Manual Installation of SAP Extractor

Contents:

- Manual SAPEX Installation
  - Local vs Remote Kiuwan Analysis
  - SAPEX Installation Files
  - Common Installation steps for Local and Remote scenarios
    - 1.Create ZKW_SAPEX package
    - 2.Install support classes
    - 3.Install source code extraction programs
    - 4.Create OS commands (ZKW_MKDIR and ZKW_RMDIR)
      - ZKW_MKDIR
      - ZKW_RMDIR
  - Installation steps for Local scenario
    - 1. Install Programs to execute Local Analysis
    - 2. Create OS command to launch the analysis (ZKW_KLA_AGENT)
  - Installation steps for Remote scenario
    - Configure remote scripts
    - 1. Install RFC-enabled function modules
    - 2. Install SAP JCo Connector library
      - Full details for installing SAP JCo library
    - 3.Configure SAPEX scripts in Kiuwan Local Analyzer
  - Test SAPEX installation

Related pages:

Manual SAPEX Installation

Local vs Remote Kiuwan Analysis

To analyze ABAP code with the Kiuwan Solutions, the source code and information from the SAP system need to be exported before they can be analyzed.

Once the source code is exported, the Kiuwan Solutions let you implement two different approaches on the **location where the ABAP code is analyzed.**

- To execute Kiuwan analyses within the SAP server (**local**), or
- To execute analyses from an external server (**remote**)

Depending on your approach, the installation takes different steps.

We will use the terms **local** and **remote** for specific installation steps, and **both** for common (mandatory) steps.

SAPEX Installation Files

SAPEX installation files are contained in **`sapex_abap_code.zip`**, located in the *$(AGENT_HOME)/`resources/abap`* directory of your Kiuwan Local Analyzer installation.

Please visit Kiuwan Local Analyzer for further help on Kiuwan Local Analyzer.

The following table lists contents of **`sapex_abap_code.zip`**

File	Behaviour	Notes
Programs:		
ZKW_SAPEX_CODE	Export source code	Exports to local or remote directory

ZKW_SAPEX_METADATA	Export SAP information	Exports to local or remote directory
ZKW_ANALYSIS	Analyzes source code (after optional previous export) in SAP system	
RFC-enabled Function modules:		
ZKW_SAPEX_CODE_RPC	Export source code	Needed by `sapexCode.xml`remote script
ZKW_SAPEX_METADATA_RPC	Export metadata	Needed by `sapexMetadata.xml`remote script
ZKW_SAPEX_LOADFILE_RPC	For downloading an exported file	Needed by `sapexCode.xml`remote script
ZKW_SAPEX_RMDIR_RPC	For removing directories where source code is exported	
ZKW_SAPEX_RMDIR_CHECK	Security check for RMDIR calls	
Classes:		
ZKW_CL_*, ZKW_CX_*	Support classes	Add them using class builder or Eclipse ADT
ZCL_IM_KW_BADI_REQ_CHECK	Implementation BAdI for CTS_REQUEST_CHECK	Sample BAdI for automated audit before release of a transport request

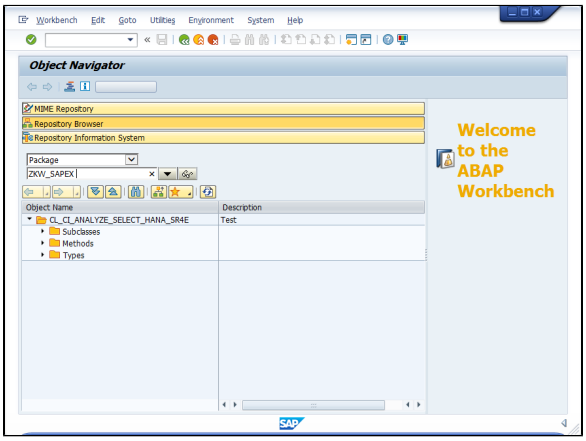
- Note 1: It is recommended to **create a package named `ZKW_SAPEX`** to hold all entities created for SAPEX.
- Note 2: You may use ABAP Workbench / ABAP Editor or Eclipse-based ABAP Development Tool to create the SAPEX elements from the provided code.
- Note 3: **Remember to activate all ABAP elements installed, to enable the execution**.

