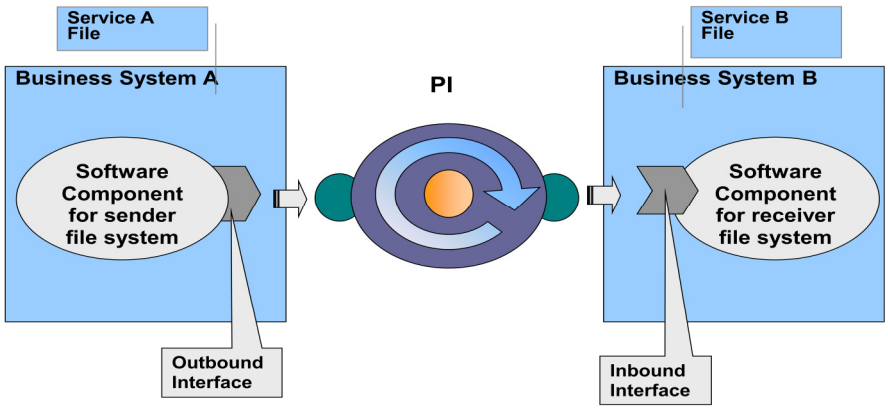
Exercise – File to File :



Pre- requisite to start this development-

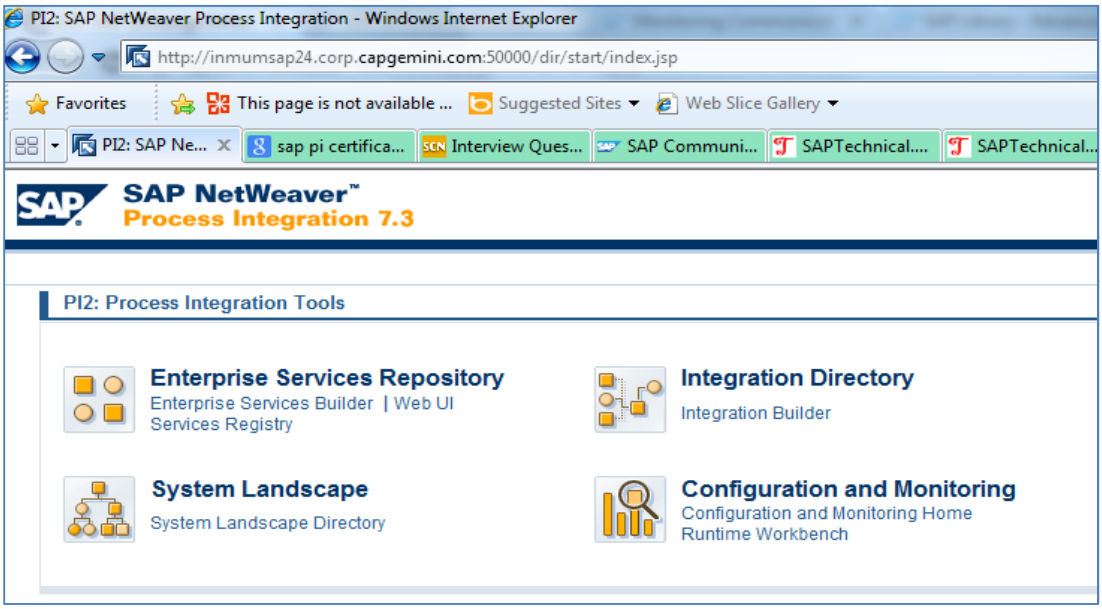
Integration Repository - Software Components defined for Sender and Receiver File System in SLD

Business Logic behind this development

Sender File system will place their XML file on FTP server. SAP PI picks up the file and does require mapping. The result of mapping needs to be sent to the Receiver (File) system as XML File.

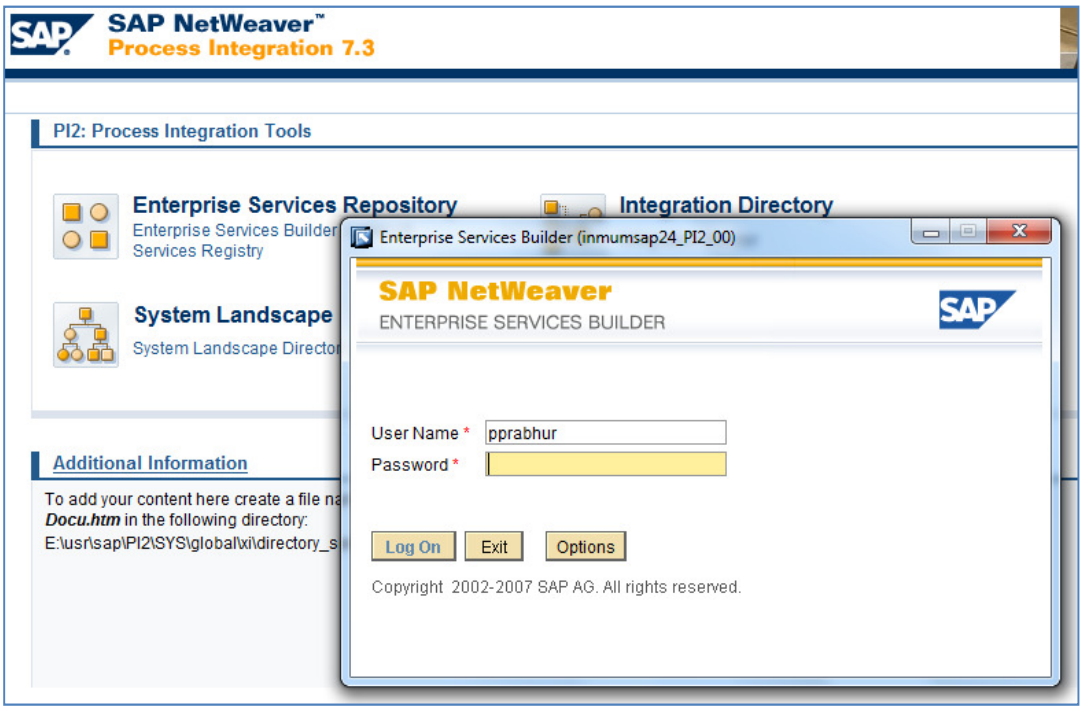
Design

1. **Access to the Process Integration Tools**
   Link provided
   For Eg -http://inmumsap24.corp.capgemini.com:50000/dir/start/index.jsp



2. **Access Enterprise Service Repository(ESR)**

Click on the link Enterprise Service Builder under Enterprise Service Repository. The following screen appears –



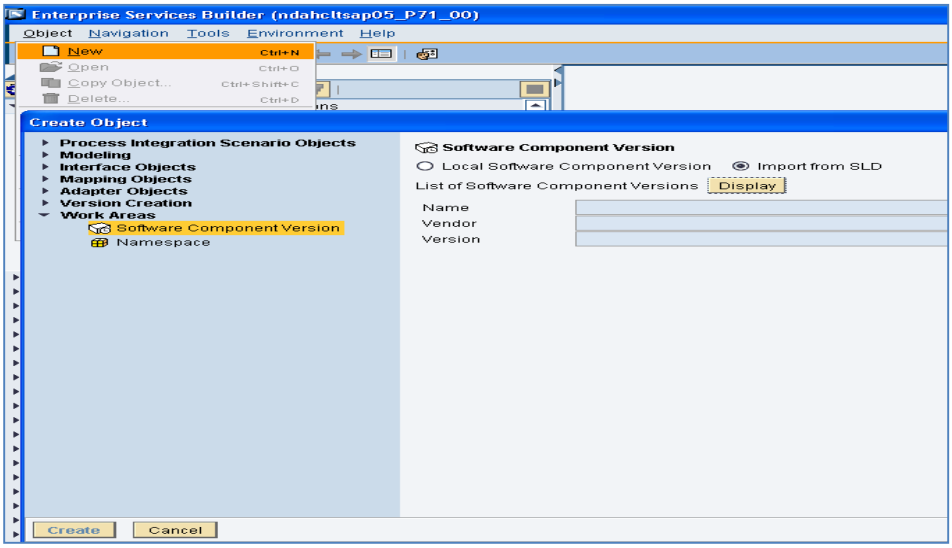
Login to PI using your user id and password.

3. **Import the software component define in SLD**

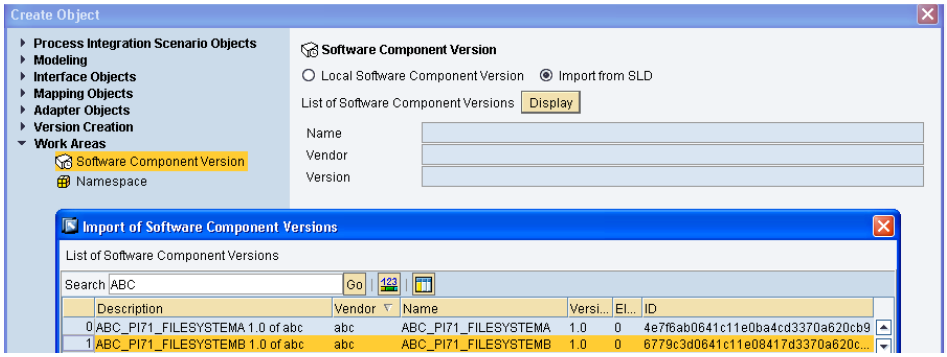
Import the following software component defined for the scenario into ESR

1. ABC_PI71_FILESYSTEMA 1.0 of abc
2. ABC_PI71_FILESYSTEMB 1.0 of abc

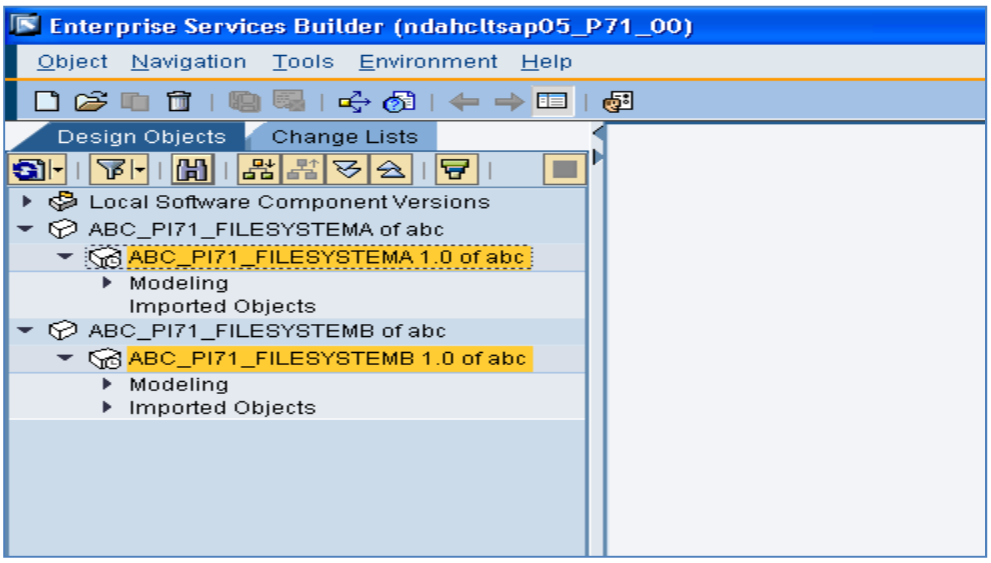
Click on new under object and select SWCV under Work Areas-



Click on Display and select the required sender and receiver business system to be imported into ESR for further development



