

Visu-IT! Tools ADDs AutoCode Interface v1.7

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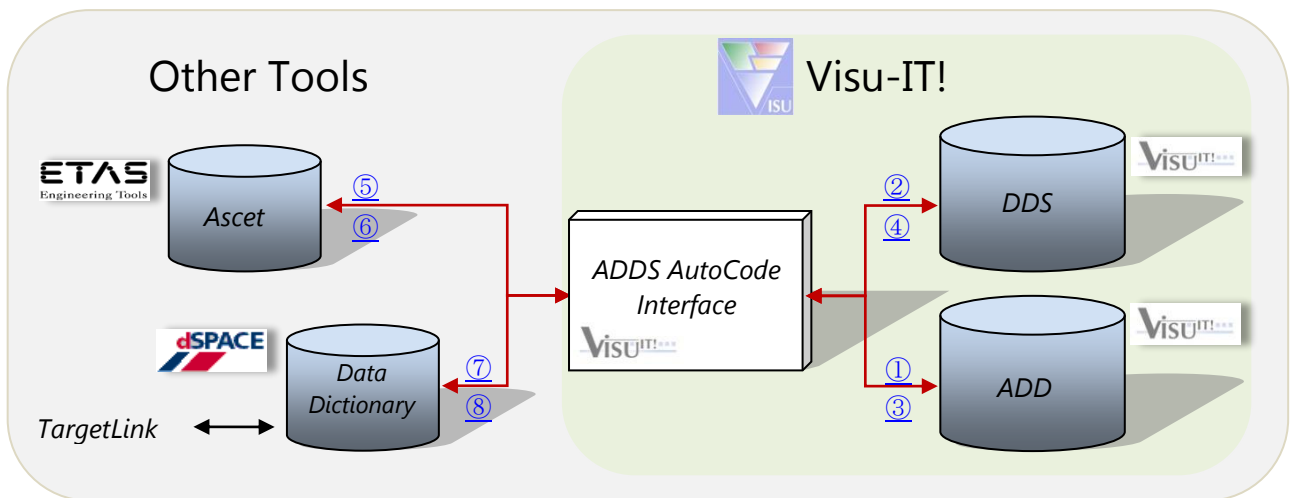
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1 Abstract

The purpose of “ADDS AutoCode Interface” is to ease the communication and collaboration of “Visu-IT!” tools (Automotive Data Dictionary: ADD, Data Declaration System: DDS) and external tools (dSpace Data Dictionary: “TargetLink”, ETAS “Ascet”).

With the aid of a well arranged interface it is possible to transfuse ADD/DDS datasets to TargetLink (based on dSpace Data Dictionary) and Ascet as well as vice versa.



| | | | |
|--------------------------------|--------------------------------|-------------------------------------|-------------------------------------|
| ① ADD to Ascet | ② DDS to Ascet | ③ ADD to TargetLink | ④ DDS to TargetLink |
| ⑤ Ascet to ADD | ⑥ Ascet to DDS | ⑦ TargetLink to ADD | ⑧ TargetLink to DDS |

Notice: “ADDS AutoCode Interface” is distributed in each case as an “Add On” to the Visu-IT! Data Declaration System (DDS).

2 Tool Requirements

Minimal: Visu-IT! Data Declaration System (DDS) v8.1.R0
dSpace Data Dictionary v1.3 respectively ETAS Ascet MD v5.2.1

In order to use the full potential of “ADDS AutoCode Interface” the following tools are required:

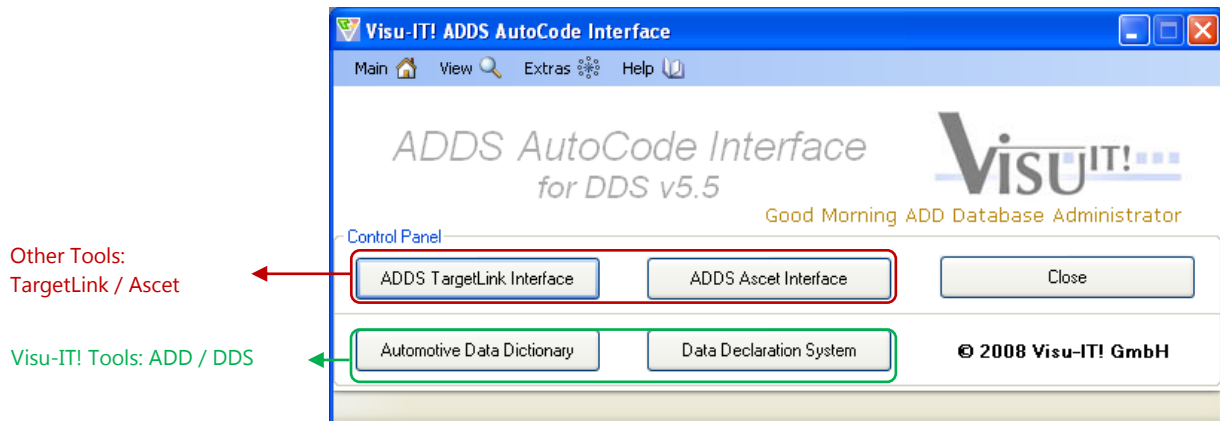


- Visu-IT! Data Declaration System (DDS) v8.1.R0
- Visu-IT! Automotive Data Dictionary (ADD) v8.1.R0
- dSpace Data Dictionary v1.4, TargetLink v2.2
- ETAS Ascet MD v6.1.0

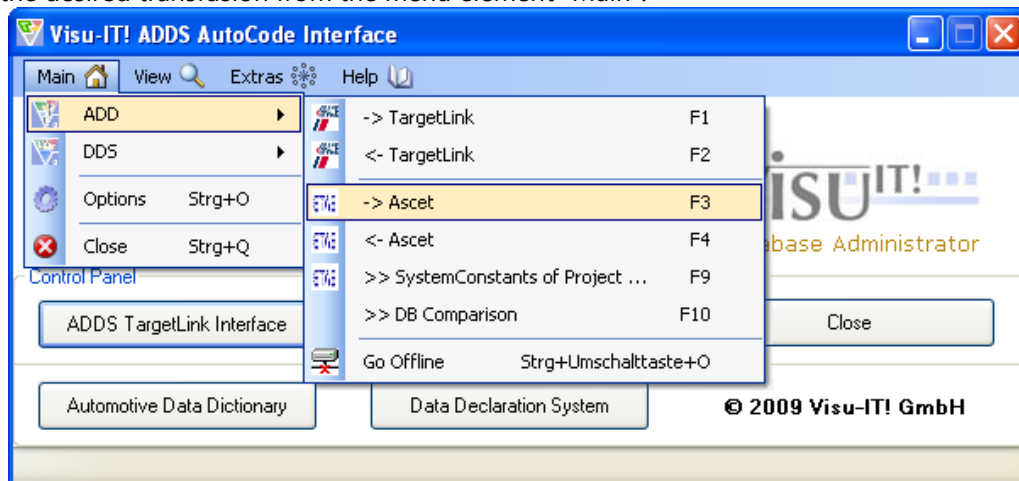
3 Start - up

On the first start of the interface it is necessary to choose the favoured tools. After choosing a tool combination, the interface memorises the last choice automatically by closing the window.