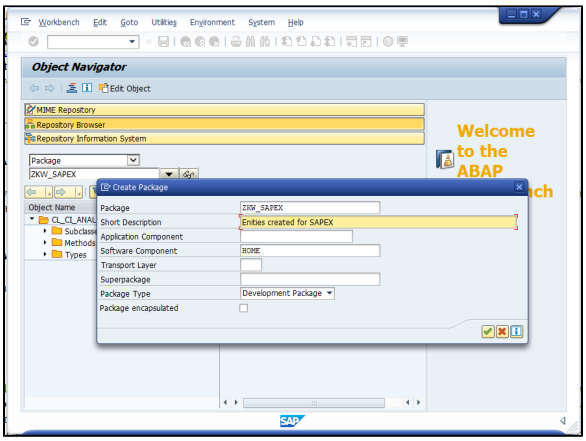
Common Installation steps for Local and Remote scenarios

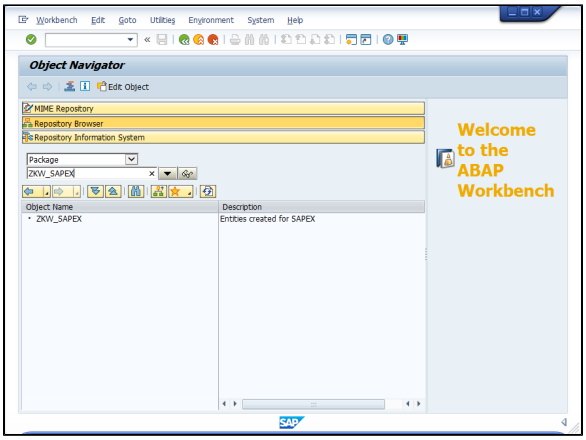
1.Create ZKW_SAPEX package

It is recommended to create a package named **`ZKW_SAPEX`** to hold all entities created for SAPEX.

To create the **`ZKW_SAPEX`** package you can use the transaction **SE80** as follows:



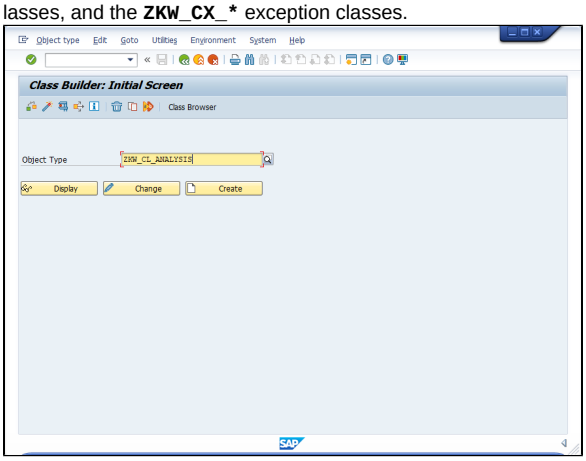


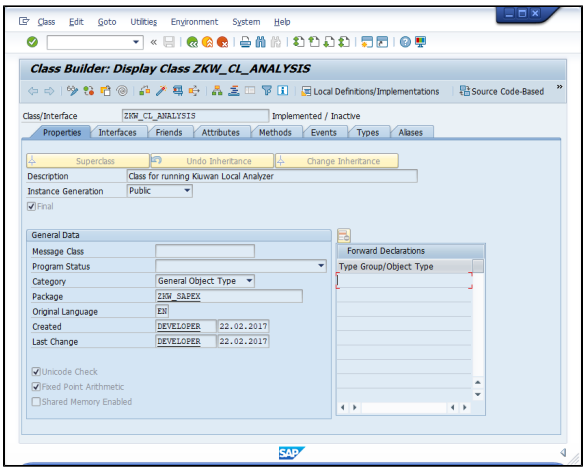


After creating the ZKW_SAPEX package, you can follow the next steps.