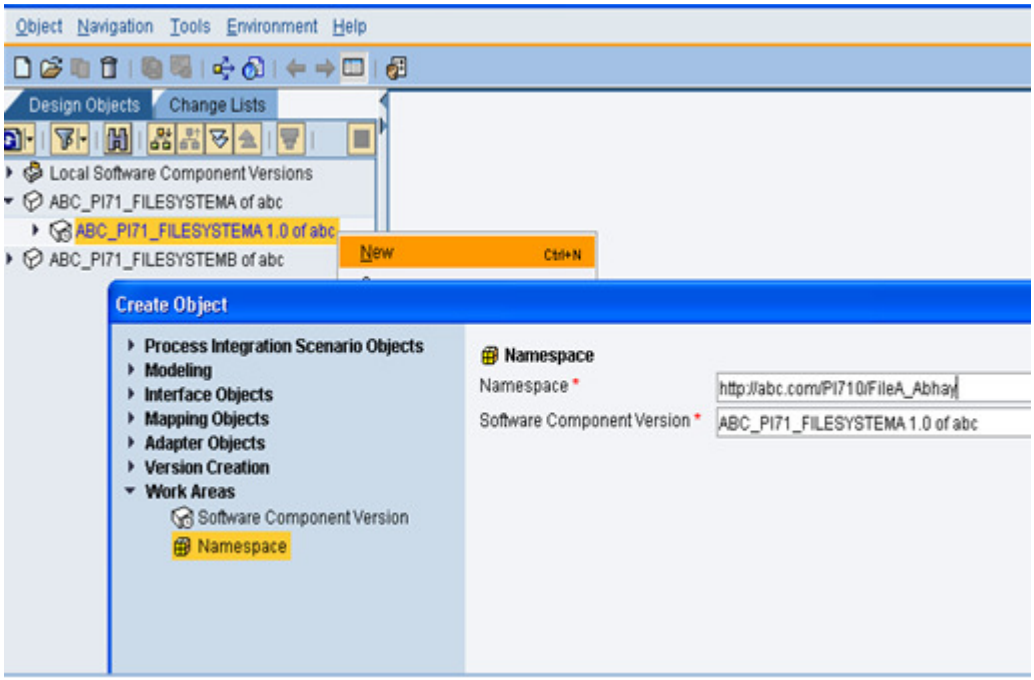
Below is how the SWCV look like after getting imported into ESR-



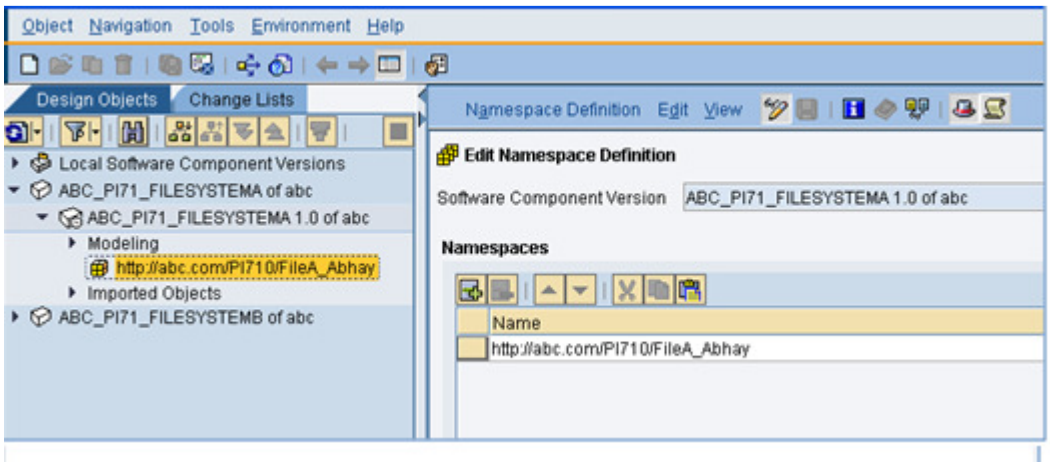
4. Define Namespace

1. Namespace (http://<*CompanyName*>.com/PI710/FileA_<*Name/EmpNo*>) for Sender SWCV
2. Namespace (http://<*CompanyName*>.com/PI710/FileB_<*Name/EmpNo*>) for Receiver SWCV

You Define a Namespace for you SWCV that uniquely identifies all the objects you create in Repository. Right click software component version and select Namespace from the context.

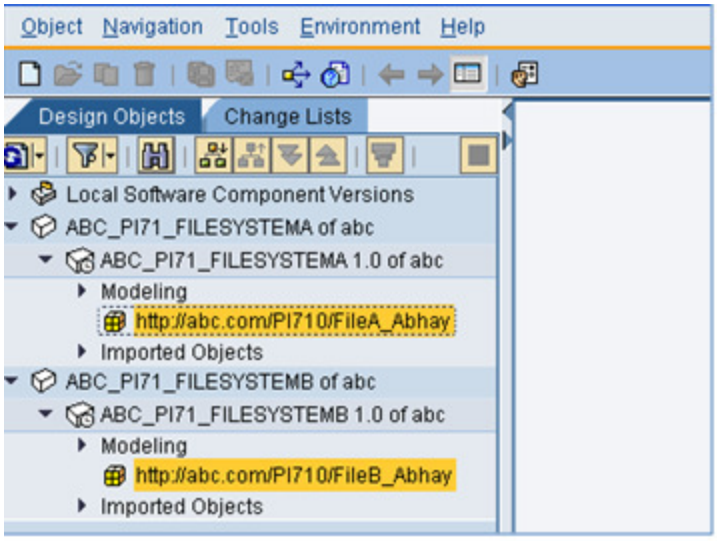


After creating and saving it appears like –



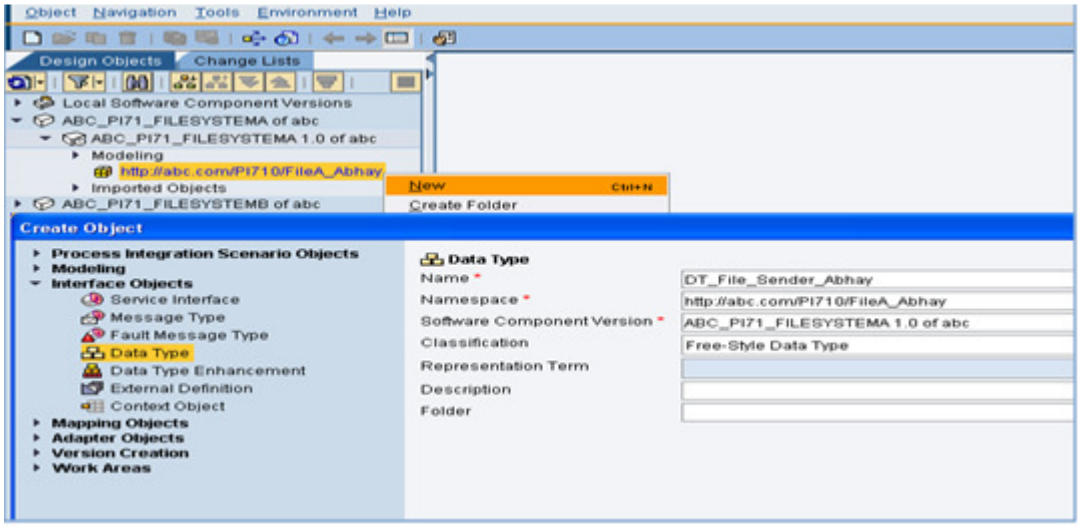
Activate the changes made in the objects by going to the Change Lists tab(left navigation bar). Click on the software component "http://<*CompanyName*>.com/PI710/FileA_<*Name/EmpNo*>" and click on the refresh icon. Similarly need to create namespace for receiver SWCV ""http://<*CompanyName*>.com/PI710/FileB_<*Name/EmpNo*>".

The ESR screen will look as below once the namespaces are created for sender and receiver system.

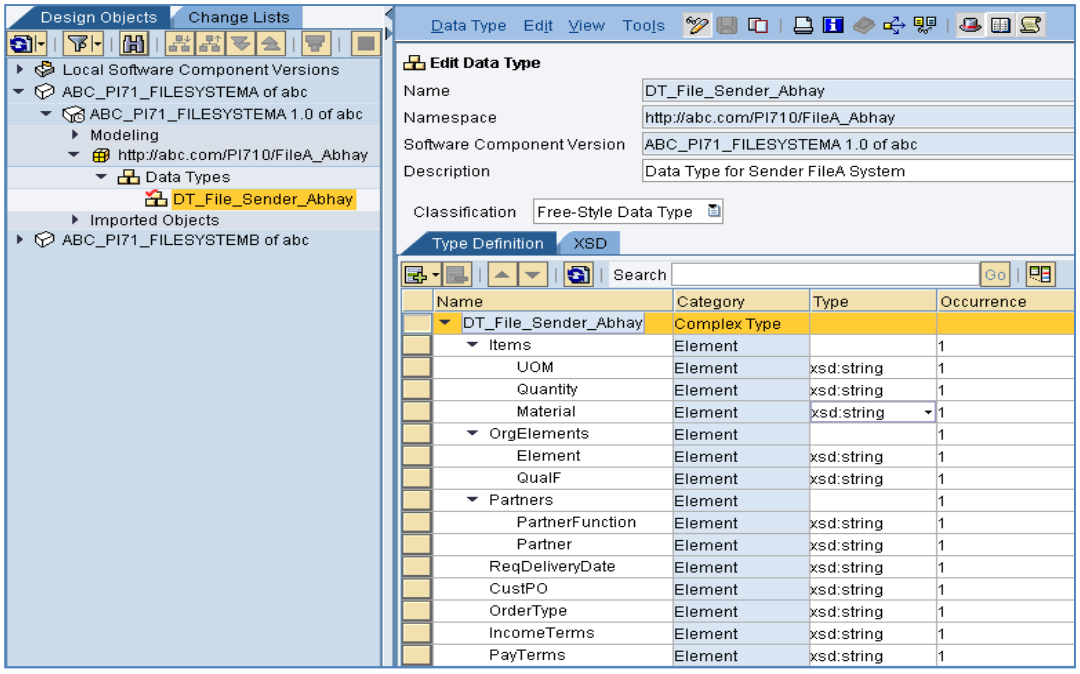


5. **Define Data Type**
    1. Date type(DT_File_Sender_<*Name/EmpNo*> for Sender System (FileSystemA)
    2. Date type(DT_File_Receiver_< *Name/EmpNo* >) for Receiver System (FileSystemB)