To choose a tool combination, press the appropriate tool button in the "Control Panel":



or select the desired transfusion from the menu element "Main":



It is also possible to select a transfusion by pressing an appointed key. (See [Shortcuts](#))

4 Data Transmission

The interface is designed to relieve the complexity of data transmission between several tools. Therefore the styles of each transmission direction are akin. All around there will be an "Advanced Settings", an "Apply", an "Additional Information" section and a process run – button.

The "Advanced Settings"-button opens a process calibration window. However the "Apply"- button validates and saves the selected process options. Whereas the "Additional Information" section will display detailed information about the selected parameters. Within this a "Settings-Quick Info" will also display the selected "ExistingDBUpdate Mode" and "ContentLevel" in its lower range.

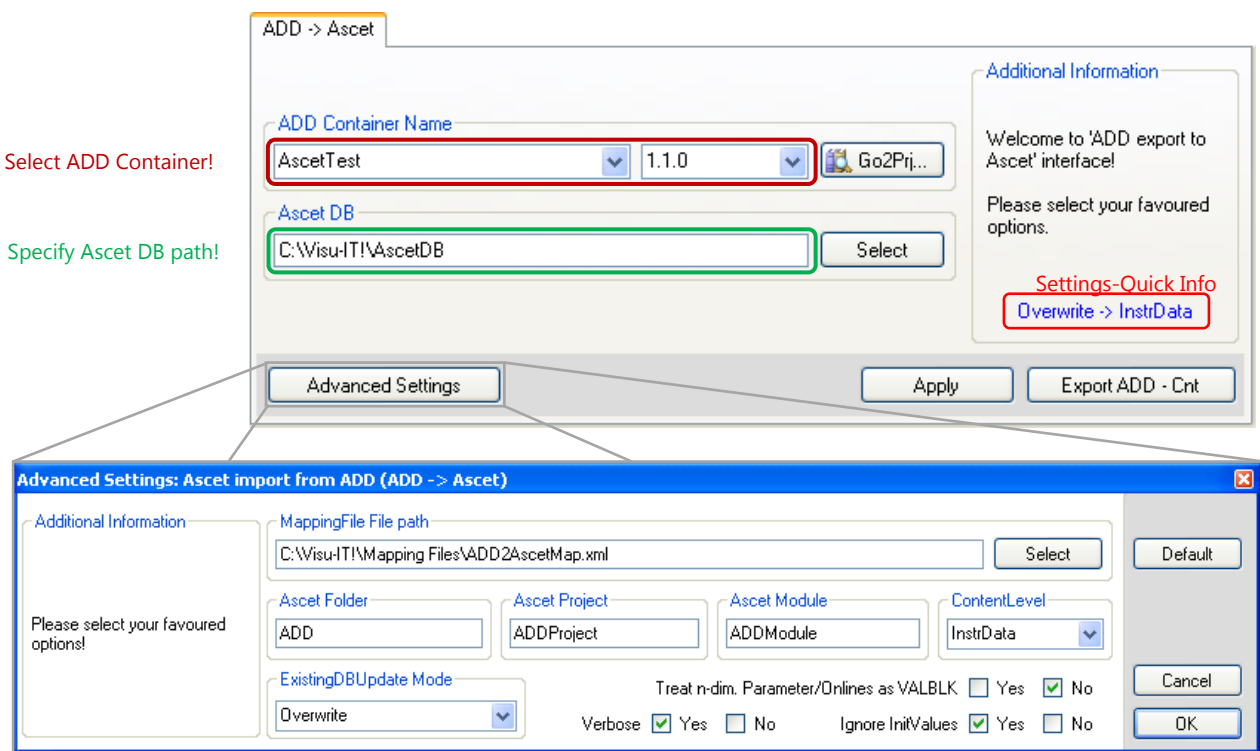
By pressing the menu item "Hide Ctrl. Panel" respectively "Show Ctrl. Panel" of menu option "View" the "Control Panel" will be replaced with a "Quick-Change strip" and vice versa.



"Quick-Change strip": Tools and data transfer direction will be change by clicking on the appropriate symbol in the "Quick-Change area".

4.1 ADD to Ascet

Export a selected Visu-IT! ADD Container into a specified ETAS Ascet database. See: [Ascet Info window!](#)



"*Mapping File Path*": Path of the mandatory xml - file which specifies export options!

"*ExistingDBUpdateMode*": Behaviour control on existing Ascet DB.

- **Overwrite**: Existing database definitions will be overwritten
- **KeepExisting**: Existing database definitions will be kept
- **UpdateOnly**: Only existing database definitions will be updated
- **UpdateProject**: Only existing database conversions will be overwritten and definitions will be updated

"*ContentLevel*": Behaviour control on DDX content.

- **InstrData**: Instrumentation Data (online, parameter, map, axis) with there corresponding attributes will be transferred
- **AttributesOnly**: All 'data types', 'conversions' and 'physical units' will be transferred

- **ALL Attributes:** Import configuration data (data types, conversions...); Data Objects will not be imported.
- **ALL Attributes (incl. obsolete):** Import configuration data (data types, conversions...) incl. elements with status 'obsolete'; Data Objects will not be imported. **Hint:** Setting will not be saved!

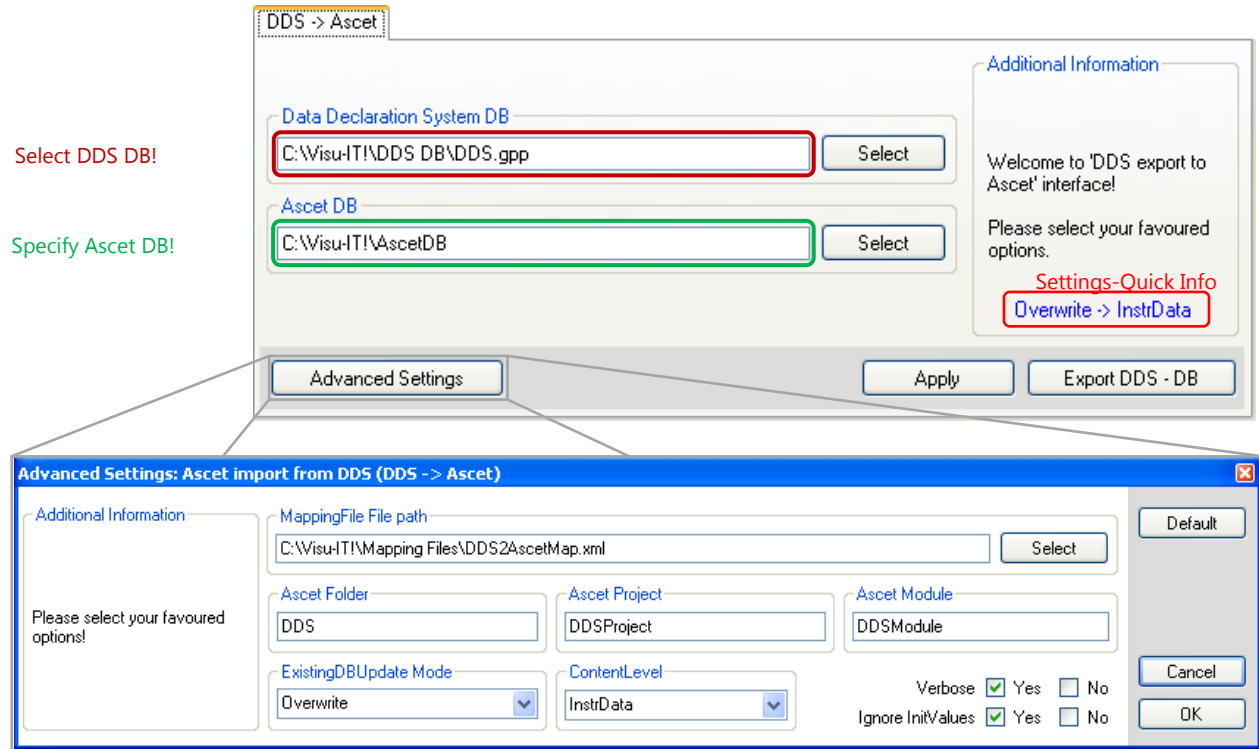
"*Verbose*": Start export in verbose mode.
"*IgnoreInitValues*": Physical values will not be exported.
"*Treat n-dim. Parameter/Onlines as VALBLK*":
Parameter and Online Array will be treated as Data Objects with type 'VALBLK'.

