Reference to another document.

Declaration

```
public DocumentReference DocumentReference { get; set; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">DocumentReference</a>	

## DocumentType

The type of the document.

Declaration

```
[Required]  
public DocumentType DocumentType { get; set; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">DocumentType</a>	

## DocumentTypeCaption

The name of the document

Declaration

```
public string DocumentTypeCaption { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

## FiscalDocumentNumber



#### Declaration

```
public int FiscalDocumentNumber { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Int32	

#### FiscalDocumentRevision

#### Declaration

```
public int FiscalDocumentRevision { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Int32	

#### FiscalResponse

The fiscal response for this document when signed by fiscalisation unit.

#### Declaration

```
public FiscalResponse FiscalResponse { get; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">FiscalResponse</a>	

#### IsTraining

True if this document is a training document; otherwise false.

#### Declaration

```
[Required]  
public bool IsTraining { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Boolean	

#### Partner

The partner for the document. A partner can be for instance a customer, a supplier, etc.

#### Declaration

```
public Partner Partner { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">Partner</a>	

## Payments

The payments for the document.

Declaration

```
public List<DocumentPayment> Payments { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">DocumentPayment</a> >	

Remarks

Depending on the document type it is necessary to have payments attached or not.

## Positions

The positions for the document.

Declaration

```
[Required]
public List<DocumentPositionBase> Positions { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">DocumentPositionBase</a> >	

Remarks

Positions can be of type:

- [ItemPosition](#)
- [TextPosition](#)
- [SubItemPosition](#)

## UniqueClientId

Represents the client for this document.

Declaration

```
[Required]
public Guid UniqueClientId { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Guid	

Remarks

The client must be found in the current configuration and may not be System.Guid.Empty.

## User

The user for this transaction.

### Declaration

```
public User User { get; set; }
```

### Property Value

TYPE	DESCRIPTION
User	

## Methods

### ValidateElement()

Validates the element and returns a list of [DocumentValidationError](#) objects.

### Declaration

```
protected override List<DocumentValidationError> ValidateElement()
```

### Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">DocumentValidationError</a> >	A list of <a href="#">DocumentValidationError</a> objects.

### Overrides

RetailForce.Fiscalisation.ValidationBase<RetailForce.Fiscalisation.Model.Document.DocumentValidationError>.ValidateElement()

## Extension Methods

[DocumentExtension.GetItemPositions\(Document\)](#)

[DocumentExtension.GetTaxPositions\(Document\)](#)

# Class DocumentExtension

## Inheritance

System.Object

DocumentExtension

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Model.Document](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public static class DocumentExtension
```

## Methods

### GetItemPositions(Document)

Returns all positions of type item [DocumentPositionType](#).

#### Declaration

```
public static List<DocumentPositionItem> GetItemPositions(this Document document)
```

#### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">Document</a>	document	

#### Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">DocumentPositionItem</a> >	

### GetTaxPositions(Document)

The summary of the tax positions for the document.

#### Declaration

```
public static List<DocumentTaxPosition> GetTaxPositions(this Document document)
```

#### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">Document</a>	document	

#### Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">DocumentTaxPosition</a> >	

# Enum DocumentLevel

The level of the error in the document.

Namespace: [RetailForce.Fiscalisation.Model.Document](#)

Assembly: [RetailForce.Fiscalisation.dll](#)

Syntax

```
public enum DocumentLevel
```

## Fields

NAME	DESCRIPTION
Header	The validation error level is at document level header.
Payment	The validation error level is at document level payment.
Position	The validation error level is at document level position.

# Class DocumentPayment

Payment position of the document.

## Inheritance

System.Object

ValidationBase<DocumentValidationError>

ValidationPropertyBase<DocumentValidationError>

DocumentValidationBase

DocumentPayment

## Inherited Members

DocumentValidationBase.VALIDATION\_ERROR\_SOURCE

DocumentValidationBase.AddPropertyError(ErrorLevel, String, String, String)

ValidationPropertyBase<DocumentValidationError>.Validate()

ValidationPropertyBase<DocumentValidationError>.ValidateProperties()

ValidationPropertyBase<DocumentValidationError>.ValidatePropertiesAbstract<RequiredAttributeType>(Boolean)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Model.Document](#)

Assembly: [RetailForce.Fiscalisation.dll](#)

## Syntax

```
public class DocumentPayment : DocumentValidationBase
```

## Properties

### Amount

The amount of the payment in the currency of the cash register (not a foreign amount).

## Declaration

```
[Required]  
public decimal Amount { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.Decimal	

## Caption

The caption of the payment.

## Declaration

```
public string Caption { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.String	

### CurrencyIsoCode

The iso code of the currency of the payment.

Declaration

```
public string CurrencyIsoCode { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

### DocumentLevel

The validation level for this element.

Declaration

```
protected override DocumentLevel DocumentLevel { get; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">DocumentLevel</a>	

Overrides

[DocumentValidationBase.DocumentLevel](#)

### ForeignAmount

The foreign amount of the payment.

Declaration

```
public decimal ForeignAmount { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Decimal	

### ForeignAmountExchangeRate

The exchange rate to the cash register currency.

Declaration

```
public decimal ForeignAmountExchangeRate { get; set; }
```

Property Value



TYPE	DESCRIPTION
System.Decimal	

## IsCash

True if the given payment is cash (no e-cash, creditcard, etc.).

Declaration

```
public bool IsCash { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Boolean	

## UniqueReadablePaymentIdentifier

An unique id for the payment (used for instance for accounting interfaces, etc.).

Declaration

```
public string UniqueReadablePaymentIdentifier { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

## Methods

### ValidateElement()

Validates the element and returns a list of [DocumentValidationError](#) objects.

Declaration

```
protected override List<DocumentValidationError> ValidateElement()
```

Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">DocumentValidationError</a> >	A list of <a href="#">DocumentValidationError</a> objects.

Overrides

RetailForce.Fiscalisation.ValidationBase<RetailForce.Fiscalisation.Model.Document.DocumentValidationError>.ValidateElement()

# Class DocumentPositionBase

Base class for all positions.

## Inheritance

System.Object

[ValidationBase](#)<[DocumentValidationError](#)>

[ValidationPropertyBase](#)<[DocumentValidationError](#)>

[DocumentValidationBase](#)

DocumentPositionBase

[DocumentPositionText](#)

[DocumentPositionTotal](#)

[DocumentPositionVatPosition](#)

## Inherited Members

[DocumentValidationBase.VALIDATION\\_ERROR\\_SOURCE](#)

[DocumentValidationBase.AddPropertyError](#)(ErrorLevel, String, String, String)

[ValidationPropertyBase](#)<[DocumentValidationError](#)>.Validate()

[ValidationPropertyBase](#)<[DocumentValidationError](#)>.ValidateProperties()

[ValidationPropertyBase](#)<[DocumentValidationError](#)>.ValidatePropertiesAbstract<[RequiredAttributeType](#)>(Boolean)

[ValidationBase](#)<[DocumentValidationError](#)>.ValidateElement()

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

Namespace: [RetailForce.Fiscalisation.Model.Document](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
[JsonConverter(typeof(DocumentJsonConverter))]  
[Serializable]  
public abstract class DocumentPositionBase : DocumentValidationBase
```

## Properties

### CancellationPosition

True if this position cancels a position of another document; otherwise false.

#### Declaration

```
public bool CancellationPosition { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Boolean	

## Remarks

Please ensure to set [PositionReference](#) with type [Cancellation](#) if setting this property to true.

### DocumentLevel

The validation level for this element.

## Declaration

```
protected override DocumentLevel DocumentLevel { get; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">DocumentLevel</a>	

## Overrides

[DocumentValidationBase.DocumentLevel](#)

## PositionNumber

The number of the position in the position sequence.

## Declaration

```
public int PositionNumber { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.Int32	

## PositionReference

Referene to another document position.

## Declaration

```
public DocumentPositionReference PositionReference { get; set; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">DocumentPositionReference</a>	

## Remarks

Must be set if the NetValue/GrossValue of the position is negative value.

## Type

The type of the position. For possible types see [DocumentPositionType](#).