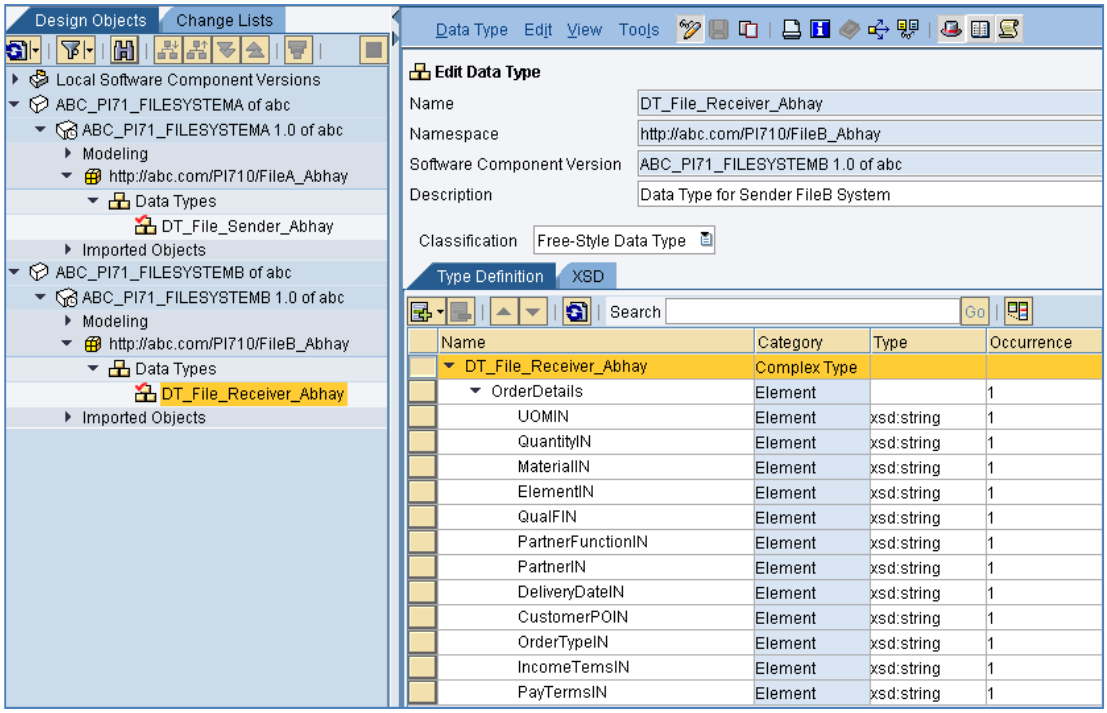
Create data types with required structure and type of elements as below. Right click on the namespace and add new Data type under Interface objects context. he following screen appears. Enter the name of the Data type.



Create DT_File_Sender_< *Name/EmpNo* > for the outbound message from the sender FileA System. Define the structure of your data type with nodes and fields and as depicted below and save upon completion if the data type.



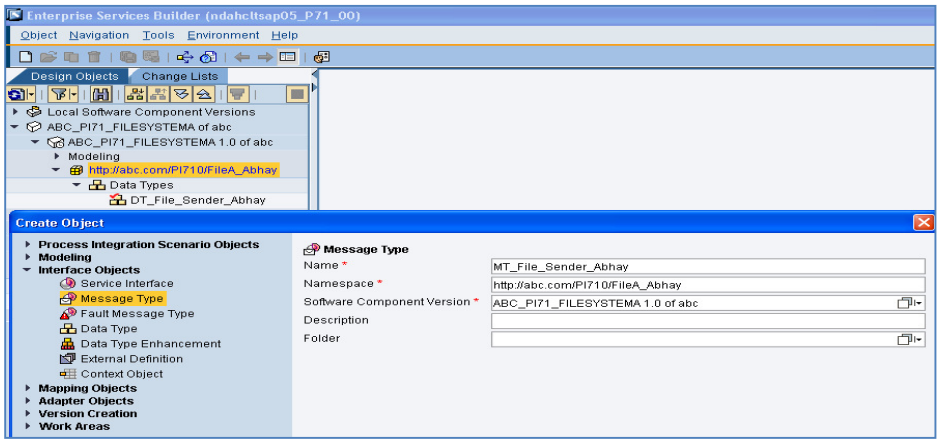
Similarly create DT_File_Receiver_< *Name/EmpNo* > for the inbound message to the receiver FileB System. Save after completion of the data type.



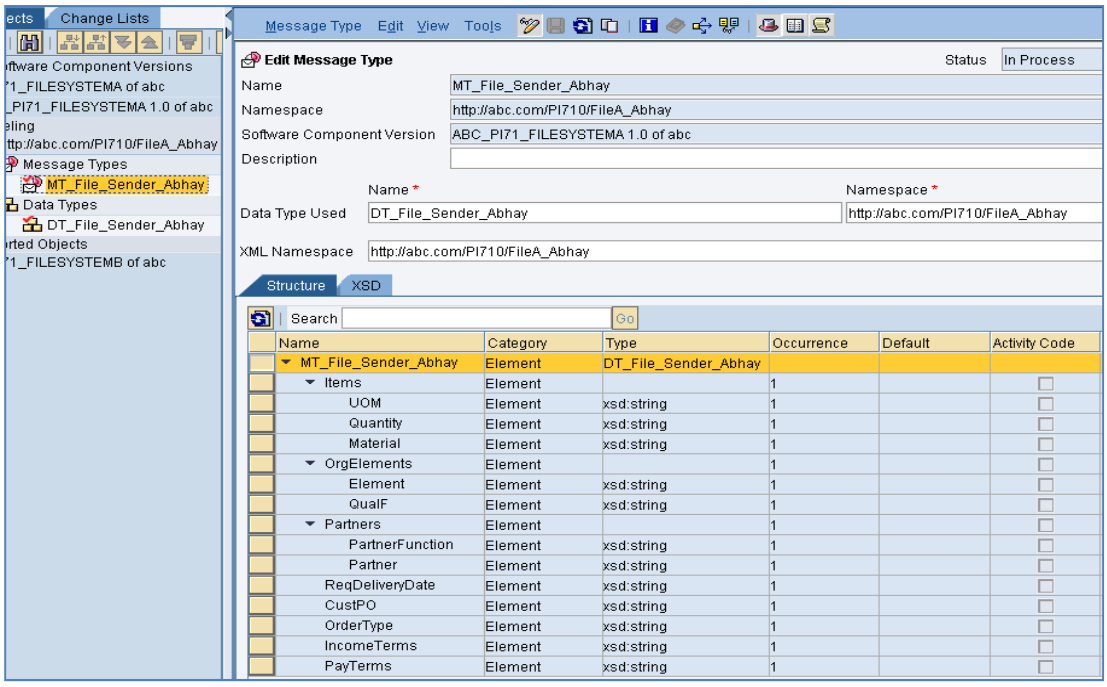
6. **Define Message Type**
    1. Message type(MT_File_Sender_<*Name/EmpNo*> for Sender System (FileSystemA).
    2. Message type(MT_File_ Receiver_< *Name/EmpNo* >) for Receiver System (FileSystemB)

Create MT_File_Sender_<*Name/EmpNo*> for the message coming from sender FileSytemA and MT_File_ Receiver_< *Name/EmpNo* > for the message to be sent to receiver FileSystemB based on the following steps-

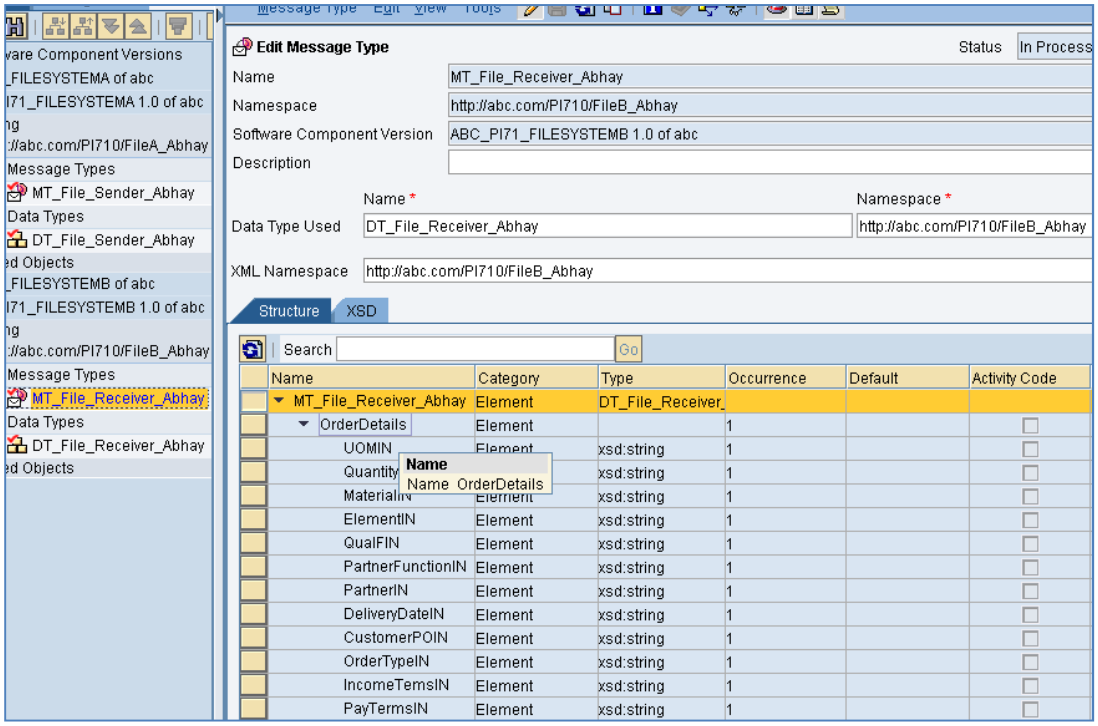
Right click on the namespace and add new Message type under Interface objects context.



Select the Data type (created in the previous step)for the message type. The Namespace automatically gets populated. This is the message type for sender system. Save after completing.



Similarly create MT_File_Receiver_< *Name/EmpNo* > for the receiver FileB System as below-



7. **Create Service Interfaces**
    1. Service Interface(SI_File_Sender_Out_< *Name/EmpNo*>) for Sender System (FileSystemA).
    2. Service Interface(SI_File_Receiver_In_< *Name/EmpNo*>) for Sender System (FileSystemB).

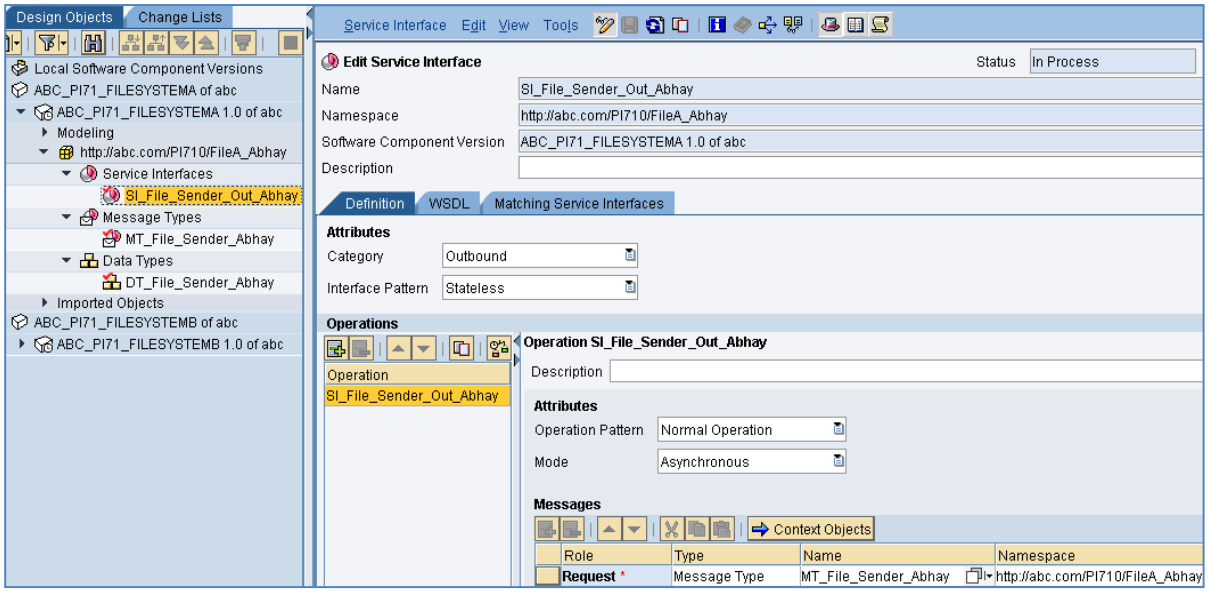
Service Interfaces specify the Mode(Sync/Async), direction(inbound/outbound) and the corresponding Message Type. Define two Service Interfaces using the attributes given below. Save after creating both service interfaces.