"*AscetFolder*": Ascet folder name which will be exported.
"*AscetProject*": Ascet project name which will be exported.
"*AscetModule*": Ascet module name which will be exported.

Export will be started by pressing the "Export ADD – Cnt".

4.2 DDS to Ascet

Export a selected Visu-IT! DDS database into a specified ETAS Ascet database.



"Mapping File Path": Path of the mandatory xml - file which specifies export options!

"ExistingDBUpdateMode": Behaviour control on existing Ascet DB.

- **Overwrite:** Existing database definitions will be overwritten
- **KeepExisting:** Existing database definitions will be kept
- **UpdateOnly:** Only existing database definitions will be updated
- **UpdateProject:** Only existing database conversions will be overwritten and definitions will be updated

"ContentLevel": Behaviour control on DDX content.

- **InstrData:** Instrumentation Data (online, parameter, map, axis) with there corresponding attributes will be transferred
- **AttributesOnly:** All 'data types', 'conversions' and 'physical units' will be transferred

"Verbose": Start export in verbose mode.

"IgnoreInitValues": Physical values will not be exported.

"AscetFolder": Ascet folder name which will be exported.

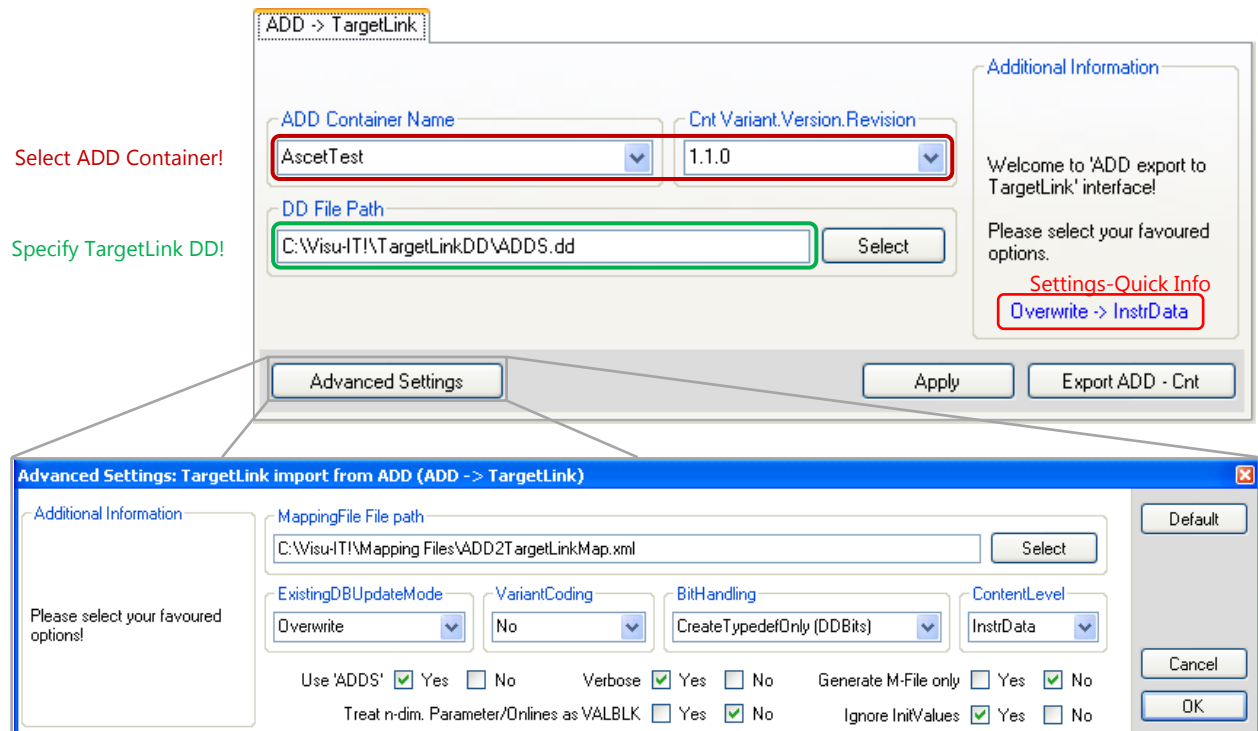
"AscetProject": Ascet project name which will be exported.

"AscetModule": Ascet module name which will be exported.

Export will be started by pressing the "Export DDS – DB".

4.3 ADD to TargetLink

Export a selected Visu-IT! ADD Container into specified dSpace data dictionary.



"Mapping File Path": Path of the mandatory xml - file which specifies export options!

"ExistingDBUpdateMode": Behaviour control on existing dSpace DD.

- **Overwrite:** Existing database definitions will be overwritten
- **KeepExisting:** Existing database definitions will be kept
- **UpdateOnly:** Only existing database definitions will be updated

"ContentLevel": Behaviour control on DDX content.

- **InstrData:** Instrumentation Data (online, parameter, map, axis) with there corresponding attributes will be transferred
- **AttributesOnly:** All 'data types', 'conversions' and 'physical units' will be transferred
- **ALL Attributes:** Import configuration data (data types, conversions...); Data Objects will not be imported.
- **ALL Attributes (incl. obsolete):** Import configuration data (data types, conversions...) incl. elements with status 'obsolete'; Data Objects will not be imported. **Hint:** Setting will not be saved!

"VariantCoding": Behaviour control on "Variant" elements.

- **No:** Variant coding will not be used

- **ViaArrayOfStruct:** Variant coding will be applied via arrays of structures! The array dimension will be defined by the amount of variant criterias. Every array element corresponds to one variant criteria

"BitHandling": Behaviour control on element type.