## Declaration

```
public abstract DocumentPositionType Type { get; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">DocumentPositionType</a>	

## Methods

[ToString\(\)](#)

Returns the string representation for this [DocumentPositionBase](#).

#### Declaration

```
public override string ToString()
```

#### Returns

TYPE	DESCRIPTION
System.String	The string representation for this <a href="#">DocumentPositionBase</a> .

#### Overrides

System.Object.ToString()

# Class DocumentPositionBooking

Represents a booking position. A booking position can be used for booking values (instead of items).

## Inheritance

System.Object

ValidationBase<DocumentValidationError>

ValidationPropertyBase<DocumentValidationError>

DocumentValidationBase

DocumentPositionBase

DocumentPositionVatPosition

DocumentPositionBooking

## Implements

IBusinessTransactionTypePosition

IVatPosition

## Inherited Members

DocumentPositionVatPosition.VatIdentification

DocumentPositionVatPosition.VatPercent

DocumentPositionVatPosition.NetValue

DocumentPositionVatPosition.GrossValue

DocumentPositionVatPosition.TaxValue

DocumentPositionVatPosition.AccountingIdentifier

DocumentPositionBase.PositionNumber

DocumentPositionBase.PositionReference

DocumentPositionBase.CancellationPosition

DocumentPositionBase.DocumentLevel

DocumentPositionBase.ToString()

DocumentValidationBase.VALIDATION\_ERROR\_SOURCE

DocumentValidationBase.AddPropertyError(ErrorLevel, String, String, String)

ValidationPropertyBase<DocumentValidationError>.Validate()

ValidationPropertyBase<DocumentValidationError>.ValidateProperties()

ValidationPropertyBase<DocumentValidationError>.ValidatePropertiesAbstract<RequiredAttributeType>(Boolean)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

Namespace: [RetailForce.Fiscalisation.Model.Document](#)

Assembly: [RetailForce.Fiscalisation.dll](#)

## Syntax

```
public class DocumentPositionBooking : DocumentPositionVatPosition, IBusinessTransactionTypePosition, IVatPosition
```

## Remarks

You can use a booking for instance for a payin, payout, vouchers...

## Properties

### BusinessTransactionType

The type of this booking.

## Declaration

```
[Required]
public BusinessTransactionType BusinessTransactionType { get; set; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">BusinessTransactionType</a>	

## Caption

The caption of the booking.

## Declaration

```
[Required]
public string Caption { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.String	

## Identifier

An additional identifier for the booking.

## Declaration

```
public string Identifier { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.String	

## Type

The type of the position. For possible types see [DocumentPositionType](#).

## Declaration

```
public override DocumentPositionType Type { get; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">DocumentPositionType</a>	

## Overrides

[DocumentPositionBase.Type](#)

## Methods

### ValidateElement()

## Declaration

```
protected override List<DocumentValidationError> ValidateElement()
```

#### Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">DocumentValidationError</a> >	

#### Overrides

[RetailForce.Fiscalisation.ValidationBase<RetailForce.Fiscalisation.Model.Document.DocumentValidationError>.ValidateElement\(\)](#)

#### Implements

[IBusinessTransactionTypePosition](#)

[IVatPosition](#)

#### Extension Methods

[DocumentModelExtensions.GetBaseNetValue\(IBusinessTransactionTypePosition\)](#)

[DocumentModelExtensions.GetBaseGrossValue\(IBusinessTransactionTypePosition\)](#)

[DocumentModelExtensions.GetBaseTaxValue\(IBusinessTransactionTypePosition\)](#)

[DocumentModelExtensions.GetCaption\(IBusinessTransactionTypePosition\)](#)

# Class DocumentPositionItem

One position of one document. Document positions can have multiple types.

## Inheritance

System.Object  
ValidationBase<DocumentValidationError>  
ValidationPropertyBase<DocumentValidationError>  
DocumentValidationBase  
DocumentPositionBase  
DocumentPositionVatPosition  
DocumentPositionItemBase  
DocumentPositionItem

## Implements

IBusinessTransactionTypePosition  
IVatPosition  
System.ICloneable

## Inherited Members

DocumentPositionItemBase.Quantity  
DocumentPositionItemBase.QuantityUnit  
DocumentPositionItemBase.ItemId  
DocumentPositionItemBase.BaseNetValue  
DocumentPositionItemBase.BaseGrossValue  
DocumentPositionItemBase.BaseTaxValue  
DocumentPositionItemBase.GTIN  
DocumentPositionItemBase.BusinessTransactionType  
DocumentPositionVatPosition.VatIdentification  
DocumentPositionVatPosition.VatPercent  
DocumentPositionVatPosition.NetValue  
DocumentPositionVatPosition.GrossValue  
DocumentPositionVatPosition.TaxValue  
DocumentPositionVatPosition.AccountingIdentifier  
DocumentPositionBase.PositionNumber  
DocumentPositionBase.PositionReference  
DocumentPositionBase.CancellationPosition  
DocumentPositionBase.DocumentLevel  
DocumentValidationBase.VALIDATION\_ERROR\_SOURCE  
DocumentValidationBase.AddPropertyError(ErrorLevel, String, String, String)  
ValidationPropertyBase<DocumentValidationError>.Validate()  
ValidationPropertyBase<DocumentValidationError>.ValidateProperties()  
ValidationPropertyBase<DocumentValidationError>.ValidatePropertiesAbstract<RequiredAttributeType>(Boolean)  
System.Object.Equals(System.Object)  
System.Object.Equals(System.Object, System.Object)  
System.Object.GetHashCode()  
System.Object.GetType()  
System.Object.MemberwiseClone()  
System.Object.ReferenceEquals(System.Object, System.Object)

Namespace: **RetailForce.Fiscalisation.Model.Document**

Assembly: RetailForce.Fiscalisation.dll

## Syntax



[Serializable]

```
public class DocumentPositionItem : DocumentPositionItemBase, IBusinessTransactionTypePosition, IVatPosition, ICloneable
```

## Properties

### Discounts

A list of all discounts for this position.

Declaration

```
public List<Discount> Discounts { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">Discount</a> >	

Remarks

At document validation this list will be sorted automatically by [DiscountOrder](#). The [DiscountOrder](#) must start with 0 value and must have continuous order.

### ItemCaption

Represents the caption of the item.

Declaration

```
public override string ItemCaption { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

Overrides

[DocumentPositionItemBase.ItemCaption](#)

### ItemShortCaption

Represents a short caption for the item (e.g. used for printing purposes on receipt print).

Declaration

```
public string ItemShortCaption { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

### SubItems

includes the sub items of an position if [UseSubItemVatCalculation](#) is true vat values have to be set otherwise the vat values from the position will be used and sub item vat values will be ignored

Declaration

```
public List<DocumentPositionSubItem> SubItems { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">DocumentPositionSubItem</a> >	

#### Type

The type of the position. For possible types see [DocumentPositionType](#).

#### Declaration

```
public override DocumentPositionType Type { get; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">DocumentPositionType</a>	

#### Overrides

[DocumentPositionBase.Type](#)

#### UseSubItemVatCalculation

True if the vat calculation of the sub items is taken and the vat of the parent item position is ignored; otherwise false.

#### Declaration

```
public bool UseSubItemVatCalculation { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Boolean	

#### Methods

##### Clone()

Clones the position to a new object.

#### Declaration

```
public object Clone()
```

#### Returns

TYPE	DESCRIPTION
System.Object	A <a href="#">DocumentPositionItem</a> object representing the copy of the actual position.

##### ToString()

Returns the string representation for this [DocumentPositionItem](#).

#### Declaration

```
public override string ToString()
```

#### Returns

TYPE	DESCRIPTION
System.String	The string representation for this <a href="#">DocumentPositionItem</a> .

#### Overrides

[DocumentPositionBase.ToString\(\)](#)

#### ValidateElement()

Validates the element and returns a list of [DocumentValidationError](#) objects.

#### Declaration