Service Interface	Message Type	Category	Mode	Operation Pattern
SI_File_Sender_Out_< *Name/EmpNo*>	MT_File_Sender_<*Name/EmpNo*>	Outbound	Asynchronous	Stateless
SI_File_Receiver_In_< *Name/EmpNo*>	MT_File_Receiver_<*Name/EmpNo* >)	Inbound	Asynchronous	Stateless

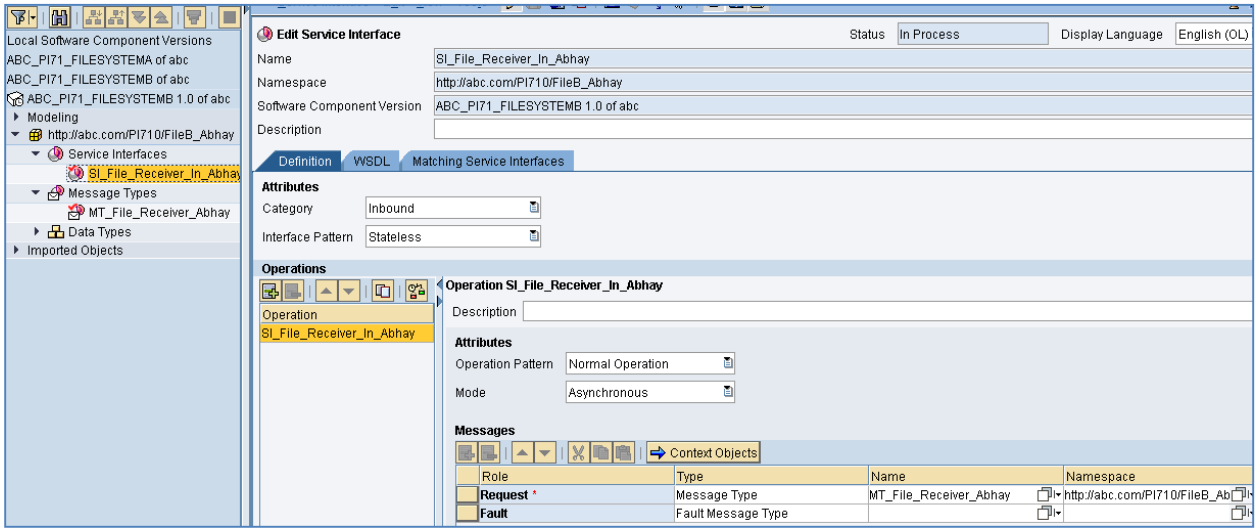
Note : Inbound and Outbound Category is the point of view of the Business Systems being integrated and not that of PI.

The outbound and inbound Service Interfaces are shown below -

This the service interface for the sender system. Save after completing



This is the service interface for the receiver system. Save after completing

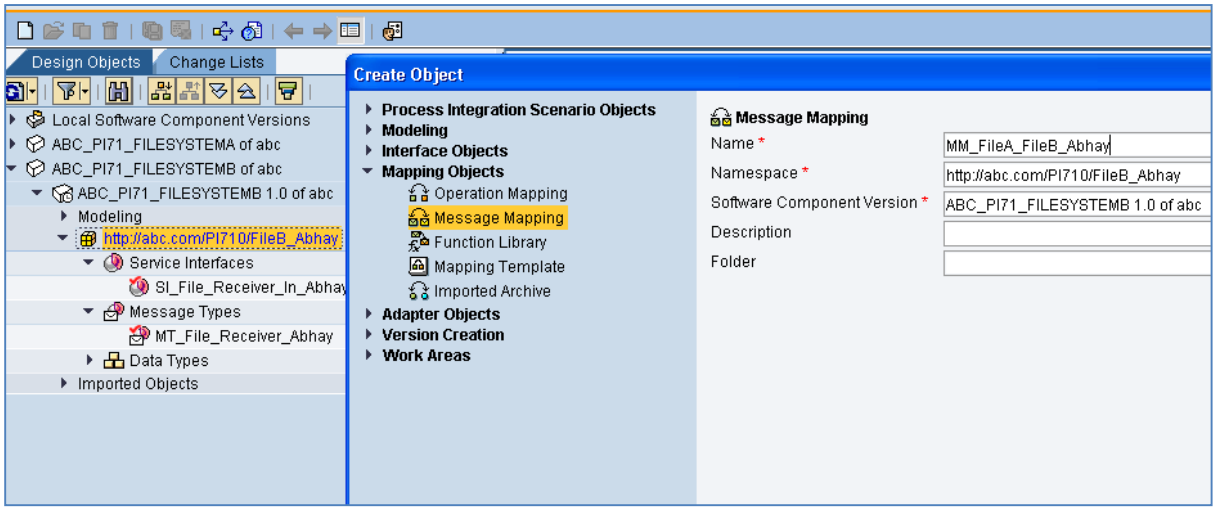


Leave the Fault Message Type as empty as we are not doing any error handling. Activate the changes made in objects by going to change lists tab.

8. Create the Message Mapping

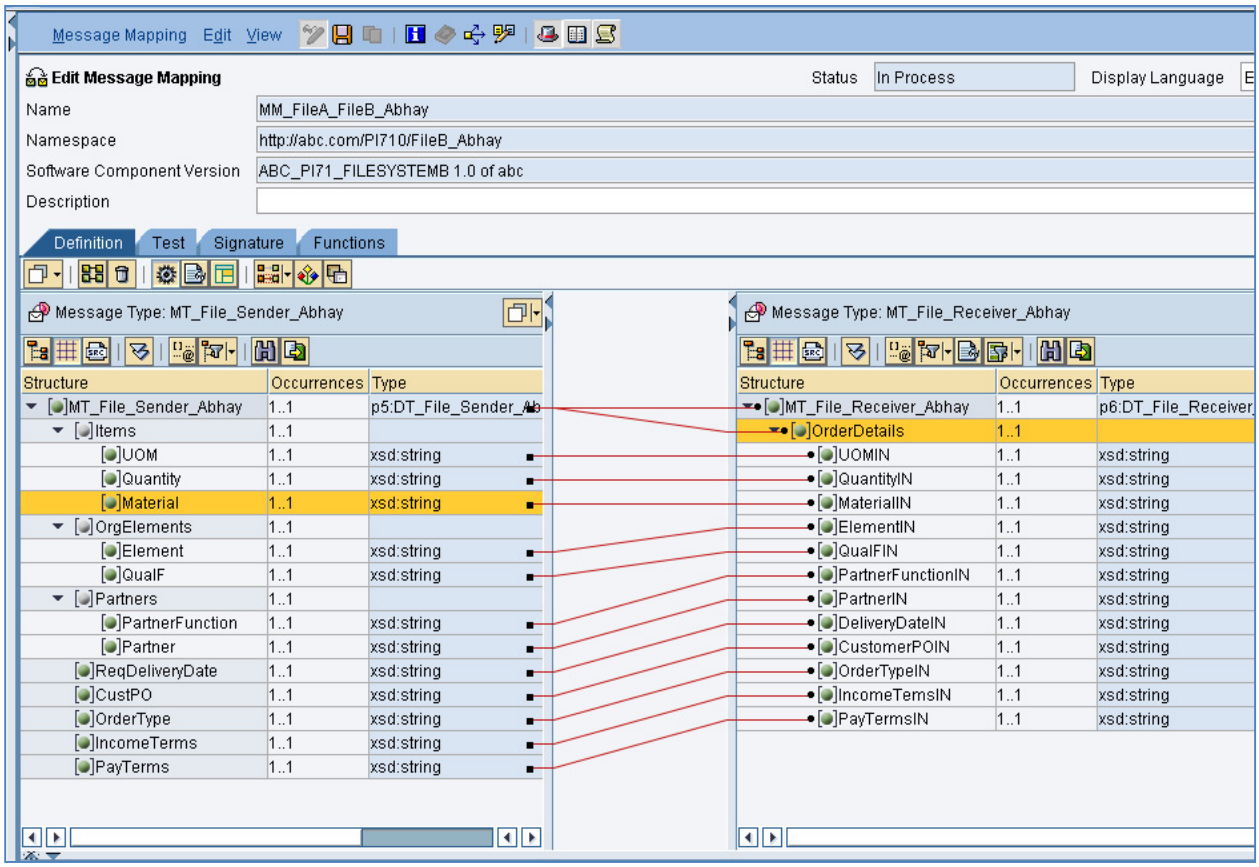
1. MM_FileA_FileB_<*Name/EmpNo*> in the receiver File SystemB

Create a new Message mapping by right clicking the receiver SWCV and adding selecting message mapping under Mapping objects context as below –



Mapping object transforms Data from one Message Type to another message type.

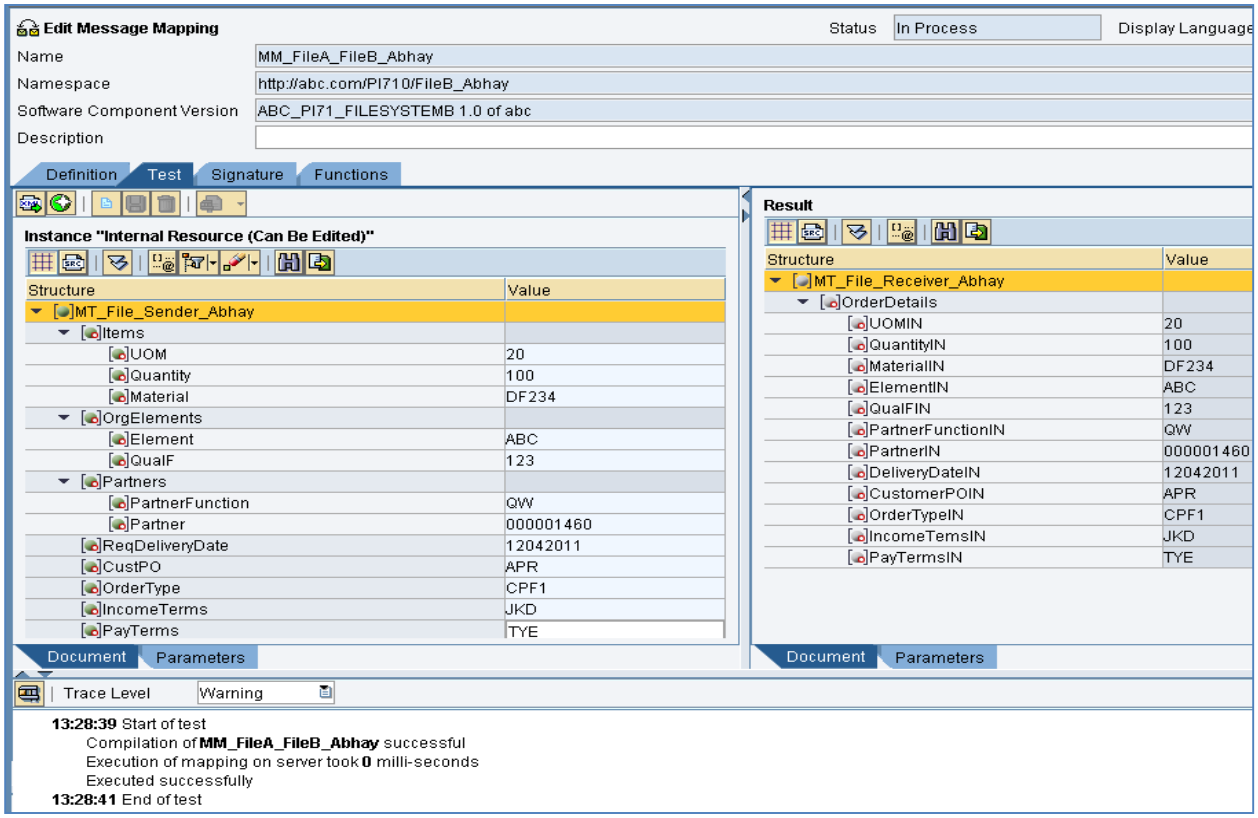
The mapping in this scenario is one-to-one. The names of the source field and target fields are identical. To perform a mapping, drag the source fields and drop on the target field. The mapping would be displayed in the graphical display.