- **CreateTypedefOnly (DDBits):** Map DDBits to 'bits'! Depending on the target system, a 'bit' is declared as 'bool', 'logical' etc...
- **AddToBitfield (DDBits_BF):** Add ADD bits with the attribute 'packedBit' to bitfields. The bits (and bitfields) will be grouped according to their 'accessFrequency'
- **AddToBitfield_1Byte (DDBits_BF):** As 'AddToBitfield' except: add only 8 bits into a bitfield

"Verbose": Start export in verbose mode.

"Generate M-File only": Omit creating dd – file, MATLAB m-files will be created instead!

"IgnoreInitValues": Physical values will not be exported.

"Use 'ADDS'": Add additional property 'ADDS' to the newly created dSpace DD objects; Containing "ADD Object" information.

"Treat n-dim. Parameter/Onlines as VALBLK":

Parameter and Online Array will be treated as Data Objects with type 'VALBLK'.

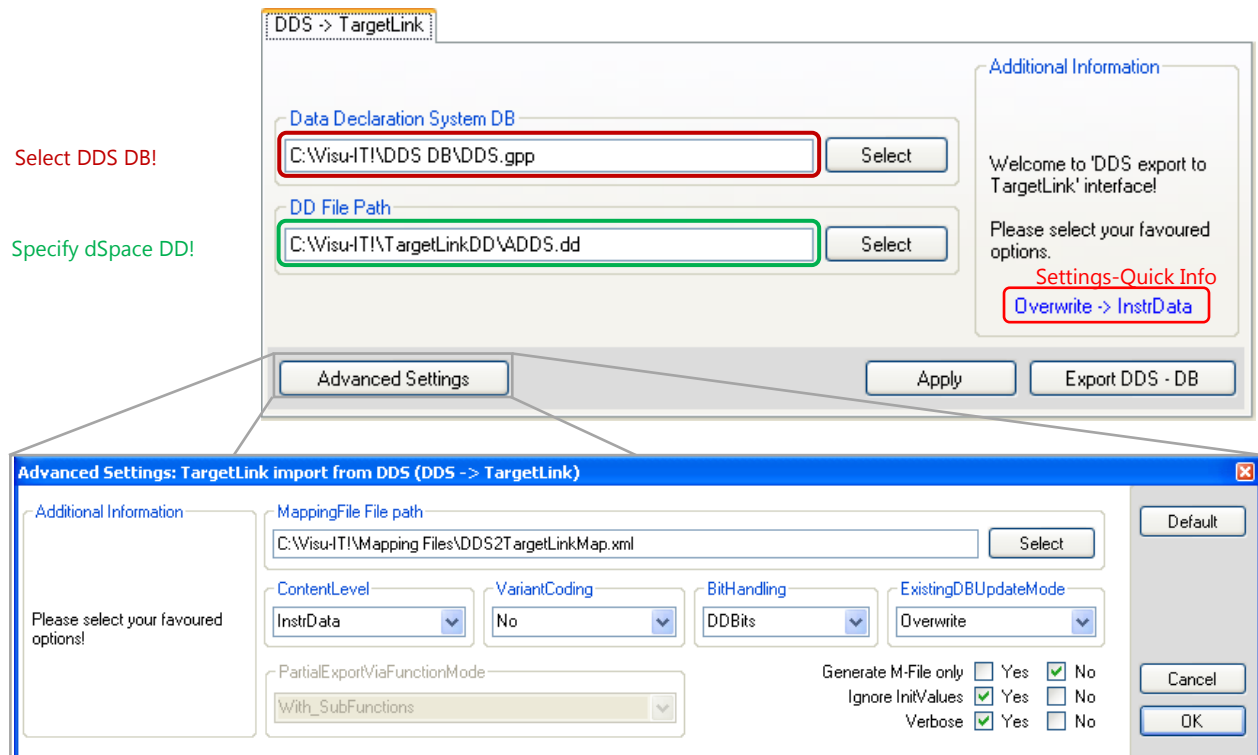
'ADDS' property e.g.: Container name, ADD classification, linked axis...

```
<ADDS>  
  <ADDSENVIRONMENT Type="Container" Name="AscetTest" Classification="LOCAL"/>  
</ADDS>
```

Export will be started by pressing the "Export ADD – Cnt".

4.4 DDS to TargetLink

Export a selected Visu-IT! DDS database to a specified dSpace data dictionary.



"Mapping File Path": Path of the mandatory xml - file which specifies export options!

"ExistingDBUpdateMode": Behaviour control on existing dSpace DD.

- **Overwrite**: Existing database definitions will be overwritten
- **KeepExisting**: Existing database definitions will be kept
- **UpdateOnly**: Only existing database definitions will be updated

"ContentLevel": Behaviour control on DDX content.

- **InstrData**: Instrumentation Data (online, parameter, map, axis) with there corresponding attributes will be transferred
- **AttributesOnly**: All 'data types', 'conversions' and 'physical units' will be transferred

"VariantCoding": Behaviour control on "Variant" elements.

- **No**: Variant coding will not be used
- **ViaArrayOfStruct**: Variant coding will be applied via arrays of structures! The array dimension will be defined by the amount of variant criterias. Every array element corresponds to one variant criteria

"BitHandling": Behaviour control on element type.

- **DDBits**: Map DDBits to 'bits'! Depending on the target system, a 'bit' is declared as 'bool', 'logical' etc...
- **DDBits_BF**: Map DDBits to 'bits' but additionally remap bitfield-members which are 'DDBits' into global definitions on target systems
- **LegacyBooleans**: When the elemType of a definition contains the token 'BOOL' it will be mapped into target system 'bit'

"Verbose": Start export in verbose mode.