```
protected override List<DocumentValidationError> ValidateElement()
```

#### Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">DocumentValidationError</a> >	A list of <a href="#">DocumentValidationError</a> objects.

#### Overrides

[RetailForce.Fiscalisation.ValidationBase<RetailForce.Fiscalisation.Model.Document.DocumentValidationError>.ValidateElement\(\)](#)

#### Exceptions

TYPE	CONDITION
System.NotImplemented	Thrown if a certain <a href="#">DiscountType</a> is not supported.

#### Implements

[IBusinessTransactionTypePosition](#)

[IVatPosition](#)

System.ICloneable

#### Extension Methods

[DocumentModelExtensions.GetBaseNetValue\(IBusinessTransactionTypePosition\)](#)

[DocumentModelExtensions.GetBaseGrossValue\(IBusinessTransactionTypePosition\)](#)

[DocumentModelExtensions.GetBaseTaxValue\(IBusinessTransactionTypePosition\)](#)

[DocumentModelExtensions.GetCaption\(IBusinessTransactionTypePosition\)](#)

# Class DocumentPositionItemBase

Base class for item and subitem.

## Inheritance

System.Object

ValidationBase<DocumentValidationError>

ValidationPropertyBase<DocumentValidationError>

DocumentValidationBase

DocumentPositionBase

DocumentPositionVatPosition

DocumentPositionItemBase

DocumentPositionItem

DocumentPositionSubItem

## Implements

IBusinessTransactionTypePosition

IVatPosition

## Inherited Members

DocumentPositionVatPosition.VatIdentification

DocumentPositionVatPosition.VatPercent

DocumentPositionVatPosition.NetValue

DocumentPositionVatPosition.GrossValue

DocumentPositionVatPosition.TaxValue

DocumentPositionVatPosition.AccountingIdentifier

DocumentPositionBase.PositionNumber

DocumentPositionBase.PositionReference

DocumentPositionBase.CancellationPosition

DocumentPositionBase.Type

DocumentPositionBase.DocumentLevel

DocumentPositionBase.ToString()

DocumentValidationBase.VALIDATION\_ERROR\_SOURCE

DocumentValidationBase.AddPropertyError(ErrorLevel, String, String, String)

ValidationPropertyBase<DocumentValidationError>.Validate()

ValidationPropertyBase<DocumentValidationError>.ValidateProperties()

ValidationPropertyBase<DocumentValidationError>.ValidatePropertiesAbstract<RequiredAttributeType>(Boolean)

ValidationBase<DocumentValidationError>.ValidateElement()

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

Namespace: [RetailForce.Fiscalisation.Model.Document](#)

Assembly: [RetailForce.Fiscalisation.dll](#)

## Syntax

```
[Serializable]
public abstract class DocumentPositionItemBase : DocumentPositionVatPosition,
IBusinessTransactionTypePosition, IVatPosition
```

## Properties

## BaseGrossValue

The gross value (including tax) before discounts were calculated (without discounts and extra charges).

Declaration

```
public decimal BaseGrossValue { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Decimal	

## BaseNetValue

The net value (excluding tax) before discounts were calculated (without discounts and extra charges).

Declaration

```
public decimal BaseNetValue { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Decimal	

## BaseTaxValue

The tax value of the position before discounts were calculated (without discounts and extra charges).

Declaration

```
public decimal BaseTaxValue { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Decimal	

## BusinessTransactionType

The type for this position. Default value is set to [Revenue](#).

Declaration

```
[Required]  
public BusinessTransactionType BusinessTransactionType { get; set; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">BusinessTransactionType</a>	

## GTIN

The global trade identification number for the item.

Declaration

```
public string GTIN { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

## ItemCaption

Represents the caption of the item.

Declaration

```
public virtual string ItemCaption { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

## ItemId

The id of the item.

Declaration

```
[Required]  
public string ItemId { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

## Quantity

The quantity of the position.

Declaration

```
[Required]  
public decimal Quantity { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Decimal	

## QuantityUnit

The quantity unit of the position.

Declaration

```
public QuantityUnit QuantityUnit { get; set; }
```

Property Value

TYPE	DESCRIPTION
QuantityUnit	

### Implements

[IBusinessTransactionTypePosition](#)

[IVatPosition](#)

### Extension Methods

[DocumentModelExtensions.GetBaseNetValue\(IBusinessTransactionTypePosition\)](#)

[DocumentModelExtensions.GetBaseGrossValue\(IBusinessTransactionTypePosition\)](#)

[DocumentModelExtensions.GetBaseTaxValue\(IBusinessTransactionTypePosition\)](#)

[DocumentModelExtensions.GetCaption\(IBusinessTransactionTypePosition\)](#)

# Class DocumentPositionReference

A document position reference.

## Inheritance

System.Object

ValidationBase<DocumentValidationError>

ValidationPropertyBase<DocumentValidationError>

DocumentValidationBase

DocumentReference

DocumentPositionReference

## Inherited Members

DocumentReference.ReferenceType

DocumentReference.StoreNumber

DocumentReference.TerminalNumber

DocumentReference.DocumentType

DocumentReference.DocumentNumber

DocumentReference.FiscalDocumentNumber

DocumentReference.DocumentGuid

DocumentReference.DocumentId

DocumentReference.DocumentBookDate

DocumentValidationBase.VALIDATION\_ERROR\_SOURCE

DocumentValidationBase.AddPropertyError(ErrorLevel, String, String, String)

ValidationPropertyBase<DocumentValidationError>.Validate()

ValidationPropertyBase<DocumentValidationError>.ValidateProperties()

ValidationPropertyBase<DocumentValidationError>.ValidatePropertiesAbstract<RequiredAttributeType>(Boolean)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Model.Document](#)

Assembly: [RetailForce.Fiscalisation.dll](#)

## Syntax

```
[Serializable]
public class DocumentPositionReference : DocumentReference
```

## Remarks

To use document position references it is not necessary to set document reference. When setting also document reference the document key must be equal to the document position reference.

## Properties

### DocumentLevel

#### Declaration

```
protected override DocumentLevel DocumentLevel { get; }
```

#### Property Value



TYPE	DESCRIPTION
<a href="#">DocumentLevel</a>	

Overrides

[DocumentReference.DocumentLevel](#)

### PositionNumber

The position number of the referenced document position.

Declaration

```
public int PositionNumber { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Int32	

### Methods

#### ValidateElement()

Declaration

```
protected override List<DocumentValidationError> ValidateElement()
```

Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">DocumentValidationError</a> >	

Overrides

[DocumentReference.ValidateElement\(\)](#)

# Class DocumentPositionSubItem

Represents a sub item (like a set)

## Inheritance

System.Object

ValidationBase<DocumentValidationError>

ValidationPropertyBase<DocumentValidationError>

DocumentValidationBase

DocumentPositionBase

DocumentPositionVatPosition

DocumentPositionItemBase

DocumentPositionSubItem

## Implements

IBusinessTransactionTypePosition

IVatPosition

## Inherited Members

DocumentPositionItemBase.Quantity

DocumentPositionItemBase.QuantityUnit

DocumentPositionItemBase.ItemId

DocumentPositionItemBase.ItemCaption

DocumentPositionItemBase.BaseNetValue

DocumentPositionItemBase.BaseGrossValue

DocumentPositionItemBase.BaseTaxValue

DocumentPositionItemBase.GTIN

DocumentPositionItemBase.BusinessTransactionType

DocumentPositionVatPosition.VatIdentification

DocumentPositionVatPosition.VatPercent

DocumentPositionVatPosition.NetValue

DocumentPositionVatPosition.GrossValue

DocumentPositionVatPosition.TaxValue

DocumentPositionVatPosition.AccountingIdentifier

DocumentPositionBase.PositionNumber

DocumentPositionBase.PositionReference

DocumentPositionBase.CancellationPosition

DocumentPositionBase.DocumentLevel

DocumentPositionBase.ToString()

DocumentValidationBase.VALIDATION\_ERROR\_SOURCE

DocumentValidationBase.AddPropertyError(ErrorLevel, String, String, String)

ValidationPropertyBase<DocumentValidationError>.Validate()

ValidationPropertyBase<DocumentValidationError>.ValidateProperties()

ValidationPropertyBase<DocumentValidationError>.ValidatePropertiesAbstract<RequiredAttributeType>(Boolean)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

Namespace: [RetailForce.Fiscalisation.Model.Document](#)

Assembly: [RetailForce.Fiscalisation.dll](#)

## Syntax

```
public class DocumentPositionSubItem : DocumentPositionItemBase, IBusinessTransactionTypePosition, IVatPosition
```

## Properties

### Type

The type of the position. For possible types see [DocumentPositionType](#).