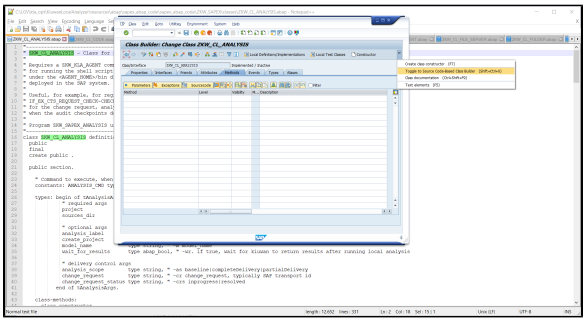
2.Install support classes

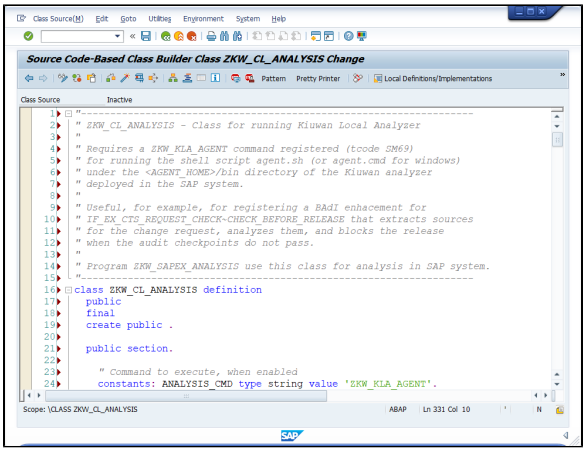
Using the Class Builder (transaction ***SE24***) in source code mode, create and activate all the **`ZKW_CL_*`** c lasses, and the **`ZKW_CX_*`** exception classes.



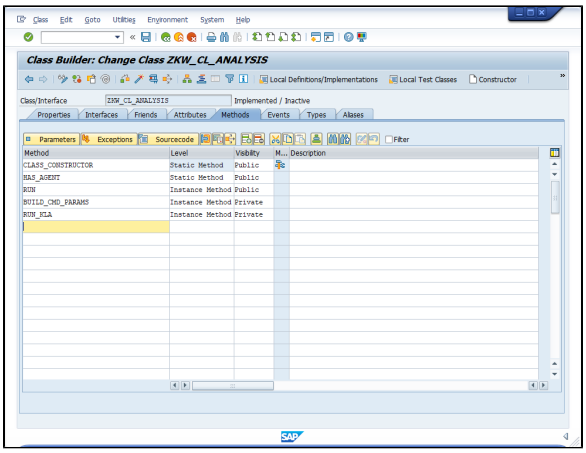


Toogle to **Source Code - Based Class Builder** and paste the content of the source file (substituting any previous content).



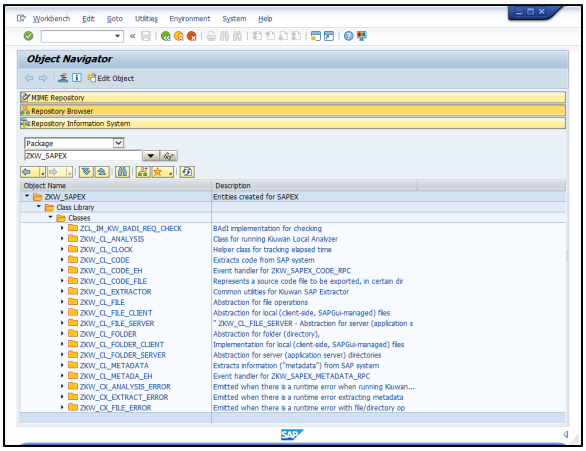


Switch back to **Form-Based Class Builder** to see the complete class.



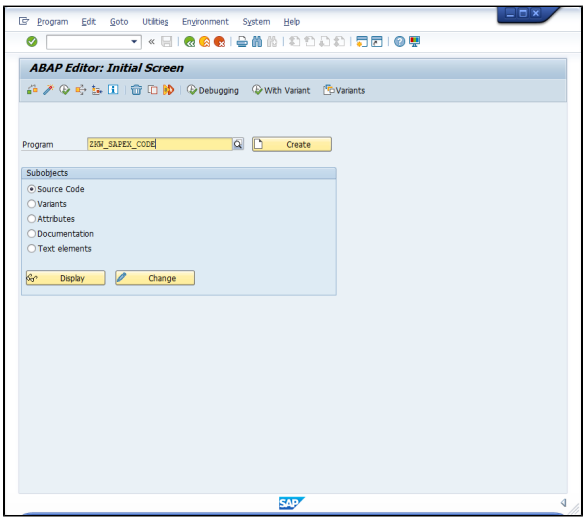
Do not forget to **Activate** every class after creation.