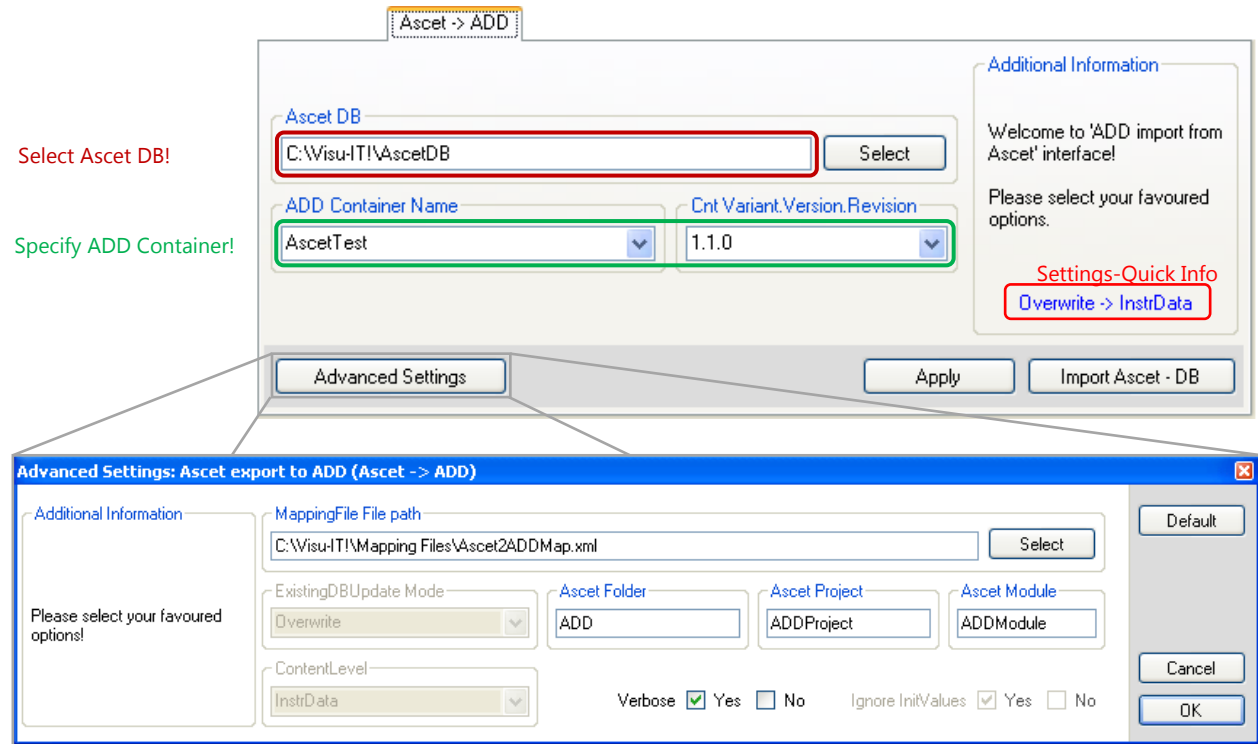
"IgnoreInitValues": Physical values will not be exported.

"Generate M-File only": Omit creating dd – file, MATLAB m-files will be created instead!

Import will be started by pressing the "Export DDS – DB".

4.5 Ascet to ADD, only available as evaluation version!

Export a selected ETAS Ascet database to a specified Visu-IT! ADD Container.



"Mapping File Path": Path of the mandatory xml - file which specifies import options!

"Verbose": Start import in verbose mode.

"AscetFolder": Ascet folder name which will be imported.

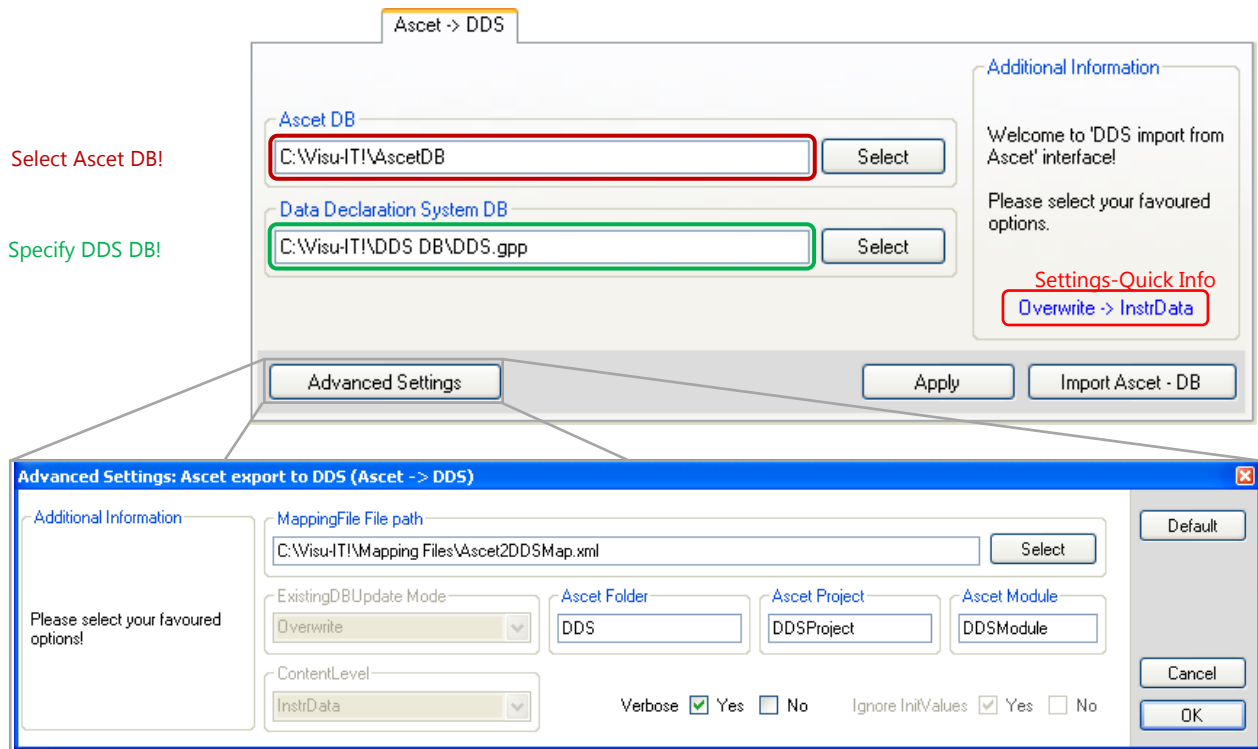
"AscetProject": Ascet project name which will be imported.

"AscetModule": Ascet module name which will be imported.

Import will be started by pressing the "Import Ascet – DB".

4.6 Ascet to DDS, only available as evaluation version!

Export a selected ETAS Ascet database to a specified Visu-IT! DDS database.



"*Mapping File Path*": Path of the mandatory xml - file which specifies export options!

"*Verbose*": Start import in verbose mode.

"*AscetFolder*": Ascet folder name which will be imported.

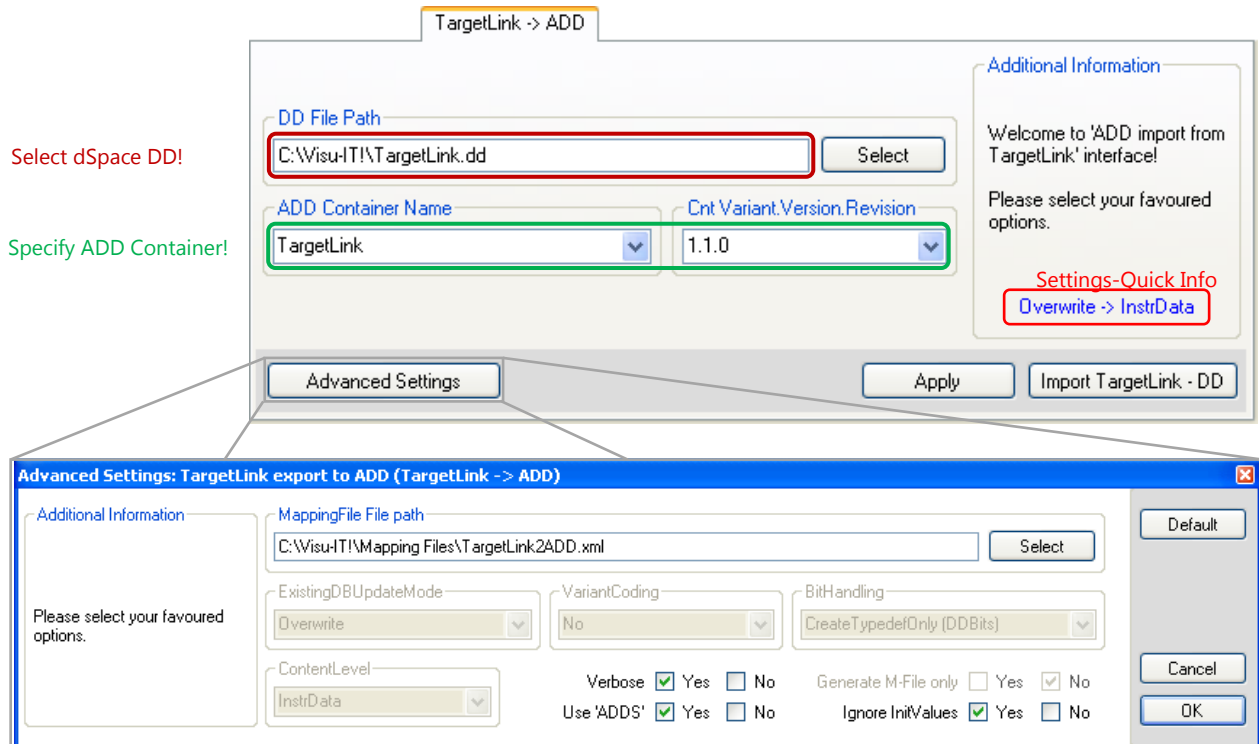
"*AscetProject*": Ascet project name which will be imported.