#### Declaration

```
public override DocumentPositionType Type { get; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">DocumentPositionType</a>	

#### Overrides

[DocumentPositionBase.Type](#)

## Methods

### ValidateElement()

Validates the element and returns a list of [DocumentValidationError](#) objects.

#### Declaration

```
protected override List<DocumentValidationError> ValidateElement()
```

#### Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">DocumentValidationError</a> >	A list of <a href="#">DocumentValidationError</a> objects.

#### Overrides

[RetailForce.Fiscalisation.ValidationBase<RetailForce.Fiscalisation.Model.Document.DocumentValidationError>.ValidateElement\(\)](#)

#### Exceptions

TYPE	CONDITION
System.NotImplemented	Thrown if a certain <a href="#">DiscountType</a> is not supported.

## Implements

[IBusinessTransactionTypePosition](#)

[IVatPosition](#)

## Extension Methods

[DocumentModelExtensions.GetBaseNetValue\(IBusinessTransactionTypePosition\)](#)

[DocumentModelExtensions.GetBaseGrossValue\(IBusinessTransactionTypePosition\)](#)

[DocumentModelExtensions.GetBaseTaxValue\(IBusinessTransactionTypePosition\)](#)

[DocumentModelExtensions.GetCaption\(IBusinessTransactionTypePosition\)](#)

# Class DocumentPositionText

Represents a text position.

## Inheritance

System.Object

[ValidationBase](#)<[DocumentValidationError](#)>

[ValidationPropertyBase](#)<[DocumentValidationError](#)>

[DocumentValidationBase](#)

[DocumentPositionBase](#)

DocumentPositionText

## Inherited Members

[DocumentPositionBase.PositionNumber](#)

[DocumentPositionBase.PositionReference](#)

[DocumentPositionBase.CancellationPosition](#)

[DocumentPositionBase.DocumentLevel](#)

[DocumentValidationBase.VALIDATION\\_ERROR\\_SOURCE](#)

[DocumentValidationBase.AddPropertyError](#)(ErrorLevel, String, String, String)

[ValidationPropertyBase](#)<[DocumentValidationError](#)>.Validate()

[ValidationPropertyBase](#)<[DocumentValidationError](#)>.ValidateProperties()

[ValidationPropertyBase](#)<[DocumentValidationError](#)>.ValidatePropertiesAbstract<[RequiredAttributeType](#)>(Boolean)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

Namespace: [RetailForce.Fiscalisation.Model.Document](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class DocumentPositionText : DocumentPositionBase
```

## Properties

### Text

The text of the position.

### Declaration

```
public string Text { get; set; }
```

### Property Value

TYPE	DESCRIPTION
System.String	

## Type

The type of the position. For possible types see [DocumentPositionType](#).

### Declaration

```
public override DocumentPositionType Type { get; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">DocumentPositionType</a>	

## Overrides

[DocumentPositionBase.Type](#)

## Methods

### ToString()

Returns the string representation for this [DocumentPositionText](#).

## Declaration

```
public override string ToString()
```

## Returns

TYPE	DESCRIPTION
System.String	The string representation for this <a href="#">DocumentPositionText</a> .

## Overrides

[DocumentPositionBase.ToString\(\)](#)

### ValidateElement()

Validates the element and returns a list of [DocumentValidationError](#) objects.

## Declaration

```
protected override List<DocumentValidationError> ValidateElement()
```

## Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">DocumentValidationError</a> >	A list of <a href="#">DocumentValidationError</a> objects.

## Overrides

[RetailForce.Fiscalisation.ValidationBase<RetailForce.Fiscalisation.Model.Document.DocumentValidationError>.ValidateElement\(\)](#)

# Class DocumentPositionTotal

Total position. Must be the last position.

## Inheritance

System.Object

ValidationBase<DocumentValidationError>

ValidationPropertyBase<DocumentValidationError>

DocumentValidationBase

DocumentPositionBase

DocumentPositionTotal

## Inherited Members

DocumentPositionBase.PositionNumber

DocumentPositionBase.PositionReference

DocumentPositionBase.CancellationPosition

DocumentPositionBase.ToString()

DocumentValidationBase.VALIDATION\_ERROR\_SOURCE

DocumentValidationBase.AddPropertyError(ErrorLevel, String, String, String)

ValidationPropertyBase<DocumentValidationError>.Validate()

ValidationPropertyBase<DocumentValidationError>.ValidateProperties()

ValidationPropertyBase<DocumentValidationError>.ValidatePropertiesAbstract<RequiredAttributeType>(Boolean)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

Namespace: [RetailForce.Fiscalisation.Model.Document](#)

Assembly: [RetailForce.Fiscalisation.dll](#)

## Syntax

```
public class DocumentPositionTotal : DocumentPositionBase
```

## Properties

### BaseValue

The value of the position without discounts.

## Declaration

```
public decimal BaseValue { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.Decimal	

## Discounts

A list of all discounts for this position.

## Declaration

```
public List<Discount> Discounts { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">Discount</a> >	

## Remarks

At document validation this list will be sorted automatically by [DiscountOrder](#). The [DiscountOrder](#) must start with 0 value and must have continuous order.

## DocumentLevel

The validation level for this element.

## Declaration

```
protected override DocumentLevel DocumentLevel { get; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">DocumentLevel</a>	

## Overrides

[DocumentPositionBase.DocumentLevel](#)

## Type

The type of the position. For possible types see [DocumentPositionType](#).

## Declaration

```
public override DocumentPositionType Type { get; }
```

## Property Value

TYPE	DESCRIPTION
<a href="#">DocumentPositionType</a>	

## Overrides

[DocumentPositionBase.Type](#)

## Value

The value of the position including discounts.

## Declaration

```
public decimal Value { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.Decimal	

## Methods

[ValidateElement\(\)](#)

Validates the element with element specific validation and returns a list of validation errors.

#### Declaration

```
protected override List<DocumentValidationError> ValidateElement()
```

#### Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">DocumentValidationError</a> >	A list of <a href="#">ValidationError</a> objects.

#### Overrides

```
RetailForce.Fiscalisation.ValidationBase<RetailForce.Fiscalisation.Model.Document.DocumentValidationError>.ValidateElement()
```



# Enum DocumentPositionType

Represents the possible types of a document position.

Namespace: [RetailForce.Fiscalisation.Model.Document](#)

Assembly: [RetailForce.Fiscalisation.dll](#)

Syntax

```
public enum DocumentPositionType
```

## Fields

NAME	DESCRIPTION
Booking	Represents a booking position. A booking position can be used for booking values (instead of items).
Item	Represents an item position.
SubItem	
Text	Represents a text position.
Total	Represents a total position. A total position can be used for sending the total amount and discounts on the total document.

# Class DocumentPositionVatPosition

Base class for all positions having vat.

## Inheritance

System.Object

[ValidationBase<DocumentValidationError>](#)

[ValidationPropertyBase<DocumentValidationError>](#)

[DocumentValidationBase](#)

[DocumentPositionBase](#)

DocumentPositionVatPosition

[DocumentPositionBooking](#)

[DocumentPositionItemBase](#)

## Implements

[IVatPosition](#)

## Inherited Members

[DocumentPositionBase.PositionNumber](#)

[DocumentPositionBase.PositionReference](#)

[DocumentPositionBase.CancellationPosition](#)

[DocumentPositionBase.Type](#)

[DocumentPositionBase.DocumentLevel](#)

[DocumentPositionBase.ToString\(\)](#)

[DocumentValidationBase.VALIDATION\\_ERROR\\_SOURCE](#)

[DocumentValidationBase.AddPropertyError\(ErrorLevel, String, String, String\)](#)

[ValidationPropertyBase<DocumentValidationError>.Validate\(\)](#)

[ValidationPropertyBase<DocumentValidationError>.ValidateProperties\(\)](#)

[ValidationPropertyBase<DocumentValidationError>.ValidatePropertiesAbstract<RequiredAttributeType>\(Boolean\)](#)

[ValidationBase<DocumentValidationError>.ValidateElement\(\)](#)

[System.Object.Equals\(System.Object\)](#)

[System.Object.Equals\(System.Object, System.Object\)](#)

[System.Object.GetHashCode\(\)](#)

[System.Object.GetType\(\)](#)

[System.Object.MemberwiseClone\(\)](#)

[System.Object.ReferenceEquals\(System.Object, System.Object\)](#)

Namespace: [RetailForce.Fiscalisation.Model.Document](#)

Assembly: [RetailForce.Fiscalisation.dll](#)

## Syntax

```
[Serializable]
public abstract class DocumentPositionVatPosition : DocumentPositionBase, IVatPosition
```

## Properties

### AccountingIdentifier

An additional identifier for accounting purposes (accounting interface).

## Declaration

```
public virtual string AccountingIdentifier { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.String	

### GrossValue

The gross value of the booking.