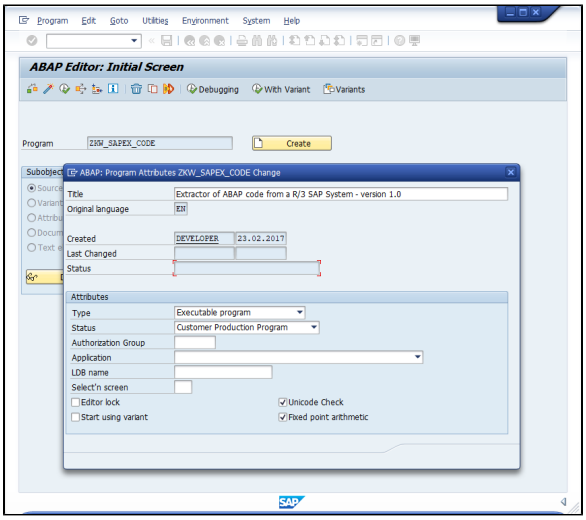
After importing all the classes you will see them under the **ZKW_SAPEX** package:

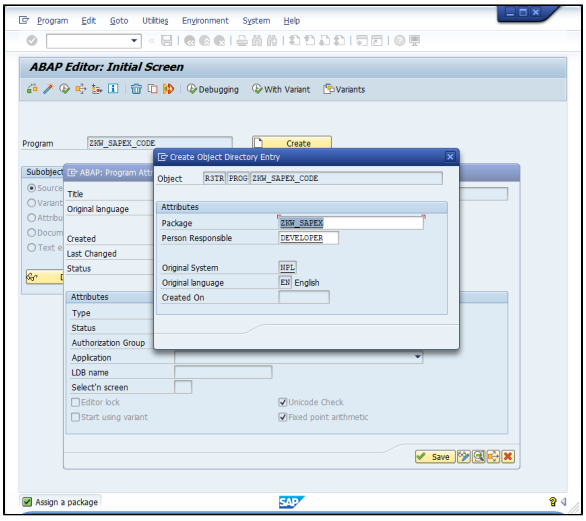


3.Install source code extraction programs

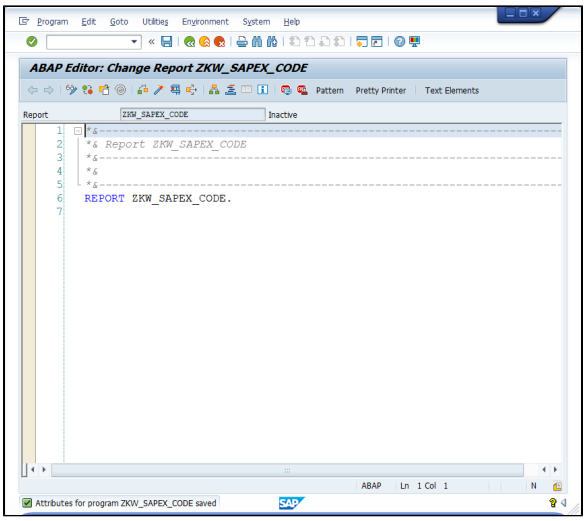
Using the ABAP Editor (transaction **SE38**), create the **`ZKW_SAPEX_CODE`** and **`ZKW_SAPEX_METADATA`** `programs`



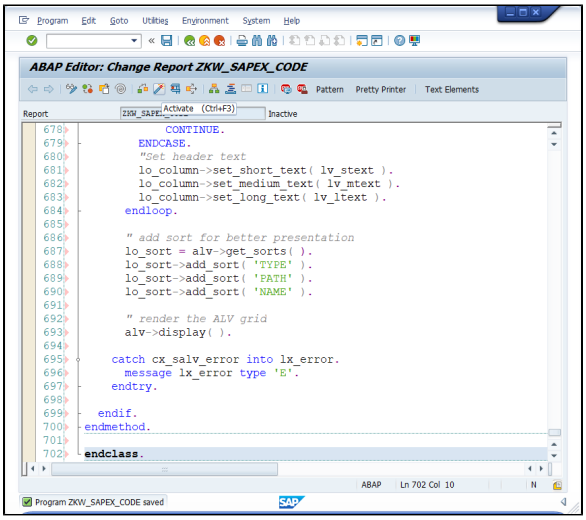




Open the **Source view.**

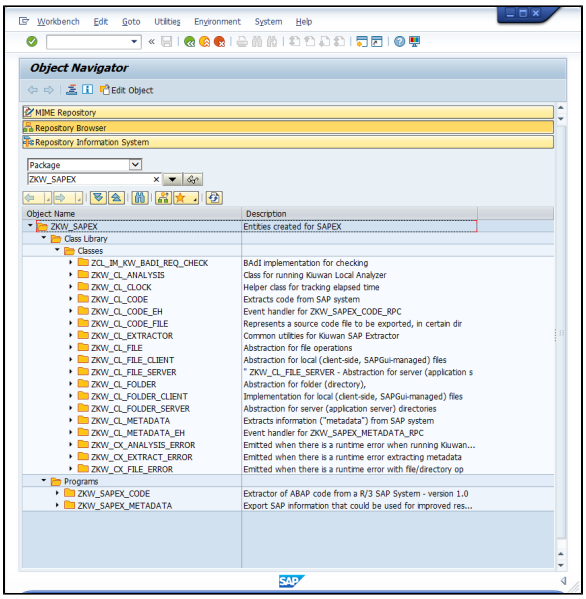


and paste the source code provided by SAPEX.