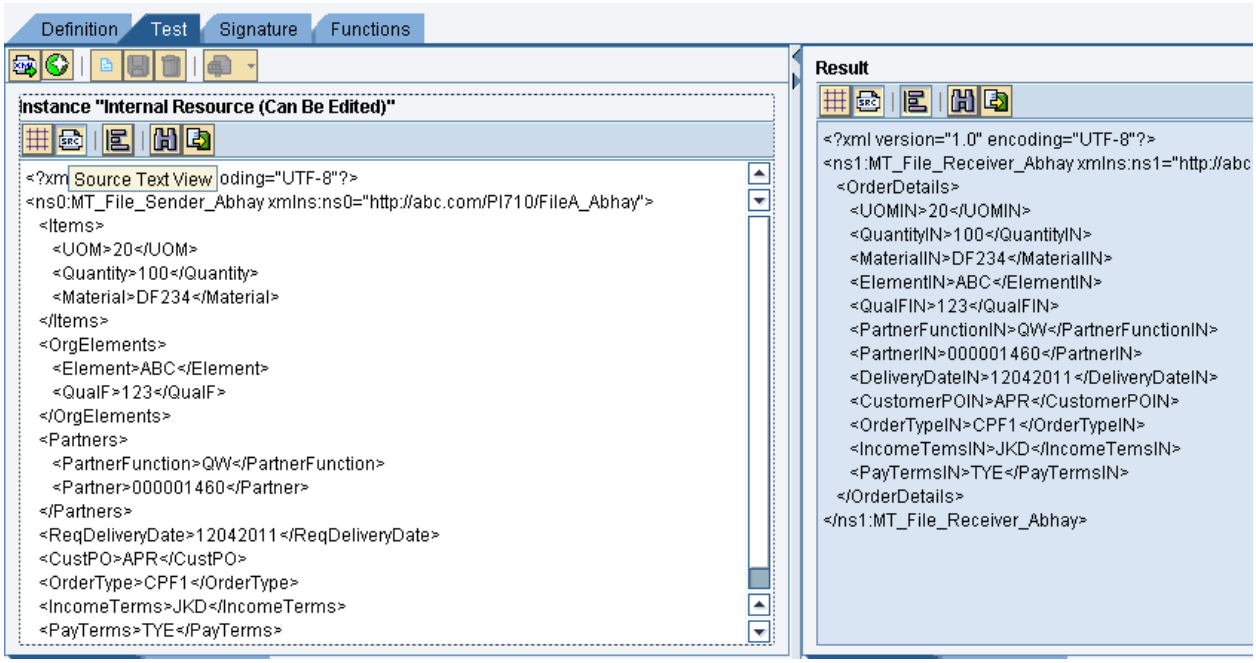
You can test you mapping by going to test Tab. You can select either of the two buttons from the tool bar to test your scenario.

1. **Load XM Instance** – load an XML file that contains your test data.
2. **Generate Instance** – By specifying the value manually.

Now you can test the scenario by clicking the Execute Mapping.



The following is the source xml that will be generated as the result of your test values. We can view it by clicking on the **src** icon.



Copy the file and save it on your local machine. This will be later used for testing the scenario end to end.

9. Create the Operation Mapping

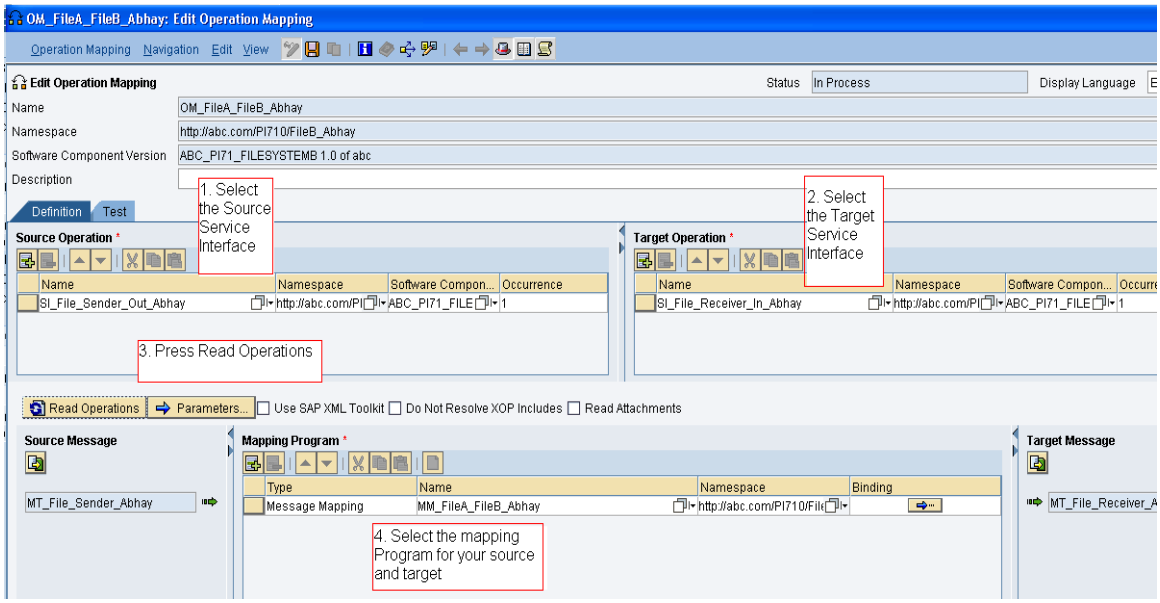
1. OM_FileA_FileB_<*Name/EmpNo*> in the receiver File SystemB.

In the operation mapping,

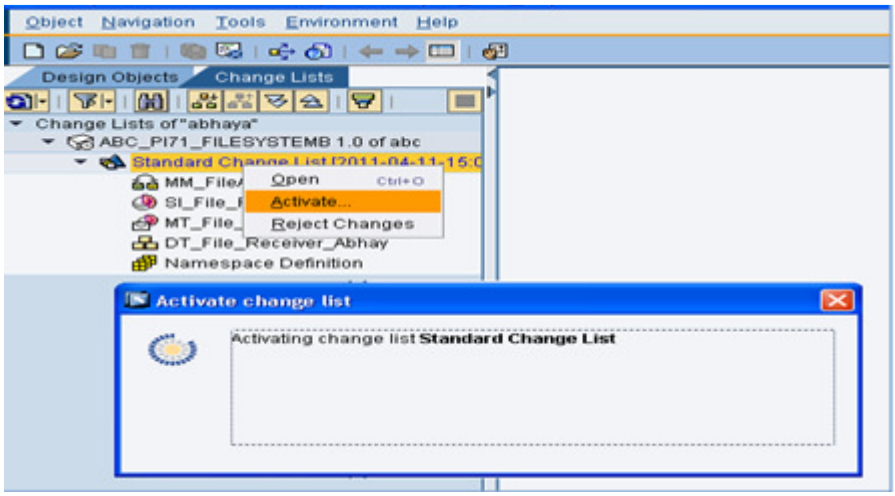
Select the source interface as "SI_File_Sender_Out_< *Name/EmpNo*>" and target interface as "SI_File_Receiver_In_< *Name/EmpNo*>".

Click on the Read Interfaces tab and source/target message types automatically get populated.

Select the message mapping as "MM_FileA_FileB_<*Name/EmpNo*> "



Activate the changes made in the objects by going to the change list tab. You can see the change list under your SWCV. Right click on the standard change list and select Activate from the context.

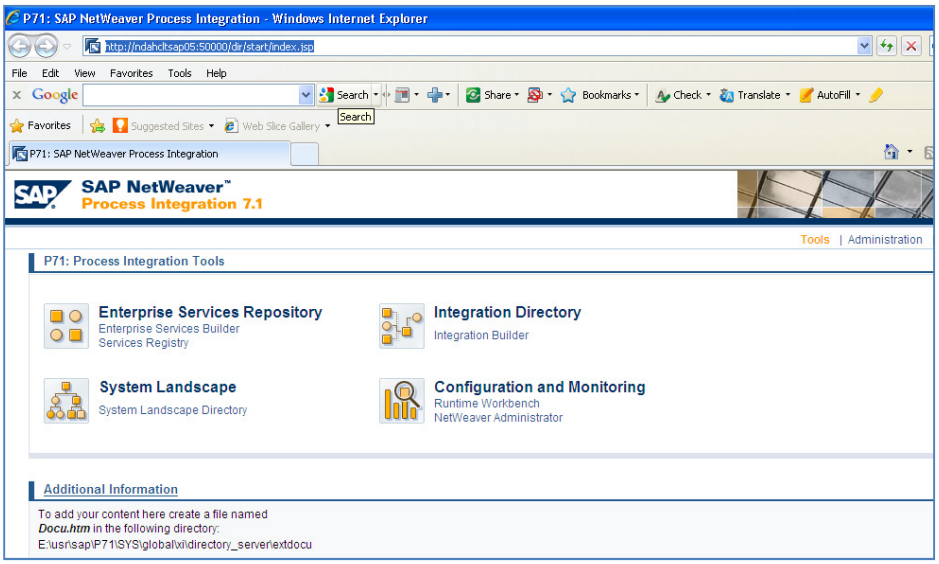


Configuration

1. Access to the Process Integration Tools

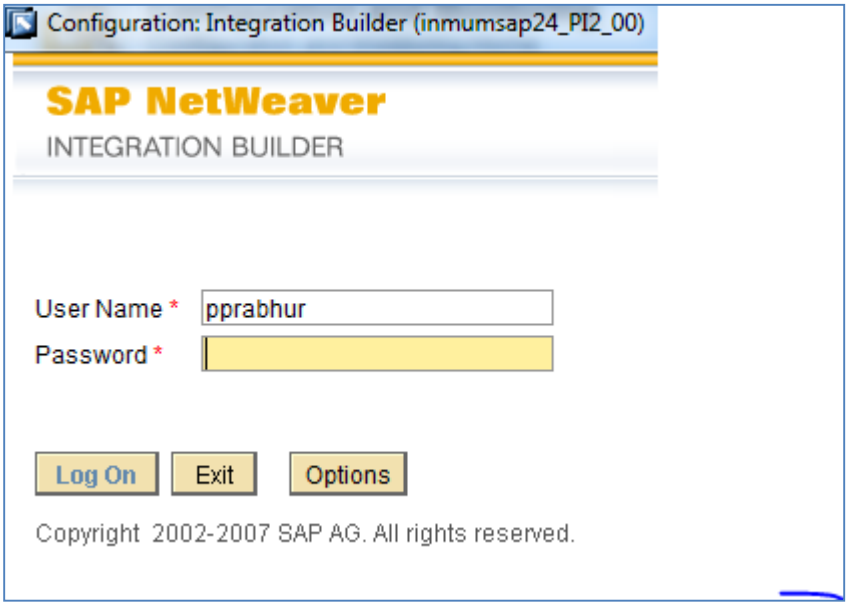
Link provided.