Declaration

```
[Required]
public virtual decimal GrossValue { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Decimal	

### NetValue

The net value of the booking. If there is no Vat, or vat with 0 percent must be equal [GrossValue](#);

Declaration

```
[Required]
public virtual decimal NetValue { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Decimal	

### TaxValue

The vat value of the booking.

Declaration

```
public virtual decimal TaxValue { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Decimal	

### VatIdentification

The value added tax for this position.

Declaration

```
public virtual int VatIdentification { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Int32	

## VatPercent

The percentage of the vat

Declaration

```
public virtual decimal VatPercent { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Decimal	

## Implements

[IVatPosition](#)

# Class DocumentReference

A document reference used for referencing other documents (when canceling, linking, etc.).

## Inheritance

System.Object

[ValidationBase](#)<[DocumentValidationError](#)>

[ValidationPropertyBase](#)<[DocumentValidationError](#)>

[DocumentValidationBase](#)

DocumentReference

[DocumentPositionReference](#)

## Inherited Members

[DocumentValidationBase.VALIDATION\\_ERROR\\_SOURCE](#)

[DocumentValidationBase.AddPropertyError](#)(ErrorLevel, String, String, String)

[ValidationPropertyBase](#)<[DocumentValidationError](#)>.Validate()

[ValidationPropertyBase](#)<[DocumentValidationError](#)>.ValidateProperties()

[ValidationPropertyBase](#)<[DocumentValidationError](#)>.ValidatePropertiesAbstract<[RequiredAttributeType](#)>(Boolean)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Model.Document](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
[Serializable]
public class DocumentReference : DocumentValidationBase
```

## Properties

### DocumentBookDate

The storage date of the referenced document.

#### Declaration

```
public DateTime DocumentBookDate { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.DateTime	

### DocumentGuid

The document guid of the referenced document.

#### Declaration

```
public Guid DocumentGuid { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Guid	

#### Remarks

Either the [DocumentGuid](#) or the complete document key ([StoreNumber](#), [TerminalNumber](#), [DocumentType](#) and [DocumentNumber/FiscalDocumentNumber](#)) must be set.

### DocumentId

The unique identification of the document.

#### Declaration

```
public string DocumentId { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### Remarks

Should be continuous and unique identification of all documents. required, max length = 40.

### DocumentLevel

#### Declaration

```
protected override DocumentLevel DocumentLevel { get; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">DocumentLevel</a>	

#### Overrides

[DocumentValidationBase.DocumentLevel](#)

### DocumentNumber

The document number of the referenced document.

#### Declaration

```
public string DocumentNumber { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

### DocumentType

The type of the referenced document.

#### Declaration

```
public DocumentType? DocumentType { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Nullable< <a href="#">DocumentType</a> >	

#### FiscalDocumentNumber

The fiscal document number of the referenced document.

#### Declaration

```
public int FiscalDocumentNumber { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Int32	

#### Remarks

Either the [DocumentNumber](#) or the [FiscalDocumentNumber](#) must be set (when not using [DocumentGuid](#)).

#### ReferenceType

The type of the reference.

#### Declaration

```
public ReferenceType ReferenceType { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">ReferenceType</a>	

#### StoreNumber

The store number of the referenced document.

#### Declaration

```
public string StoreNumber { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### TerminalNumber

The terminal number of the referenced document.

#### Declaration

```
public string TerminalNumber { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.String	

#### Methods

##### ValidateElement()

#### Declaration

```
protected override List<DocumentValidationError> ValidateElement()
```

#### Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">DocumentValidationError</a> >	

#### Overrides

RetailForce.Fiscalisation.ValidationBase<RetailForce.Fiscalisation.Model.Document.DocumentValidationError>.ValidateElement()



# Class DocumentTaxPosition

Represents a tax position (summary for all tax items on a document).

## Inheritance

System.Object

DocumentTaxPosition

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Model.Document](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class DocumentTaxPosition
```

## Properties

### GrossAmount

The gross amount (including vat) for this vat position.

#### Declaration

```
public decimal GrossAmount { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Decimal	

### NetAmount

The net amount (without vat) for this vat position.

#### Declaration

```
public decimal NetAmount { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Decimal	

### VatAmount

The amount of the vat for this vat position.

#### Declaration

```
public decimal VatAmount { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Decimal	

#### VatIdentification

The identification for this vat position.

#### Declaration

```
public int VatIdentification { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Int32	

#### VatPercent1

The percentage for this vat position.

#### Declaration

```
public decimal VatPercent1 { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Decimal	

# Enum DocumentType

The type of the document.

Namespace: [RetailForce.Fiscalisation.Model.Document](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public enum DocumentType
```

Remarks

Not every document type is used for every storage provider and fiscal interface.

You can find supported document types at

Fields

NAME	DESCRIPTION
DeliveryNote	Delivery note to a customer.
EndOfDay	End Of Day Receipt
Invoice	Invoice to a customer.
PayIn	Pay in to the cash register system.
PayOut	Pay out for the cash register system.
Receipt	Receipt of a cash register system.
TableOrder	Table order (Gastronomy).

Extension Methods

[DocumentTypeExtensions.In\(DocumentType\[\]\)](#)

# Class DocumentTypeExtensions

## Inheritance

System.Object

DocumentTypeExtensions

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Model.Document](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public static class DocumentTypeExtensions
```

## Methods

In(DocumentType, DocumentType[])

### Declaration

```
public static bool In(this DocumentType documentType, params DocumentType[] parameters)
```

### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">DocumentType</a>	documentType	
<a href="#">DocumentType[]</a>	parameters	

### Returns

TYPE	DESCRIPTION
System.Boolean	

# Class DocumentValidationError

Represents a document validation error.

## Inheritance

System.Object

[ValidationError](#)

DocumentValidationError

## Inherited Members

[ValidationError.ErrorLevel](#)

[ValidationError.ErrorText](#)

[ValidationError.ErrorSource](#)

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

Namespace: [RetailForce.Fiscalisation.Model.Document](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class DocumentValidationError : ValidationError
```

## Constructors

DocumentValidationError(ErrorLevel, DocumentLevel, String, String)

Constructor.

## Declaration

```
public DocumentValidationError(ErrorLevel errorLevel, DocumentLevel level, string errorText, string errorSource = "")
```

## Parameters

TYPE	NAME	DESCRIPTION
<a href="#">ErrorLevel</a>	errorLevel	The level of the error (errortype). Possible values are error, warning and information. See <a href="#">ErrorLevel</a> for more information.
<a href="#">DocumentLevel</a>	level	The level of the error in the document. Possible values are header, position, payment. See <a href="#">level</a> for more information.
System.String	errorText	The description of the error.
System.String	errorSource	The source module of the error. If omitted "Document" is assumed.

## Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>errorText</code> is set to null or empty string.

## Properties

### Level

The level of the error in the document. Possible values are header, position, payment.

#### Declaration

```
public DocumentLevel Level { get; }
```

#### Property Value

TYPE	DESCRIPTION
<a href="#">DocumentLevel</a>	

## Methods

### ToString()

Returns the string representation for this [DocumentValidationError](#).

#### Declaration

```
public override string ToString()
```

#### Returns

TYPE	DESCRIPTION
System.String	The string representation for this <a href="#">DocumentValidationError</a> .

#### Overrides

[ValidationError.ToString\(\)](#)

# Interface IBusinessTransactionTypePosition

Interface for all positions containing a business transaction type.

Inherited Members

[IVatPosition.VatIdentification](#)

[IVatPosition.VatPercent](#)

[IVatPosition.NetValue](#)

[IVatPosition.GrossValue](#)

[IVatPosition.TaxValue](#)

[IVatPosition.AccountingIdentifier](#)

Namespace: [RetailForce.Fiscalisation.Model.Document](#)

Assembly: [RetailForce.Fiscalisation.dll](#)

Syntax

```
public interface IBusinessTransactionTypePosition : IVatPosition
```

## Properties

### BusinessTransactionType

The business transaction type for this position.

Declaration

```
BusinessTransactionType BusinessTransactionType { get; set; }
```

Property Value

TYPE	DESCRIPTION
<a href="#">BusinessTransactionType</a>	

## Extension Methods

[DocumentModelExtensions.GetBaseNetValue\(IBusinessTransactionTypePosition\)](#)

[DocumentModelExtensions.GetBaseGrossValue\(IBusinessTransactionTypePosition\)](#)

[DocumentModelExtensions.GetBaseTaxValue\(IBusinessTransactionTypePosition\)](#)

[DocumentModelExtensions.GetCaption\(IBusinessTransactionTypePosition\)](#)

# Interface IVatPosition

Interface for all positions having vat.

Namespace: [RetailForce.Fiscalisation.Model.Document](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public interface IVatPosition
```

## Properties

### AccountingIdentifier

An additional identifier for accounting purposes (accounting interface).