After saving, you will see all the SAPEX objects.

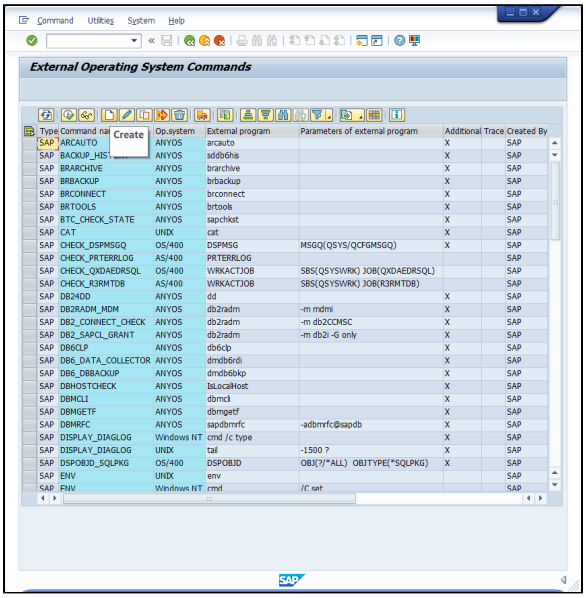
Do not forget to activate all the created objects.



4.Create OS commands (ZKW_MKDIR and ZKW_RMDIR)

Using transaction **SM69**, create the following OS commands:

- **ZKW_MKDIR**
- **ZKW_RMDIR**

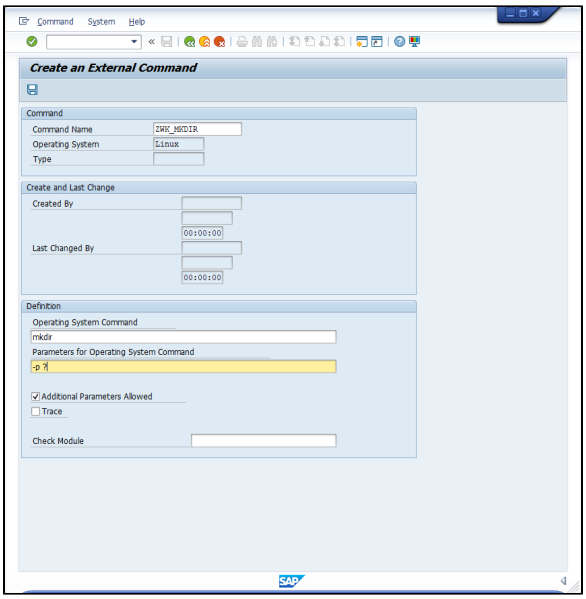


ZKW_MKDIR

Used for creating directories in the SAP system:

- `mkdir -p` ? for Unix
- `cmd /C mkdir` ? for Windows

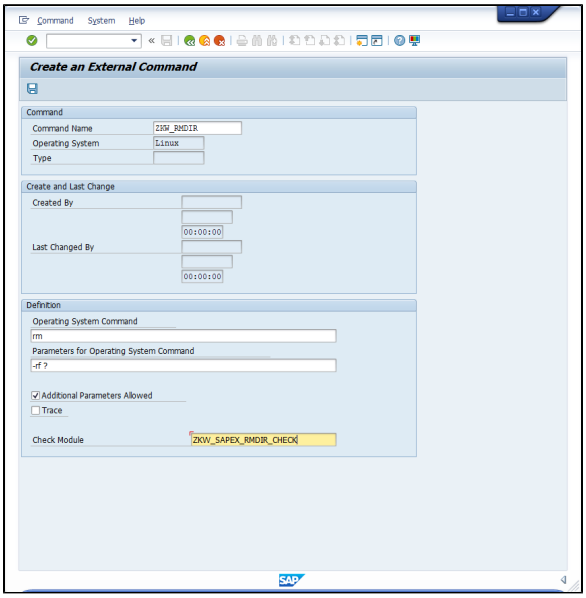
Note: The command configured must create all intermediate directories.