For Eg - http://inmumsap24.corp.capgemini.com:50000/dir/start/index.jsp



2. Access Integration Directory

Click on the link Integration Builder under Integration Directory. The following screen appears –

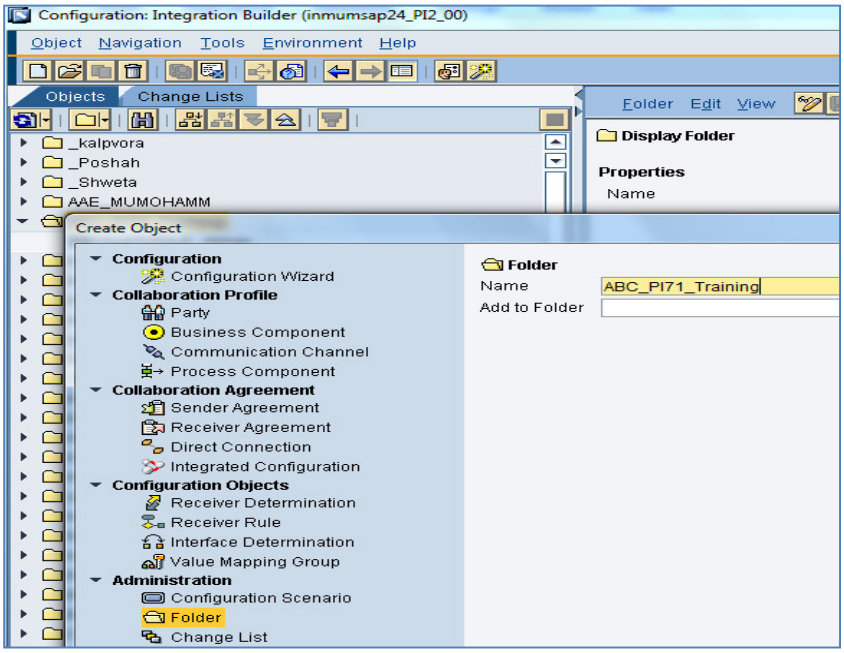


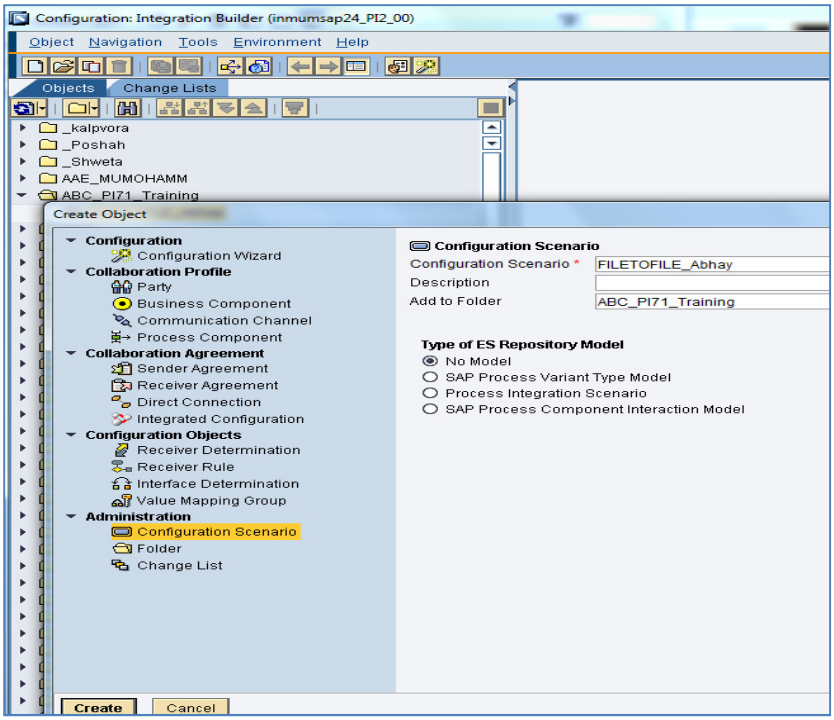
Login to PI using your user id and password.

3. Create a new Scenario.

scenario is a place holder for the configuration of interfaces. A scenario can hold the configuration for multiple interfaces.

Create a Configuration Scenario FILETOFILE_Abhay and add it to the Folder ABC_PI71_Training.





4. Create Business Component for Sending and receiving File system

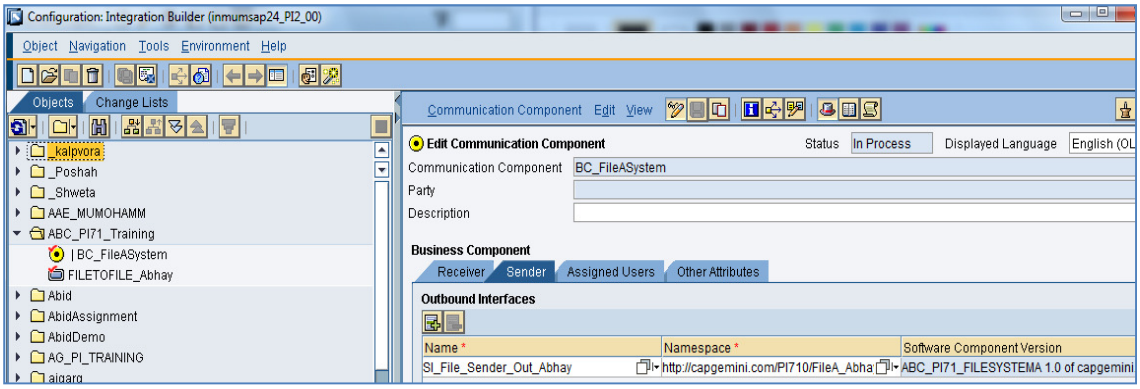
Business component is same as Business Service is PI7.0.
for this exercise we are going to define Business components.

5. **Assign the Service Interfaces to Business Component.**

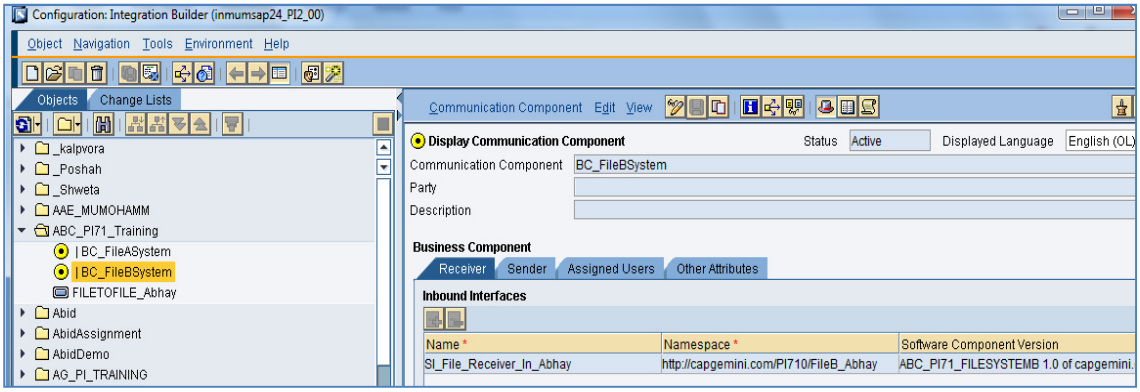
Note : *This step is required only when we are using business component and not the business systems. In case of Business systems, there is reference to Software components defined in SLD.*

But if we are using Business components, we need to explicitly add respective inbound/ outbound service interfaces to the business components created.