Declaration

```
string AccountingIdentifier { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.String	

### GrossValue

The gross value of the booking.

Declaration

```
decimal GrossValue { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Decimal	

### NetValue

The net value of the booking. If there is no Vat, or vat with 0 percent must be equal [GrossValue](#);

Declaration

```
decimal NetValue { get; set; }
```

Property Value

TYPE	DESCRIPTION
System.Decimal	

### TaxValue

The vat value of the booking.

Declaration

```
decimal TaxValue { get; set; }
```



#### Property Value

TYPE	DESCRIPTION
System.Decimal	

#### VatIdentification

The value added tax for this position.

#### Declaration

```
int VatIdentification { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Int32	

#### VatPercent

The percentage of the vat

#### Declaration

```
decimal VatPercent { get; set; }
```

#### Property Value

TYPE	DESCRIPTION
System.Decimal	

# Class QuantityUnit

Represents a quantity unit of a position.

## Inheritance

System.Object

QuantityUnit

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Model.Document](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
[Serializable]  
public class QuantityUnit
```

## Properties

### Id

The id of the quantity unit.

## Declaration

```
public string Id { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.String	

# Enum ReferenceType

The reference type of the document (position) reference.

Namespace: [RetailForce.Fiscalisation.Model.Document](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public enum ReferenceType
```

Fields

NAME	DESCRIPTION
Cancellation	Represents a type to a voided document / document position.

# Namespace RetailForce.Fiscalisation.Provider

## Classes

### [CloudStorageProvider](#)

Represents a storage provider to the retail experts cloud system.

### [FileAlreadyExistsException](#)

Represents an exception if a file already exists on the given path.

### [FileStorageProvider](#)

Represents storage of documents to files in given directory.

### [PaymentStockInfo](#)

Content of the client cash stock file.

### [PaymentStockProvider](#)

Provider to store stock information for payments.

## Interfaces

### [IStorageProvider](#)

Represents a storage provider for digital documents.

# Class CloudStorageProvider

Represents a storage provider to the retail experts cloud system.

## Inheritance

System.Object

CloudStorageProvider

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Provider](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class CloudStorageProvider
```

# Class FileAlreadyExistsException

Represents an exception if a file already exists on the given path.

## Inheritance

System.Object  
System.Exception  
FileAlreadyExistsException

## Implements

System.Runtime.Serialization.ISerializable

## Inherited Members

System.Exception.GetBaseException()  
System.Exception.GetObjectData(System.Runtime.Serialization.SerializationInfo, System.Runtime.Serialization.StreamingContext)  
System.Exception.GetType()  
System.Exception.ToString()  
System.Exception.Data  
System.Exception.HelpLink  
System.Exception.HResult  
System.Exception.InnerException  
System.Exception.Source  
System.Exception.StackTrace  
System.Exception.TargetSite  
System.Exception.SerializeObjectState  
System.Object.Equals(System.Object)  
System.Object.Equals(System.Object, System.Object)  
System.Object.GetHashCode()  
System.Object.MemberwiseClone()  
System.Object.ReferenceEquals(System.Object, System.Object)

Namespace: [RetailForce.Fiscalisation.Provider](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class FileAlreadyExistsException : Exception, ISerializable
```

## Constructors

### FileAlreadyExistsException(String)

Constructor.

## Declaration

```
public FileAlreadyExistsException(string filename)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.String	filename	The filename of the file which already exists on disk.

### FileAlreadyExistsException(String, String)

Constructor.

## Declaration

```
public FileAlreadyExistsException(string filename, string message)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.String	filename	The filename of the file which already exists on disk.
System.String	message	The message for this exception.

## Properties

### Filename

The filename of the file which already exists on disk.

## Declaration

```
public string Filename { get; }
```

## Property Value

TYPE	DESCRIPTION
System.String	

### Message

The message for this exception.

## Declaration

```
public string Message { get; }
```

## Property Value

TYPE	DESCRIPTION
System.String	

## Implements

System.Runtime.Serialization.ISerializable

# Class FileStorageProvider

Represents storage of documents to files in given directory.

## Inheritance

System.Object

[LoggingBase](#)

FileStorageProvider

## Implements

[IStorageProvider](#)

[IDocumentInterface](#)

## Inherited Members

[LoggingBase.\\_logger](#)

[LoggingBase.\\_logSource](#)

[LoggingBase.LogCritical\(String, Object\[\]\)](#)

[LoggingBase.LogCritical\(Exception, String, Object\[\]\)](#)

[LoggingBase.LogError\(String, Object\[\]\)](#)

[LoggingBase.LogError\(Exception, String, Object\[\]\)](#)

[LoggingBase.LogWarning\(String, Object\[\]\)](#)

[System.Object.Equals\(System.Object\)](#)

[System.Object.Equals\(System.Object, System.Object\)](#)

[System.Object.GetHashCode\(\)](#)

[System.Object.GetType\(\)](#)

[System.Object.MemberwiseClone\(\)](#)

[System.Object.ReferenceEquals\(System.Object, System.Object\)](#)

[System.Object.ToString\(\)](#)

Namespace: [RetailForce.Fiscalisation.Provider](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class FileStorageProvider : LoggingBase, IStorageProvider, IDocumentInterface
```

## Constructors

[FileStorageProvider\(ILogger, String\)](#)

Constructor.

## Declaration

```
public FileStorageProvider(ILogger logger, string basePath)
```

## Parameters

TYPE	NAME	DESCRIPTION
Microsoft.Extensions.Logging.ILogger	logger	The logger for this class.
System.String	basePath	The path where the files should be stored. Must not be null or empty.

## Exceptions



TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>basePath</code> was set to null or empty string.
System.IO.DirectoryNotFoundException	Thrown if directory <code>basePath</code> is not found or not a valid path.

## Properties

### ProcessingDocumentTypes

Returns all process document types by this provider.

#### Declaration

```
public IReadOnlyList<DocumentType> ProcessingDocumentTypes { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.IReadOnlyList< <a href="#">DocumentType</a> >	

### SupportedDocumentTypes

Returns all supported document types by this provider.

#### Declaration

```
public IReadOnlyList<DocumentType> SupportedDocumentTypes { get; }
```

#### Property Value

TYPE	DESCRIPTION
System.Collections.Generic.IReadOnlyList< <a href="#">DocumentType</a> >	

## Methods

### BeginTransaction(Nullable<Guid>)

Starts a new transaction on this interface.

#### Declaration

```
public void BeginTransaction(Guid? transactionId)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Nullable<System.Guid>	transactionId	The id for the new transaction. The transactionId is the DocumentGuid of the <a href="#">Document</a> .

## Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>transactionId</code> is set to null or System.Guid.Empty.
System.InvalidOperationException	Thrown if a transaction is already running and this function is called again.

### CommitTransaction(Nullable<Guid>)

Commits the transaction on this interface.

Declaration

```
public void CommitTransaction(Guid? transactionId)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Nullable<System.Guid>	transactionId	The id for the current transaction. The transactionId is the DocumentGuid of the <a href="#">Document</a> .

Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>transactionId</code> is set to null or System.Guid.Empty.
System.InvalidOperationException	Thrown if this function is called and no transaction was started before.
System.ArgumentException	Thrown if the <code>transactionId</code> is not the actual running transaction.

### RollbackTransaction(Nullable<Guid>)

Roll the transaction on this interface back.