ZKW_RMDIR

Used for deleting a directory and all its contents in the SAP system:

- `rm -rf ?` for Unix
- `cmd /C rmdir /s /q ?` for Windows.



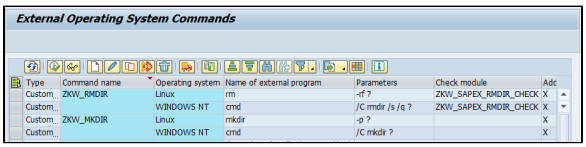
To ensure that a proper rmdir command is selected, **register the ZKW_SAPEX_RMDIR_CHECK** to avoid security issues.

This ensures that the command is one of the allowed RMDIR commands, and that the target directory is either sapex code or metadata directories, or a raw subdir under these directories.

ZKW_RMDIR performs a recursive deletion!

To avoid unintended deletions, be sure the target directory does not contain directories out of the SAPEX code/metadata directories.

The result of creating the commands should be similar to the following:



Installation steps for Local scenario

1. Install Programs to execute Local Analysis

If you decide to use the local approach:

- Install Kiuwan Local Analyzer in the SAP system, and
- Using the ABAP Editor (transaction **SE38**), create and activate **`ZKW_ANALYSIS`** program

It is recommended to use a `<DIR_HOME>/sape4k/kla` directory for the Kiuwan Local Analyzer.

2. Create OS command to launch the analysis (ZKW_KLA_AGENT)

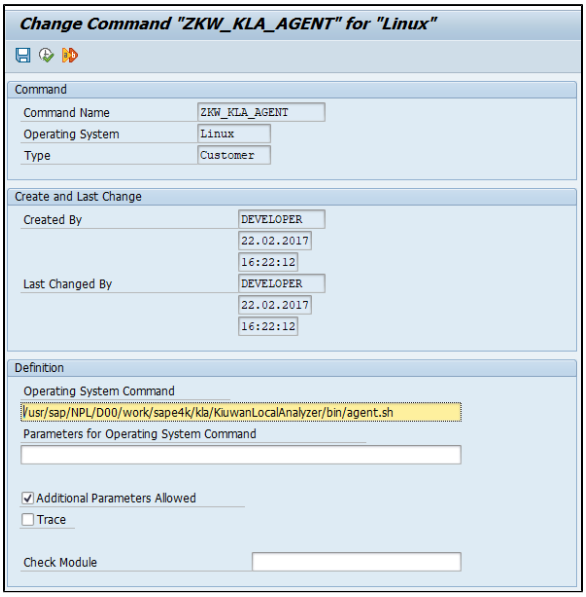
Used for launching the Kiuwan Local Analyzer script.

This OS command will be used by `ZKW_ANALYSIS` program and `CTS_REQUEST_CHECK` BAdI implementation.

Use :

- `<PATH_TO_KLA>/bin/agent.sh` (Unix), or
- `<PATH_TO_KLA>\bin\agent.cmd` (Windows)

as the name of the **Operating System Command** parameter in transaction **SM69**.