"*AscetModule*": Ascet module name which will be imported.

Import will be started by pressing the "Import Ascet – DB".

4.7 TargetLink to ADD, only available as evaluation version!

Export a selected dSpace data dictionary to a specified Visu-IT! ADD container.



"Mapping File Path":

Path of the mandatory xml - file which specifies import options!

"Verbose":

Start import in verbose mode.

"IgnoreInitValues":

Physical values will not be exported.

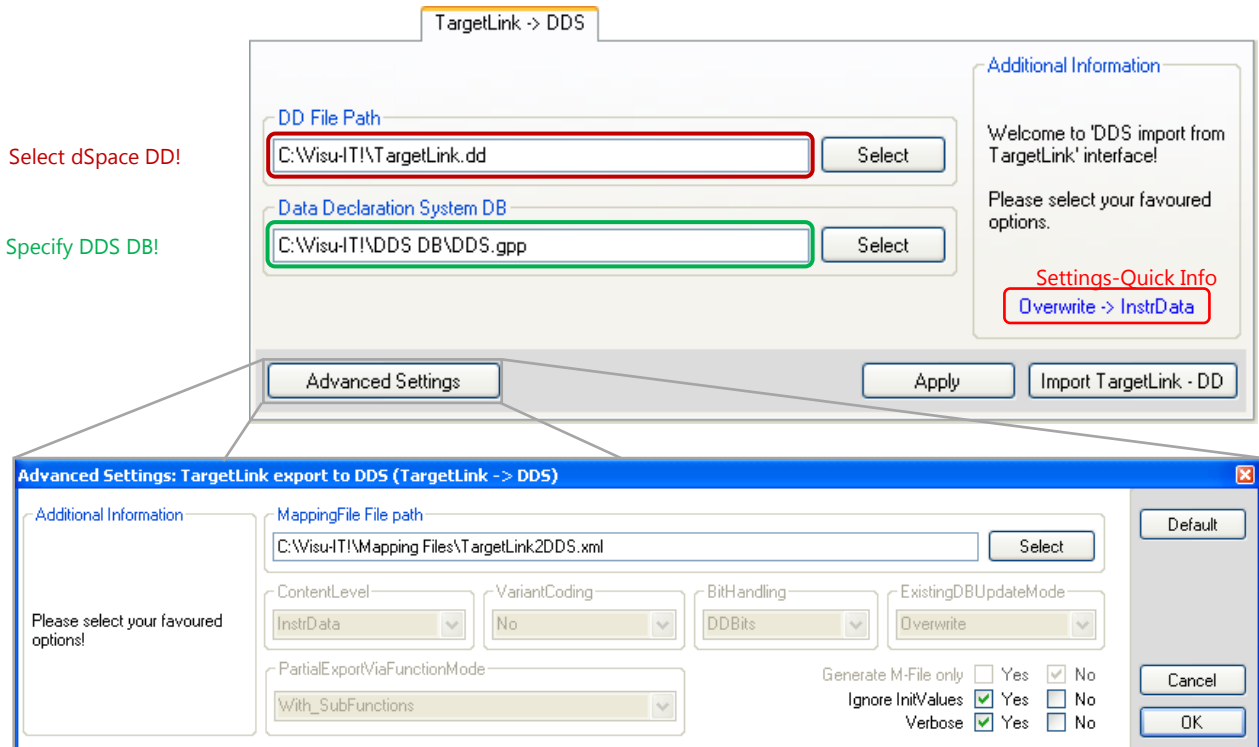
"Use 'ADDS'":

Read and process additional property 'ADDS' of the underlying dSpace DD objects.

Import will be started by pressing the "Import TargetLink – DD".

4.8 TargetLink to DDS, only available as evaluation version!

Export a selected dSpace data dictionary to a specified Visu-IT! DDS database.



"Mapping File Path": Path of the mandatory xml - file which specifies import options!

"Verbose": Start import in verbose mode.

"IgnoreInitValues": Physical values will not be exported.

Import will be started by pressing the "Import TargetLink – DD".

4.9 SystemConstant Export

Based on an ADD export, project related system constants can be exported into an Ascet database.

By pressing menu item "Main/ADD/>>SystemConstants of Project..." or shortcut "F9", the "Export SystemConstants from Project" window will be shown.

Select ADD Project

Select Ascet DB;
Taken over „ADD -> Ascet“ field “Ascet DB”

Select Ascet Folder Path;
Ascet Folder,Project and Module will be taken over from the Advanced Settings window of export “ADD -> Ascet”

Check Value Consistence Close Windows Start Export

Hint: “AscetProject” path is composed by the Folder and Project value of the “ADD -> Ascet” – Advanced Settings window.

4.10 Database Comparison

According to the “ADD -> Ascet” data transmission it is possible to compare an ADD Container with its exported Ascet counterpart.

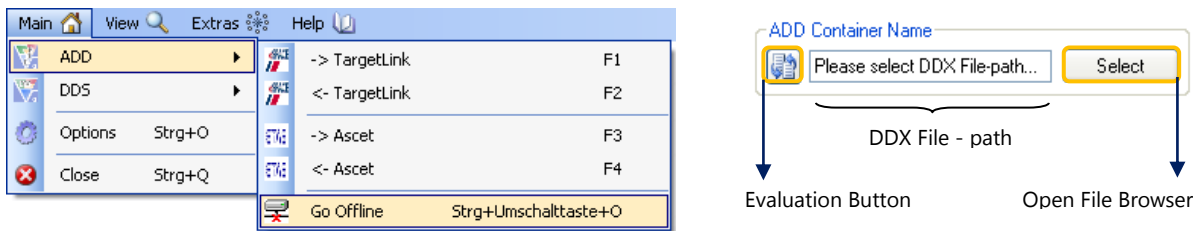
After selecting all favoured settings, menu item “Main/ADD/>>DB Comparison” will start a dry export to Ascet. In this case the “dry” export will not create/update an Ascet database but rather simulate a real process run with the selected settings.