Sender Service Component -



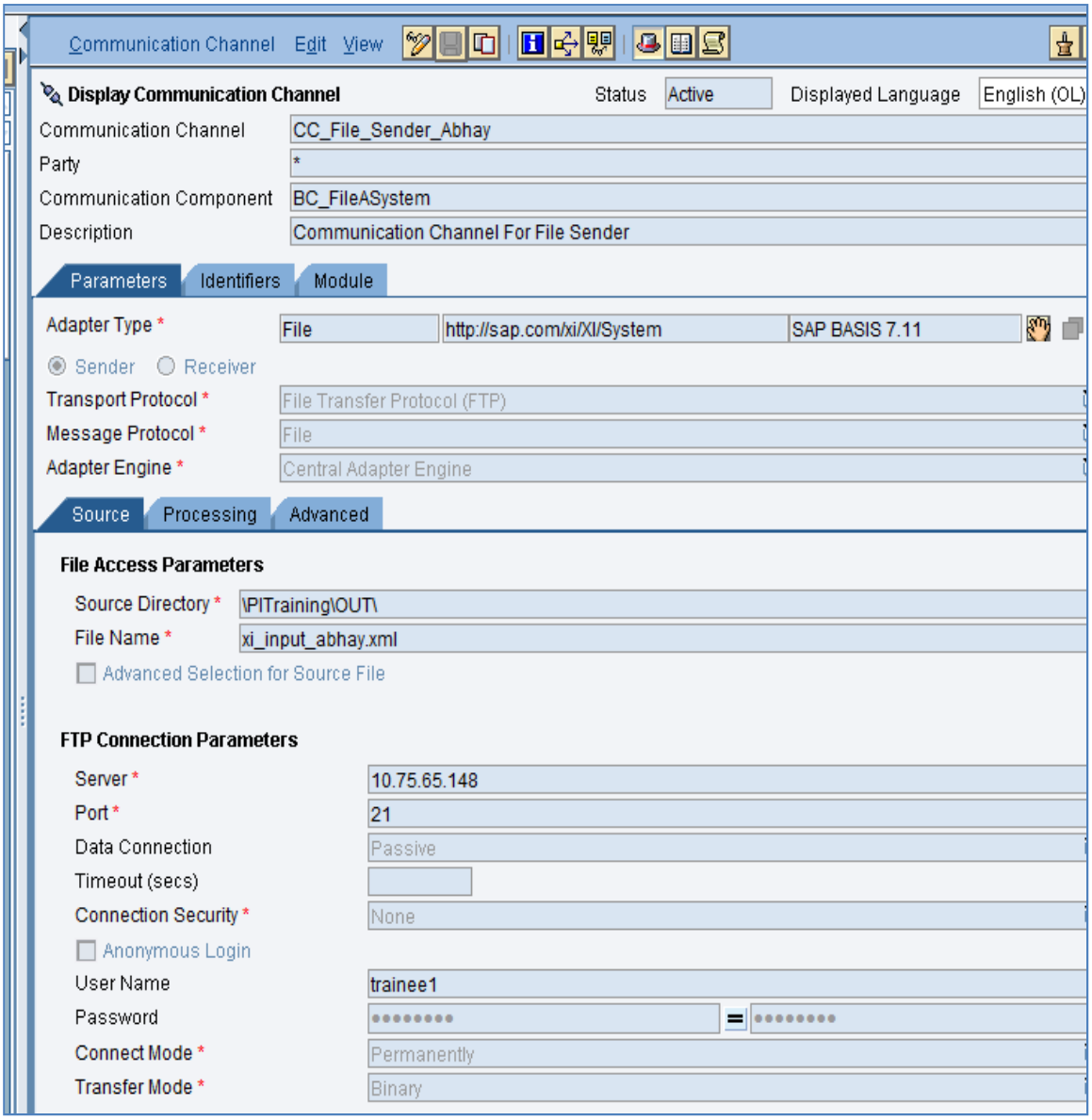
Receiver Business component –



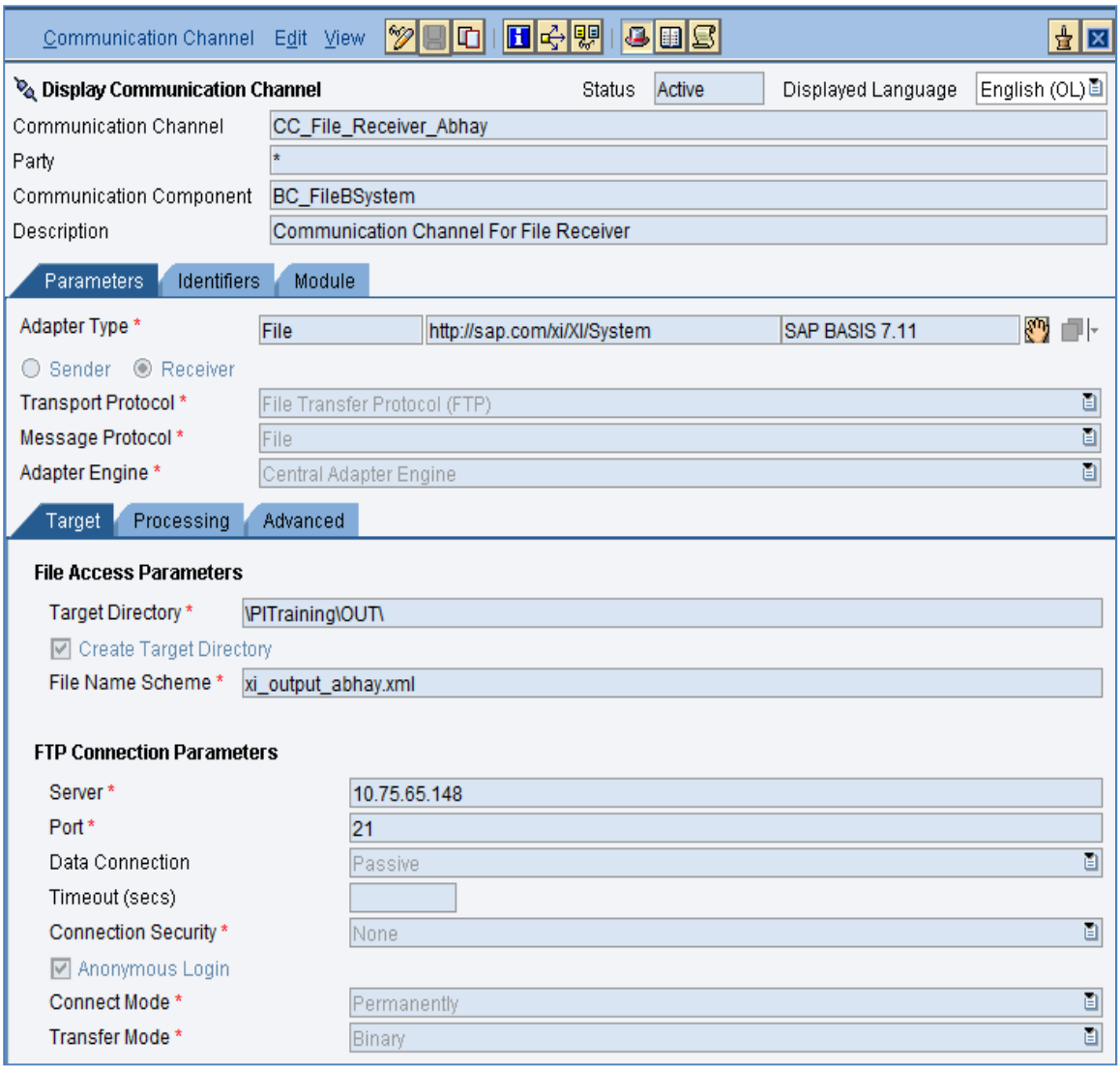
6. **Create Communication Channels**

This communication channel will enable the business component/business system and integration server to communicate to each other.

Sender Communication Channel –


Communication Channel Edit View
Display Communication Channel
Status Active
Displayed Language English (OL)
Communication Channel CC_File_Sender_Abhay
Party *
Communication Component BC_FileASystem
Description Communication Channel For File Sender
Parameters Identifiers Module
Adapter Type * File http://sap.com/xi/XI/System SAP BASIS 7.11
Sender Receiver
Transport Protocol * File Transfer Protocol (FTP)
Message Protocol * File
Adapter Engine * Central Adapter Engine
Source Processing Advanced
File Access Parameters
Source Directory * \PITraining\OUT\
File Name * xi_input_abhay.xml
Advanced Selection for Source File
FTP Connection Parameters
Server * 10.75.65.148
Port * 21
Data Connection Passive
Timeout (secs)
Connection Security * None
Anonymous Login
User Name trainee1
Password
Connect Mode * Permanently
Transfer Mode * Binary

Receiver Communication Channel-

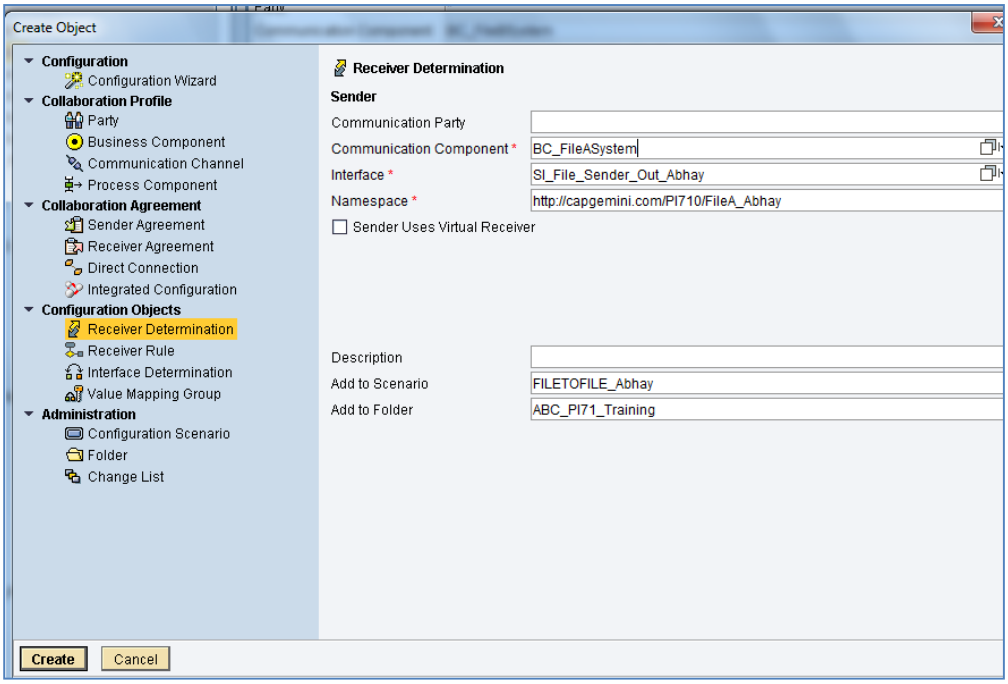


Note: *Target Directory will depend on the system to which we are connecting. File Name Scheme will can also change as per requirement.*

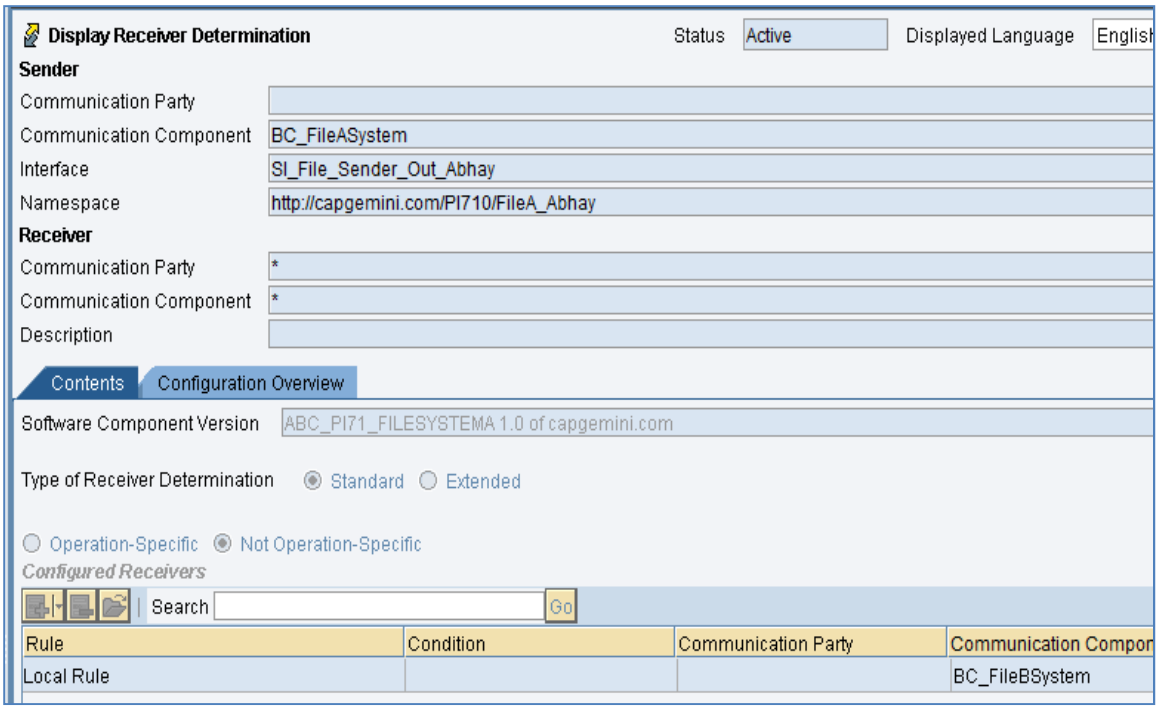
7. Receiver Determination

A receiver determination defines one or more receivers for a sender and a outbound Service interface.