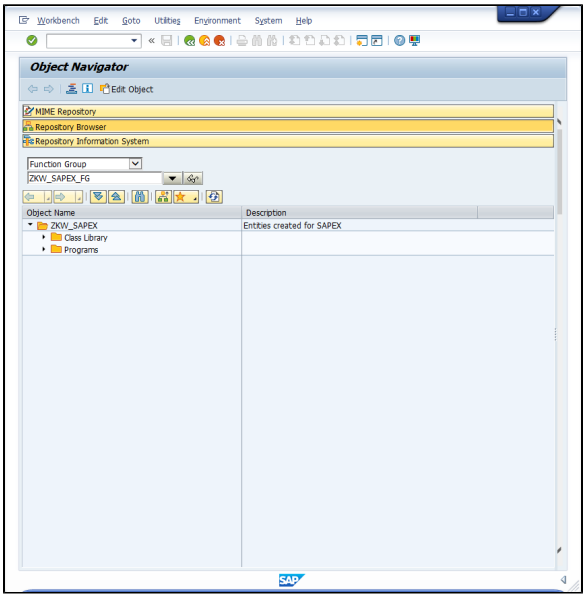
Installation steps for Remote scenario

Configure remote scripts

1. Install RFC-enabled function modules

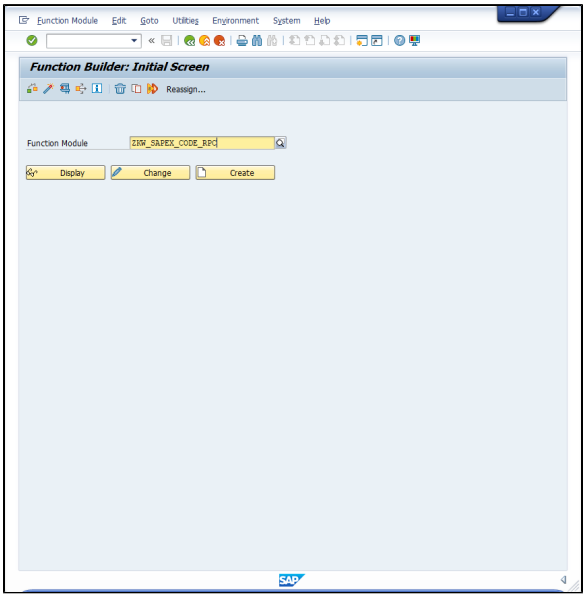
To run the SAPEX scripts from a remote host (where KLA is deployed), the **`ZKW_SAPEX_*_RPC`** function modules should be created using Function Builder (transaction **SE37**).

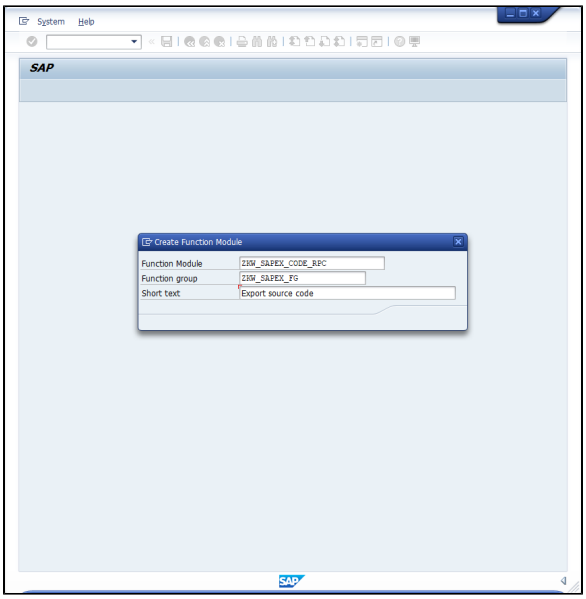
To create the `ZKW_SAPEX_FG` function group you can use transaction **SE80** as follows:
Before creating the function modules, it is recommended to create the `ZKW_SAPEX_FG` function group.



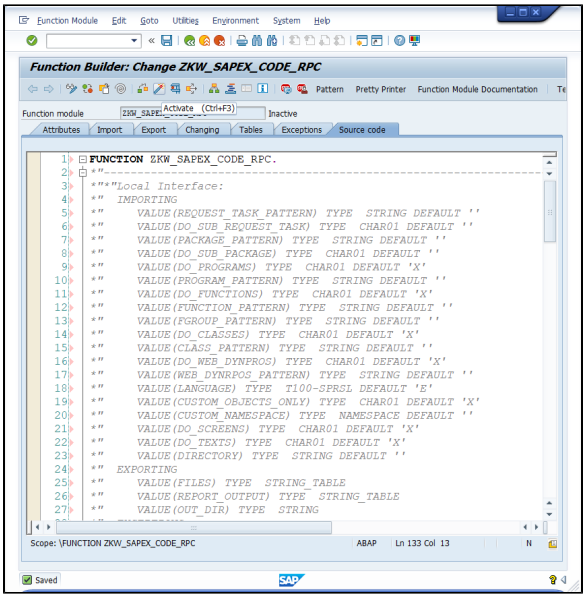
After creating the ZKW_SAPEX_FG function group, **create a Function Module for every ZKW_SAPEX_*_RPC** function modules included in **$(AGENT_HOME)/resources/abap/... /ZKW_SAPEX_FG/functions**

Use **Function Builder** (transaction **SE37**) as follows:

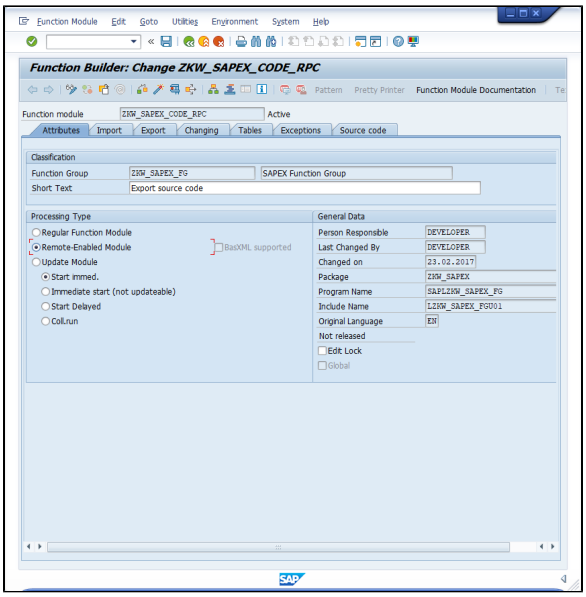




After created, go to the **Source Code** tab and paste the content of the associated file.