On a successful process run a list of all compared elements will be automatically shown. The “DB Comparison” run can also be started by the “F10” button.

For detailed comparison settings see chapter “Interface Options”, section “[Compare Settings](#)”.

4.11 Offline Mode

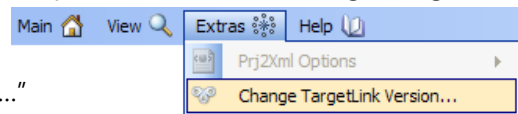
In case of a process run where ADD is used as source, it's possible to switch between online and offline database. At this an offline database is represented by a DDX – file (Data Dictionary Exchange – file).



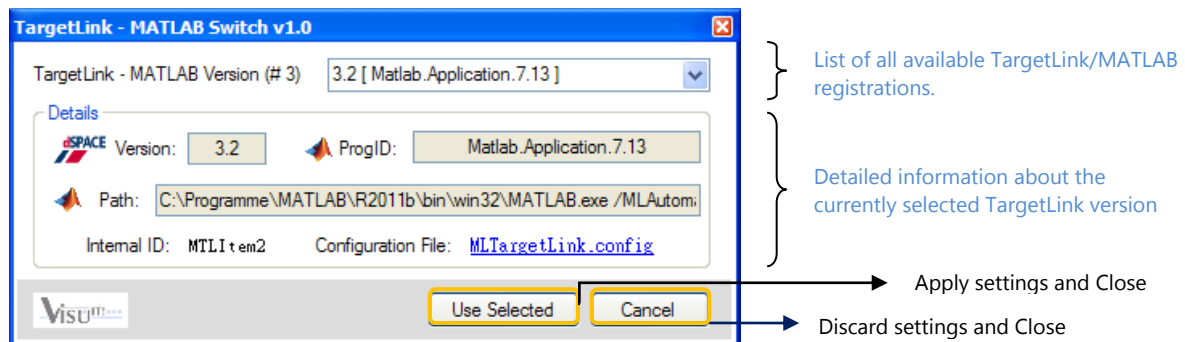
After the DDX – file has been analyzed via the "Evaluation"-button, the content of the offline database will be shown up.

4.12 Change TargetLink Version

In case of a process run where TargetLink is used as target, it's possible to switch the target TargetLink version by using the "TargetLink – MATLAB Switch" tool.



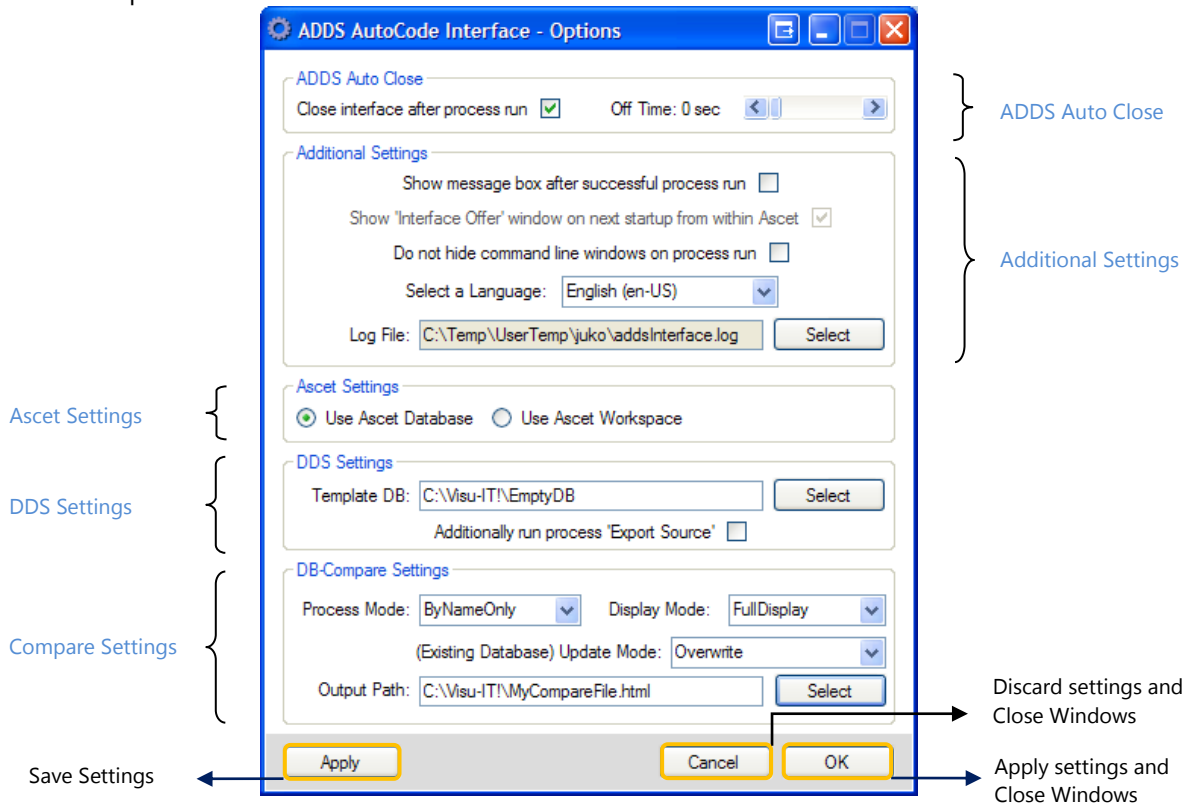
By pressing menu item "Extras/Change TargetLink Version..." the appropriate tool dialog will be opened.



Hint: Click on "MLTargetLink.config" in order to open the current TargetLink-MATLAB configuration file generated during the DDS TargetLink registration run ("Register_TL.cmd").

5 Interface Options

Interface options will be set in the “ADDs AutoCode Interface - Options” Window, accessible by main menu item “Options”.



ADDs Auto Close:

Close “ADDs AutoCode Interface” after process run after a specified time span! By activating “**Close interface after process run**” the “Off Time” section will be enabled. To increase/decrease time span the slider must be moved to the left/right.

Hint: A time span of zero seconds (“Off Time: 0 sec”) will close the interface immediately!

Additional Settings:

- By selecting “**Show message on successful run**” a message box will appear after a successful process run.
- “**Show ‘Ascet’ info on next startup from within Ascet**” will discard the “Remember my decision!” setting of the “ADDs Interface Offer” – window (see “[Ascet Info – Window](#)”).
- “**Do not hide command line windows on process run**” will enable the process and progress windows of each process run.
- “Select a Language” gives you the opportunity to switch between several languages!
- Specify an individual **Log File** output path via “Select” button!

Ascet Settings:

- Choose the favoured Ascet database input/output format. Either an Ascet Database (Folder) or an Ascet Workspace file (File, *.ws).