Create a new receiver determination, by right the scenario and then select Receiver Determination under Configuration Objects –



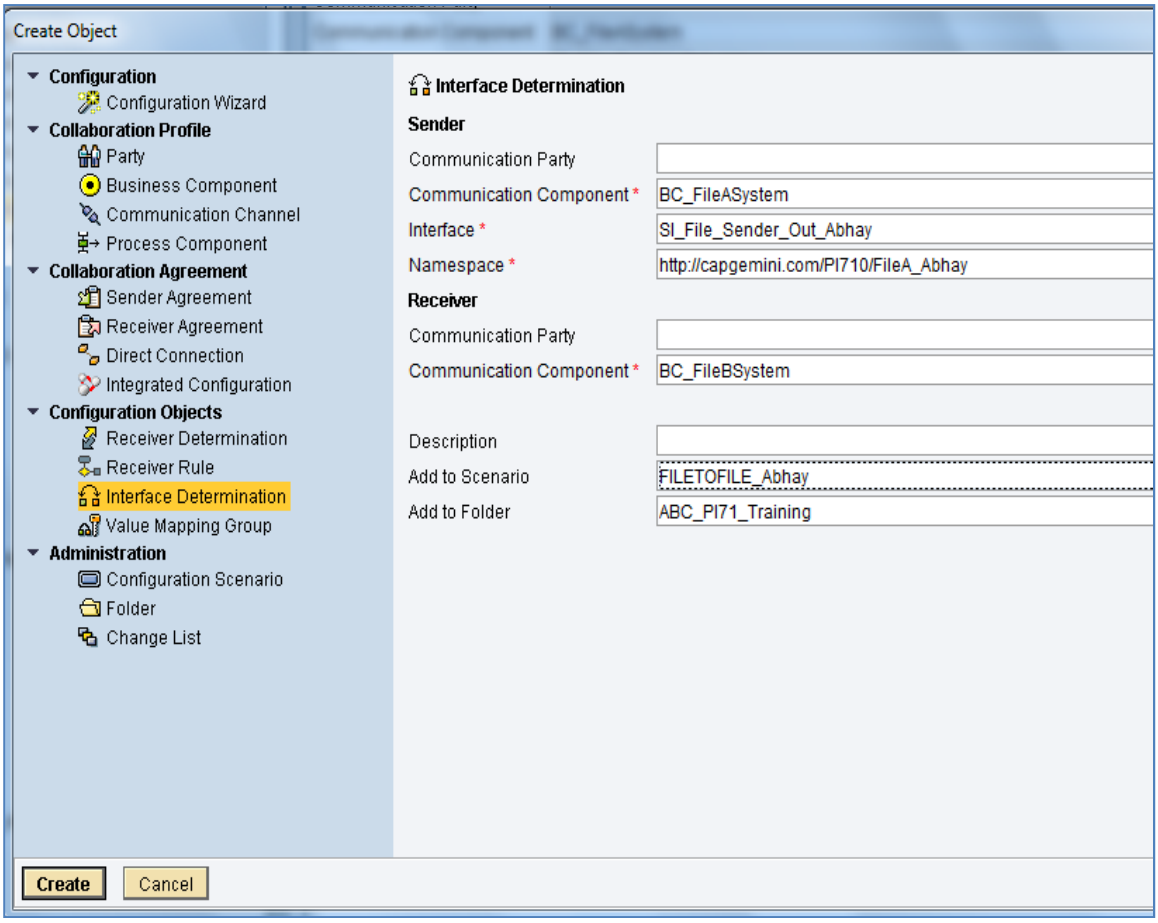
Now add receiver business component –



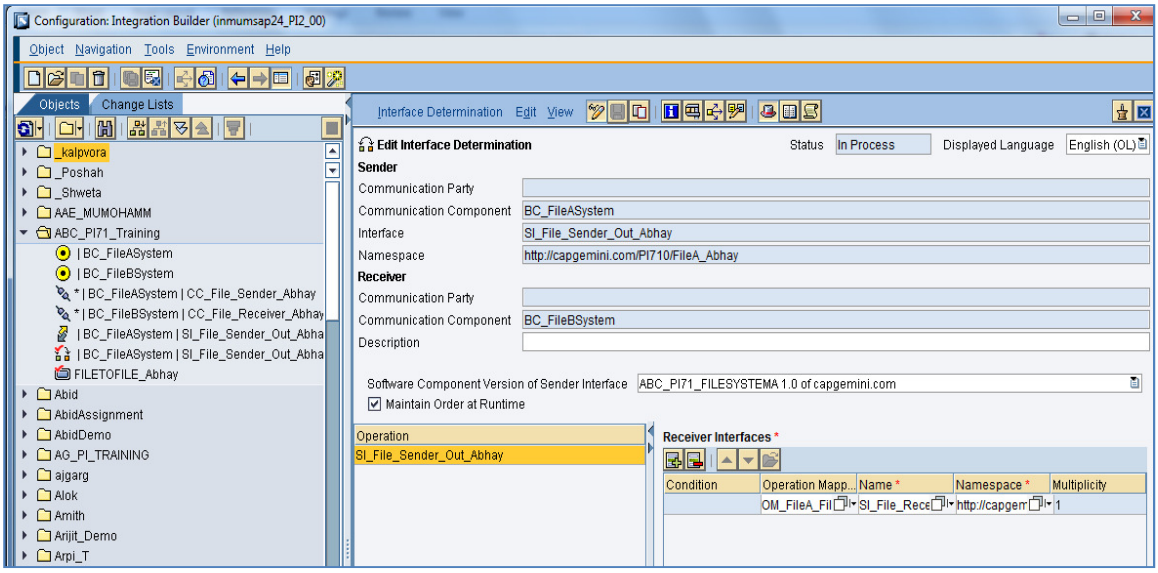
8. Interface Determination

In this step, we need to determine the inbound service interface using which the receiver system is expected to receive data.

Create a new interface determination, by right the scenario and then select Interface Determination under Configuration Objects –



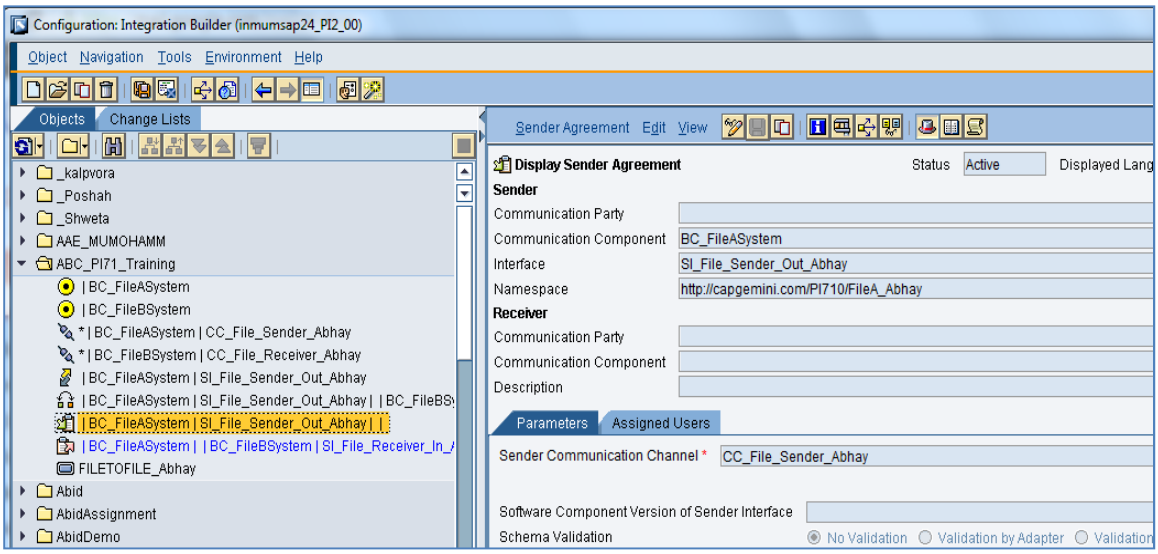
Now add the inbound interface and operation mapping to be used by this scenario -

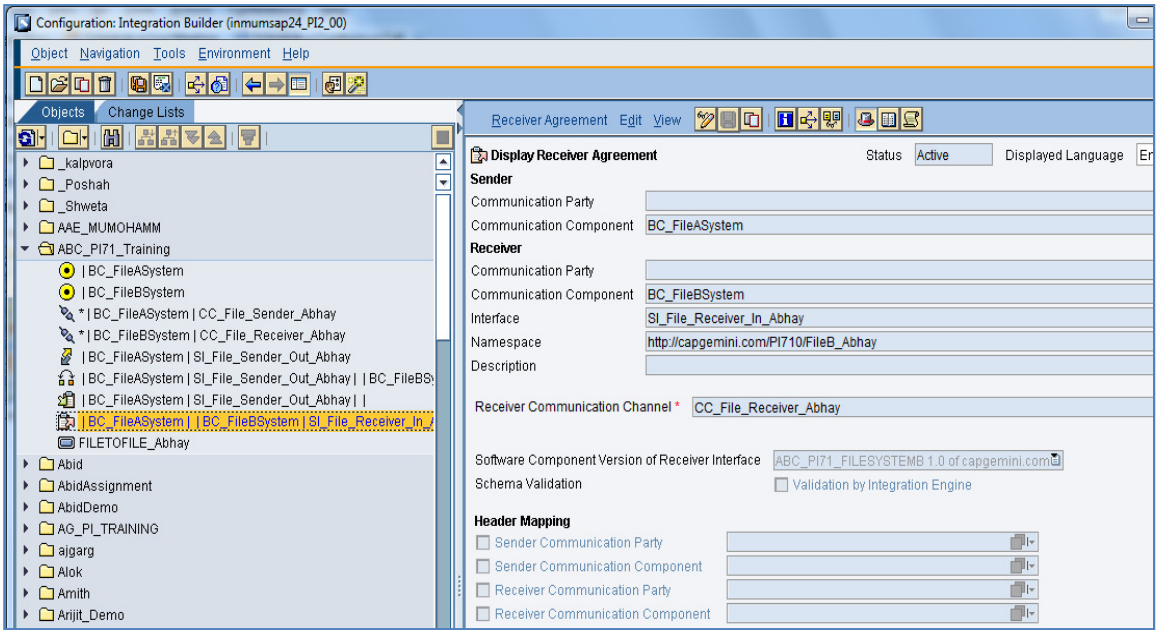


9. Sender and Receiver Agreement

The agreements we need to specify the communication channel to be used by sending/receiving systems to actually connect to Integration Engine.

Create the sender and receiver receiver agreement by specifying sender and receiver business component and adding corresponding communication channel.



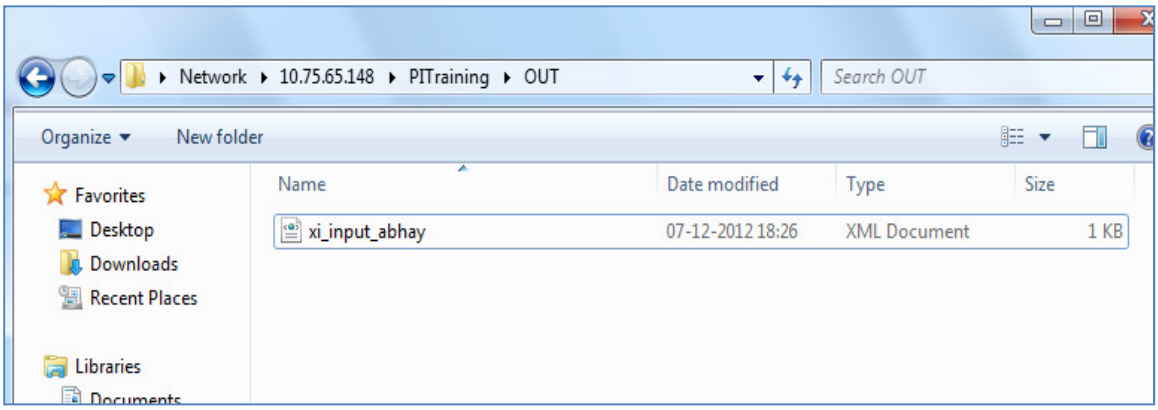


Testing:

Place the file in the source directory.

Use the following path in the run command
\\ 10.75.65.148\PITraining\OUT\

And paste your file in it as shown below



Once the file is placed. It is picked up by PI and processed and placed in the mentioned target directory. So we can check in our target directory \\ 10.75.65.148\PITraining\IN\ Xi_output_abhay xml file would be created.