Make sure that all functions terminated with **_RPC** are marked as RFC-enabled, as they will be called remotely from the SAPEX scripts.



Click **Save**.

2. Install SAP JCo Connector library

Remote scripts use SAP JCo Connector to remotely connect to the SAP server.

SAP JCO Connector must be installed in the remote containing the SAPEX remote scripts that will execute the Kiuwan Local Analyzer.

Full details for installing SAP JCo library

Download SAP JCo from SAP Service Marketplace Connectors - **you need service-marketplace access for it**.

Once you have downloaded the corresponding package for your operating system, install it.

- **Windows**: There are different distribution packages for various JRE versions and hardware processors available:

file	platform
sapjco3-ntintel-3.0.8.zip	for a 32-bit JRE running on a 32- or 64-bit AMD or INTEL x86 or a 64-bit INTEL Itanium processor
sapjco3-ntia64-3.0.8.zip	for a 64-bit JRE running on a 64-bit INTEL Itanium processor
sapjco3-ntamd64-3.0.8.zip	for a 64-bit JRE running on a 64-bit AMD or INTEL x86 processor

Before installing JCo, please install the latest Microsoft Visual Studio 2005 C/C++ runtime libraries, as described in note 684106.

To install JCo for Windows unzip the appropriate distribution package into an arbitrary directory `sapjco3-install-path`.

Do not copy the sapjco3.dll in the `WINDIR\system32` nor into the `WINDIR\SysWOW64` directory. This will break the operability of other JCo versions that are already installed on the same system. Furthermore, you would risk that the current installation also would not work anymore if the sapjco3.dll gets replaced in the respective Windows system directory in the future.

- **Linux**: There are different distribution packages for various JRE versions and hardware processors available:

file	platform

sapjco3-linuxintel-3.0.8.tgz	for a 32-bit JRE running on a 32- or 64-bit AMD or INTEL x86 processor
sapjco3-linuxia64-3.0.8.tgz	for a 64-bit JRE running on a 64-bit INTEL Itanium processor
sapjco3-linuxx86_64-3.0.8.tgz	for a 64-bit JRE running on a 64-bit AMD or INTEL x86 processor
sapjco3-linuxppc64-3.0.8.tgz	for a 64-bit JRE running on a 64-bit PowerPC processor
sapjco3-linuxs390x-3.0.8.tgz	for a 64-bit JRE running on a 64-bit IBM eServer zSeries processor

To install JCo for Linux, copy the appropriate distribution package into an arbitrary directory `sapjco3-install-path`. Next, change to the installation directory:

```
cd sapjco3-install-path
```

and extract the archive:

```
tar zxvf sapjco3-linux*3.0.8.tgz
```

3.Configure SAPEX scripts in Kiuwan Local Analyzer

The last step is to configure the scripts used for the scripts in KLA for remote extraction.

> Scripts for extracting source code (***`sapexCode.xml`***) and metadata (***`sapexMetadata.xml`***) use following configuration files:
>
> - *sapex.properties*
> - *sapexCode.properties*
> - *sapexMetadata.properties*
>
> You can find configuration files at *$(AGENT_HOME)/conf/sapex* directory of your Kiuwan Local Analyzer installation directory.

As an alternative, you may use the extractor programs provided in the SAP system, and then either transfer the results to the system where the KLA is deployed, or directly run the KLA in the target SAP system (in particular, when an automated audit should be performed before releasing a transport request /task).

Please note that the extraction programs for code / metadata allows you to specify a local directory (in the user host) where exported contents will be saved.

If the extract operations will be performed manually, remote extraction scripts are not needed.

Please visit SAP Extractor- Remote use - Appendix Configuration Files for further information.

Test SAPEX installation

Once completed, you may test the installation:

- You may run the run the extraction programs in SAP to check if programs and their dependencies are active.
- If the remote sapex was configured, run command line scripts to ensure that the connection properties and extraction filters work.