Declaration

```
public void RollbackTransaction(Guid? transactionId)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Nullable<System.Guid>	transactionId	The id for the current transaction. The transactionId is the DocumentGuid of the <a href="#">Document</a> .

Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>transactionId</code> is set to null or System.Guid.Empty.
System.InvalidOperationException	Thrown if this function is called and no transaction was started before.
System.ArgumentException	Thrown if the <code>transactionId</code> is not the actual running transaction.

### StoreDocument(Nullable<Guid>, Document)

Stores a document with this provider.

Declaration

```
public void StoreDocument(Guid? transactionId, Document document)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Nullable<System.Guid>	transactionId	The id for the current transaction. The transactionId is the DocumentGuid of the <a href="#">Document</a> .
<a href="#">Document</a>	document	The document to store.

Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if <code>document</code> or <code>transactionId</code> is set to null (or Guid.Empty).
System.IO.InvalidDataException	Thrown if the serialized string is null or empty.
System.InvalidOperationException	Thrown if the function was called and no transaction was started in front.
<a href="#">FileAlreadyExistsException</a>	Thrown if the work file for this document already exists.
System.ArgumentException	Thrown if the <code>transactionId</code> is not the actual running transaction.

### ValidateDocument(Document)

Validates a document and returns (if appropriate) a list of document validation errors.

Declaration

```
public List<DocumentValidationError> ValidateDocument(Document document)
```

#### Parameters

TYPE	NAME	DESCRIPTION
<a href="#">Document</a>	document	The document to validate.

#### Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">DocumentValidationError</a> >	The list of document validation errors.

#### Remarks

This function will always return an empty list because the [FileStorageProvider](#) will always store anything of the model.

#### Implements

[IStorageProvider](#)

[IDocumentInterface](#)

# Interface IStorageProvider

Represents a storage provider for digital documents.

Inherited Members

[IDocumentInterface.SupportedDocumentTypes](#)

[IDocumentInterface.ProcessingDocumentTypes](#)

[IDocumentInterface.ValidateDocument\(Document\)](#)

Namespace: [RetailForce.Fiscalisation.Provider](#)

Assembly: RetailForce.Fiscalisation.dll

Syntax

```
public interface IStorageProvider : IDocumentInterface
```

## Methods

### BeginTransaction(Nullable<Guid>)

Starts a new transaction on this interface.

Declaration

```
void BeginTransaction(Guid? transactionId)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Nullable<System.Guid>	transactionId	The id for the new transaction. The transactionId is the DocumentGuid of the <a href="#">Document</a> .

### CommitTransaction(Nullable<Guid>)

Commits the transaction on this interface.

Declaration

```
void CommitTransaction(Guid? transactionId)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Nullable<System.Guid>	transactionId	The id for the new transaction. The transactionId is the DocumentGuid of the <a href="#">Document</a> .

### RollbackTransaction(Nullable<Guid>)

Roll the transaction on this interface back.

Declaration

```
void RollbackTransaction(Guid? transactionId)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Nullable<System.Guid>	transactionId	The id for the new transaction. The transactionId is the DocumentGuid of the <a href="#">Document</a> .

### StoreDocument(Nullable<Guid>, Document)

Stores a document with this provider.

Declaration

```
void StoreDocument(Guid? transactionId, Document document)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Nullable<System.Guid>	transactionId	The id for the new transaction. The transactionId is the DocumentGuid of the <a href="#">Document</a> .
<a href="#">Document</a>	document	The document to store.

# Class PaymentStockInfo

Content of the client cash stock file.

## Inheritance

System.Object

PaymentStockInfo

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Provider](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public sealed class PaymentStockInfo
```

## Properties

### EditInfo

Edit information for the file.

## Declaration

```
[JsonRequired]  
public string EditInfo { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.String	

## Hash

The hash of the payment collection ([Payments](#)) and the [EditInfo](#) for security reasons.

## Declaration

```
[JsonProperty("Hash")]  
[JsonRequired]  
public string Hash { get; }
```

## Property Value

TYPE	DESCRIPTION
System.String	

## Payments

List of payment records containing the stock of each payment.

## Declaration

```
[JsonRequired]  
public List<Payment> Payments { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">Payment</a> >	

## UniqueClientIdentifier

The unique client id of the corresponding [FiscalClient](#)

## Declaration

```
[JsonRequired]  
public Guid UniqueClientIdentifier { get; set; }
```

## Property Value

TYPE	DESCRIPTION
System.Guid	

## Methods

### CheckHashCode()

Check whether the stored hashcode ([Hash](#)) is correct with the given values.

## Declaration

```
public bool CheckHashCode()
```

## Returns

TYPE	DESCRIPTION
System.Boolean	True if the hash is correct; otherwise false.



# Class PaymentStockProvider

Provider to store stock information for payments.

## Inheritance

System.Object

PaymentStockProvider

## Implements

[IStorageProvider](#)

[IDocumentInterface](#)

System.IDisposable

## Inherited Members

System.Object.Equals(System.Object)

System.Object.Equals(System.Object, System.Object)

System.Object.GetHashCode()

System.Object.GetType()

System.Object.MemberwiseClone()

System.Object.ReferenceEquals(System.Object, System.Object)

System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Provider](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
public class PaymentStockProvider : IStorageProvider, IDocumentInterface, IDisposable
```

## Remarks

This provider is used to use simple closing methods.

## Constructors

PaymentStockProvider(FiscalClient, String)

Constructor.

## Declaration

```
public PaymentStockProvider(FiscalClient fiscalClient, string storageRootPath = "")
```

## Parameters

TYPE	NAME	DESCRIPTION
<a href="#">FiscalClient</a>	fiscalClient	The fiscal client for this payment stock provider.
System.String	storageRootPath	The root path for the payment stock provider files. If empty <a href="#">GetStaticStandardLocalClientDataPath(Guid)</a> is used.

## Exceptions

TYPE	CONDITION
------	-----------

TYPE	CONDITION
System.ArgumentNullException	Thrown if parameter <code>fiscalClient</code> is set to null.

## Fields

### `_fiscalClient`

Declaration

```
protected FiscalClient _fiscalClient
```

Field Value

TYPE	DESCRIPTION
<a href="#">FiscalClient</a>	

### `_openTransactions`

Declaration

```
protected List<Guid> _openTransactions
```

Field Value

TYPE	DESCRIPTION
System.Collections.Generic.List<System.Guid>	

### `_storageRootPath`

Declaration

```
protected string _storageRootPath
```

Field Value

TYPE	DESCRIPTION
System.String	

### `_supportedDocumentTypes`

Declaration

```
protected List<DocumentType> _supportedDocumentTypes
```

Field Value

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">DocumentType</a> >	

## Properties

### `ProcessingDocumentTypes`

Returns all document types which are processed by this interface.

## Declaration

```
public IReadOnlyList<DocumentType> ProcessingDocumentTypes { get; }
```

## Property Value

TYPE	DESCRIPTION
System.Collections.Generic.IReadOnlyList< <a href="#">DocumentType</a> >	

## SupportedDocumentTypes

Returns all supported document types by this fiscal module.

## Declaration

```
public IReadOnlyList<DocumentType> SupportedDocumentTypes { get; }
```

## Property Value

TYPE	DESCRIPTION
System.Collections.Generic.IReadOnlyList< <a href="#">DocumentType</a> >	

## Methods

### BeginTransaction(Nullable<Guid>)

Starts a new transaction on this interface.

## Declaration

```
public void BeginTransaction(Guid? transactionId)
```

## Parameters

TYPE	NAME	DESCRIPTION
System.Nullable<System.Guid>	transactionId	The id for the new transaction. The transactionId is the DocumentGuid of the <a href="#">Document</a> .

## Exceptions

TYPE	CONDITION
System.Transactions.TransactionException	Thrown if a new new transaction is started and an old one is not finished.
System.ArgumentNullException	Thrown if parameter <code>transactionId</code> is set to null or System.Guid.Empty.

### CommitTransaction(Nullable<Guid>)

Commits the transaction on this interface.

## Declaration

```
public void CommitTransaction(Guid? transactionId)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Nullable<System.Guid>	transactionId	The id for the new transaction. The transactionId is the DocumentGuid of the <a href="#">Document</a> .

#### Exceptions

TYPE	CONDITION
System.Transactions.TransactionInDoubtException	Thrown if no transaction file exists (transaction was not started).
System.ArgumentNullException	Thrown if parameter <code>transactionId</code> is set to null or System.Guid.Empty.

### Dispose()

#### Declaration

```
public void Dispose()
```

### GetActualStock(Guid)

Returns the actual stock for the requested client.

#### Declaration

```
public List<Payment> GetActualStock(Guid uniqueClientId)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Guid	uniqueClientId	The unique client id ( <a href="#">UniqueClientId</a> ) of the client where the payment stock is requested.

#### Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">Payment</a> >	The actual stock for the requested client; Null if no stock is stored until now.

#### Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if parameter <code>uniqueClientId</code> is set to null.

### ReadClientStockfile(Guid, Boolean)

Reads the stock file of the given client and returns the payment stock info.

#### Declaration

```
protected PaymentStockInfo ReadClientStockfile(Guid uniqueClientId, bool isTransaction)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Guid	uniqueClientId	The client id for the file where the payment stock info is requested.
System.Boolean	isTransaction	True if the transaction file has to be read; otherwise false.

#### Returns

TYPE	DESCRIPTION
<a href="#">PaymentStockInfo</a>	The payment stock info of the file.

#### Remarks

[PaymentStockInfo](#) is secured through sha256 hash. When reading file this hash is checked and if failed a `System.FormatException` is raised.

#### Exceptions

TYPE	CONDITION
System.FormatException	Thrown if the hash check when reading the file fails.

### ReadStockfile(Boolean)

Reads the stock file and returns the payment stock info.

#### Declaration

```
protected PaymentStockInfo ReadStockfile(bool isTransaction)
```

#### Parameters

TYPE	NAME	DESCRIPTION
System.Boolean	isTransaction	True if the transaction file has to be read; otherwise false.

#### Returns

TYPE	DESCRIPTION
<a href="#">PaymentStockInfo</a>	The payment stock info of the file.

#### Remarks

[PaymentStockInfo](#) is secured through sha256 hash. When reading file this hash is checked and if failed a `System.FormatException` is raised.

## Exceptions

TYPE	CONDITION
System.FormatException	Thrown if the hash check when reading the file fails.

## RollbackTransaction(Nullable<Guid>)

Roll the transaction on this interface back.

### Declaration

```
public void RollbackTransaction(Guid? transactionId)
```

### Parameters

TYPE	NAME	DESCRIPTION
System.Nullable<System.Guid>	transactionId	The id for the new transaction. The transactionId is the DocumentGuid of the <a href="#">Document</a> .

## Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if parameter <code>transactionId</code> is set to null or System.Guid.Empty.

## StoreDocument(Nullable<Guid>, Document)

Stores a document with this provider.

### Declaration

```
public void StoreDocument(Guid? transactionId, Document document)
```

### Parameters

TYPE	NAME	DESCRIPTION
System.Nullable<System.Guid>	transactionId	The id for the new transaction. The transactionId is the DocumentGuid of the <a href="#">Document</a> .
<a href="#">Document</a>	document	The document to store.

## Exceptions

TYPE	CONDITION
System.Data.ConstraintException	Thrown if the currency code of an existing payment differs from an existing payment in stock file.

TYPE	CONDITION
System.IO.InvalidDataException	Thrown if the loaded data of the stock file contains another client id.
System.ArgumentNullException	Thrown if parameter <code>transactionId</code> is set to null or System.Guid.Empty or if parameter <code>document</code> is set to null.

### ValidateDocument(Document)

Validates a document and returns (if appropriate) a list of document validation errors.

Declaration

```
public List<DocumentValidationError> ValidateDocument(Document document)
```

Parameters

TYPE	NAME	DESCRIPTION
<a href="#">Document</a>	document	The document to validate.

Returns

TYPE	DESCRIPTION
System.Collections.Generic.List< <a href="#">DocumentValidationError</a> >	The list of document validation errors.

Exceptions

TYPE	CONDITION
System.ArgumentNullException	Thrown if parameter <code>document</code> is set to null.

### WriteStockfile(PaymentStockInfo, Boolean)

Write the given payment stock info to the stock file.

Declaration

```
protected void WriteStockfile(PaymentStockInfo paymentStockInfo, bool isTransaction)
```

Parameters

TYPE	NAME	DESCRIPTION
<a href="#">PaymentStockInfo</a>	paymentStockInfo	The <a href="#">PaymentStockInfo</a> to write to the file.
System.Boolean	isTransaction	True if the transaction file should be written; otherwise false.

Implements

IStorageProvider

IDocumentInterface

System.IDisposable



# Namespace RetailForce.Fiscalisation.Swagger

Classes

[SwaggerExcludeAttribute](#)

# Class SwaggerExcludeAttribute

## Inheritance

System.Object  
System.Attribute  
SwaggerExcludeAttribute

## Inherited Members

System.Attribute.Equals(System.Object)  
System.Attribute.GetCustomAttribute(System.Reflection.Assembly, System.Type)  
System.Attribute.GetCustomAttribute(System.Reflection.Assembly, System.Type, System.Boolean)  
System.Attribute.GetCustomAttribute(System.Reflection.MemberInfo, System.Type)  
System.Attribute.GetCustomAttribute(System.Reflection.MemberInfo, System.Type, System.Boolean)  
System.Attribute.GetCustomAttribute(System.Reflection.Module, System.Type)  
System.Attribute.GetCustomAttribute(System.Reflection.Module, System.Type, System.Boolean)  
System.Attribute.GetCustomAttribute(System.Reflection.ParameterInfo, System.Type)  
System.Attribute.GetCustomAttribute(System.Reflection.ParameterInfo, System.Type, System.Boolean)  
System.Attribute.GetCustomAttributes(System.Reflection.Assembly)  
System.Attribute.GetCustomAttributes(System.Reflection.Assembly, System.Boolean)  
System.Attribute.GetCustomAttributes(System.Reflection.Assembly, System.Type)  
System.Attribute.GetCustomAttributes(System.Reflection.Assembly, System.Type, System.Boolean)  
System.Attribute.GetCustomAttributes(System.Reflection.MemberInfo)  
System.Attribute.GetCustomAttributes(System.Reflection.MemberInfo, System.Boolean)  
System.Attribute.GetCustomAttributes(System.Reflection.MemberInfo, System.Type)  
System.Attribute.GetCustomAttributes(System.Reflection.MemberInfo, System.Type, System.Boolean)  
System.Attribute.GetCustomAttributes(System.Reflection.Module)  
System.Attribute.GetCustomAttributes(System.Reflection.Module, System.Boolean)  
System.Attribute.GetCustomAttributes(System.Reflection.Module, System.Type)  
System.Attribute.GetCustomAttributes(System.Reflection.Module, System.Type, System.Boolean)  
System.Attribute.GetCustomAttributes(System.Reflection.ParameterInfo)  
System.Attribute.GetCustomAttributes(System.Reflection.ParameterInfo, System.Boolean)  
System.Attribute.GetCustomAttributes(System.Reflection.ParameterInfo, System.Type)  
System.Attribute.GetCustomAttributes(System.Reflection.ParameterInfo, System.Type, System.Boolean)  
System.Attribute.GetHashCode()  
System.Attribute.IsDefaultAttribute()  
System.Attribute.IsDefined(System.Reflection.Assembly, System.Type)  
System.Attribute.IsDefined(System.Reflection.Assembly, System.Type, System.Boolean)  
System.Attribute.IsDefined(System.Reflection.MemberInfo, System.Type)  
System.Attribute.IsDefined(System.Reflection.MemberInfo, System.Type, System.Boolean)  
System.Attribute.IsDefined(System.Reflection.Module, System.Type)  
System.Attribute.IsDefined(System.Reflection.Module, System.Type, System.Boolean)  
System.Attribute.IsDefined(System.Reflection.ParameterInfo, System.Type)  
System.Attribute.IsDefined(System.Reflection.ParameterInfo, System.Type, System.Boolean)  
System.Attribute.Match(System.Object)  
System.Attribute.TypeId  
System.Object.Equals(System.Object, System.Object)  
System.Object.GetType()  
System.Object.MemberwiseClone()  
System.Object.ReferenceEquals(System.Object, System.Object)  
System.Object.ToString()

Namespace: [RetailForce.Fiscalisation.Swagger](#)

Assembly: RetailForce.Fiscalisation.dll

## Syntax

```
[AttributeUsage(AttributeTargets.Property)]  
public class SwaggerExcludeAttribute : Attribute
```