DDS Settings:

- **Template DB:** Folder containing a pre-adjusted DDS database used for the further process run.

- Activate "**Additionally run process 'Export Source'**" to automatically generate a sub folder 'Source' in your main destination folder, containing dedicated *.c - and *.h - files.

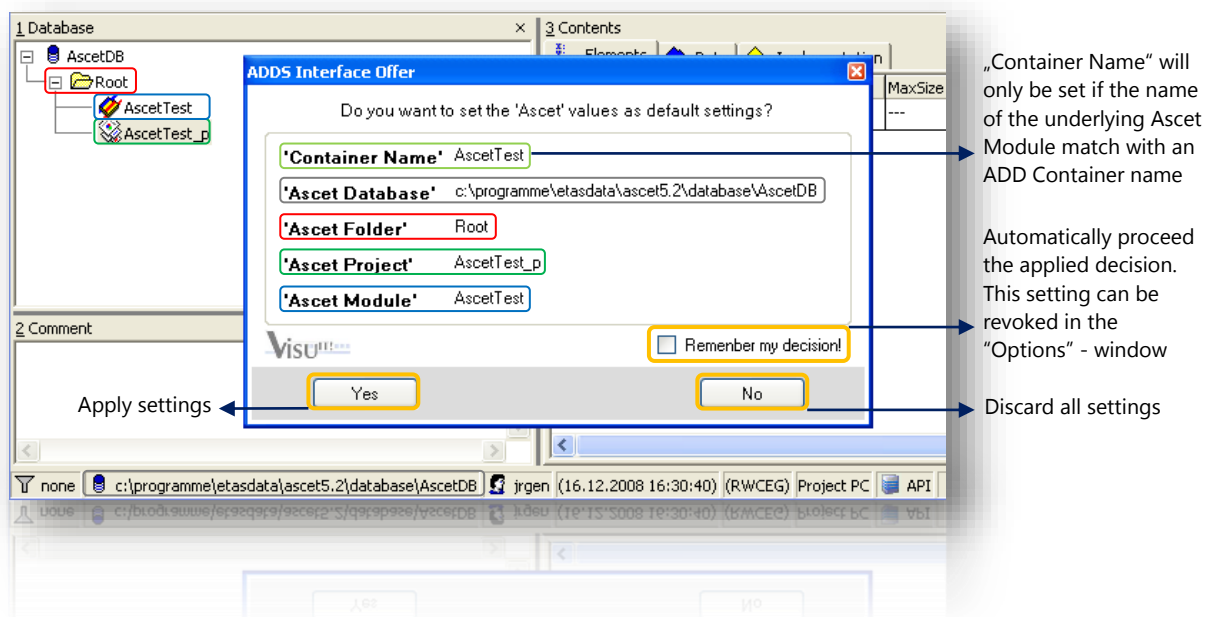
Compare Settings:

- Limit comparison to the content structure ("*ByNameOnly*") or rather compare content structure and values ("*All*") by selecting your favoured "**Process Mode**".
- By selecting "**Display Mode**" "*FullDisplay*" all elements will be listed in your file browser. Not compared elements will be marked in a different colour. However "*DifferencesOnly*" displays only not comparable elements.
- **Existing Database Update Mode:** Behaviour control on existing Ascet DB.
- Specify the "**Output Path**" of your comparison file. File can be saved as "*xaml*" (**eXtensible Application Markup Language**) or "*html*" (**HyperText Markup Language**).

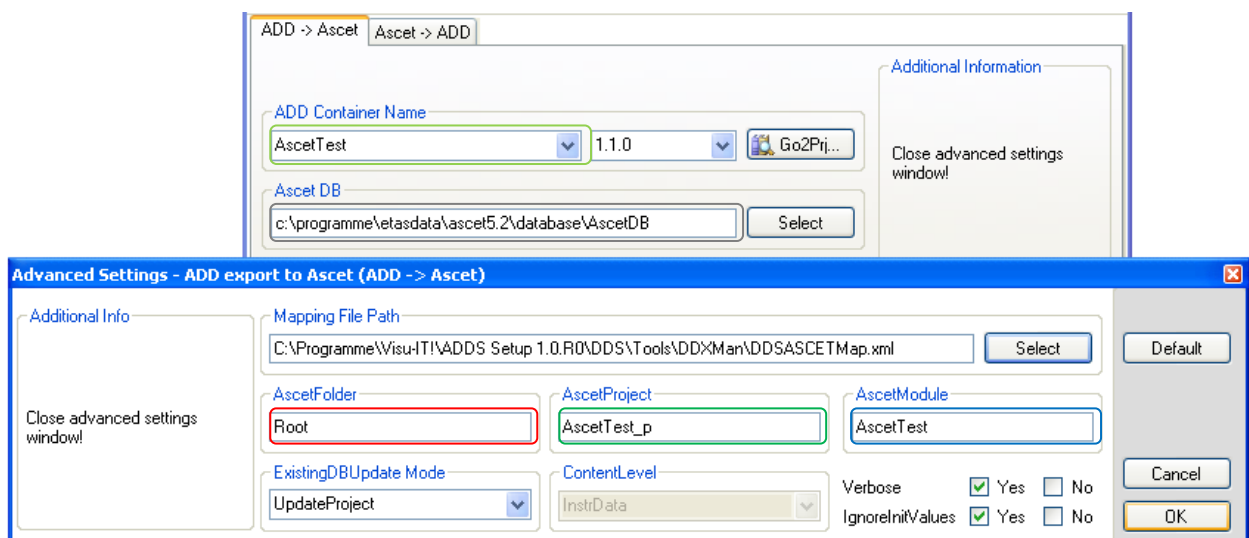
6 Ascet Info – Window

By starting "ADDS AutoCode Interface" from within Ascet (Menu item: "Visu-IT! Tools/Export ADD-Container") it is possible to pre-configure the "ADD-to-Ascet"-process automatically.

Based on your loaded Ascet database, "ADDS AutoCode Interface" evaluates the actual selected Ascet Database element and gather as much information as possible. Selected element must be an Ascet - Module, -Project, -Folder or Database object. The collected information will be displayed as an offer before "ADDS AutoCode Interface" – windows is shown.



After applying the offered values, the interface will automatically set the appropriate values as default.



Hint: To gather full Ascet database information, select the Ascet Project object!

7 Shortcuts

| Description | | Shortcut | Description | | Shortcut |
|-------------|--------------|----------|--|--|----------|
| ADD | → TargetLink | F1 | Export SystemConstants of an ADD Project | | F9 |
| TargetLink | → ADD | F2 | ADD/Ascet Database Comparison | | F10 |
| ADD | → Ascet | F3 | Open „Option“ window | | Ctrl + O |
| Ascet | → ADD | F4 | Close Interface | | Ctrl + Q |
| DDS | → TargetLink | F5 | Open Manual | | Ctrl + M |
| TargetLink | → DDS | F6 | Open „About“ window | | Ctrl + A |
| DDS | → Ascet | F7 | | | |
| Ascet | → DDS | F8 | | | |

8 Questions?

| DDS Hotline | DDS Contact | DDS Product page |
|--|--|---|
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