

## IDoc to File Scenario

### **Pre- requisite to start this development-**

**Integration Repository** - Software Components defined for Sender ECC System and Receiver File System A.

**Integration Directory** – Business System for ECC sender needs to be defined.

### **Business Logic behind this development**

Sender (ECC) system will Trigger an Idoc to PI.

PI will perform the basic transformation/mapping.

The result of mapping needs to be send to the Receiver (File) system as XML File.

## Idoc Configuration

### In ECC system -

- Using T-code SM59, create an RFC(ABAP connection) for connecting to PI system as under-

### RFC Destination EC3\_2\_PI2

Remote Logon
Connection Test
Unicode Test

RFC Destination EC3\_2\_PI2

Connection Type 3 ABAP Connection
Description

Description

Description 1 RFC for PI2

Description 2

Description 3

Administration
Technical Settings
Logon & Security
Unicode
Special Options

Target System Settings

Load Balancing Status

Load Balancing
☐ Yes
☒ No

Target Host INMUMSAP24
System Number 00

Save to Database as

Save as
☐ Hostname
☒ IP Address
10.75.252.85

Gateway Options

Gateway Host

Gateway service

Delete

- Using T-code WE21, create a port(Transactional RFC) and add the RFC destination defined above –

### Ports in IDoc processing

Ports	Description
Ports	
Transactional R	
A000000001	EC3 Client 200
<b>SAPPI2</b>	PI Port
File	
CPI-C	
ABAP-PI	
XML File	
XML HTTP	

Port:   
 Description:   
 Version:  
☐ IDoc rec.types SAP Release 3.0/3.1  
☒ IDoc record types SAP Release 4.x  
 RFC destination:   
 Processing Options:  
☐ Send Only Fields of Segment Version  
☐ Use SAP Release of Receiving System in Control Record

- Using T-code BD54, define the logical systems for sender and receiver –

### Display View "Logical Systems": Overview

Log.System	Name
EC3CLNT200	EC3 200 client
EC3CLNT210	EC3 Client 210 for BI

### Display View "Logical Systems": Overview

Log.System	Name
PI2CLNT100	Logical system for PI 7.1
PICLNT100	Logical system PI2

# PI 7.1 Training – Exercise – Idoc to File

- Using T-code WE20, create the a partner profile for the sender ECC system. Add the Idoc(MATMAS) in the outbound parameter and specify the port for defined in step2.

## Partner profiles

Partner

Description

Partner Profiles

Partner Type B Bank

Partner Type BP Benefits provider

Partner Type GP Business Partner

Partner Type KU Customer

Partner Type LI Vendor

Partner Type LS Logical system

DBICLNT10i EC3 Client 200

EC3CLNT20i EC3 200 client

PI2CLNT10i Logical system for PI 7.1

Partner Type US User (first 10 characters)

Partner No.

PI2CLNT10i

Logical system for PI 7.1

Partn.Type

LS

Logical system

Post processing: permitted agent

Classification

Ty.

US

User

Agent

ABHAGRAW

abhagraw

Lang.

EN

English


Outbound parmtrs.

Partner Role	Message Type	Message var...	MessageFu...	Test
	CREMAS			<input type="checkbox"/>
	DEBMAS			<input type="checkbox"/>
	MATMAS			<input type="checkbox"/>
	MDMRECEIPT			<input type="checkbox"/>

Inbound parmtrs.

Partner Role	Message Type	Message var...	MessageFu...	Test
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>


### Partner profiles: Outbound parameters



Partner No.  Logical system for PI 7.1  
 Partn.Type  Logical system  
 Partner Role

Message Type  Material master  
 Message code   
 Message function  ☐ Test

Outbound Options | Message Control | Post Processing: Permitted Agent | Tele...























Receiver port   Transactional RFC PI Port  
 Pack. Size   
☐ Queue Processing

**Output Mode**  
☒ Transfer IDoc Immed. Output Mode 2  
☐ Collect IDocs

**IDoc Type**  
 Basic type  Enhancement: Distribution of S  
 Extension   
 View   
☒ Cancel Processing After Syntax Error  
 Seg. release in IDoc type  Segment Appl. Rel.

PI 7.1 Training – Exercise – Idoc to File


5. Using T-code WE64, Define the distribution model for sender and receiver system as –


Display Distribution Model	
      	
Distribution Model	Description / Technical Name
▼  Model Views	
▶  ALE_SYNC	ALE_SYNC . No short text exists
▶  CRM Scenarios	CRMSZ
▶  Customizing Data Synchronization	CONTRLDATA
▶  Example of MM contract distribution (filtering at head	MM-PUR1
▶  Example of MM contract distribution (filtering at item	MM-PUR2
▶  Example of distributing test settings	QM-CONTR
▶  HR <=> FI Scenario	HRFICOUPLI
▶  Internet Scenarios	INTERNET
▶  Logistics Scenarios	LOGISTICS
▶  Master Data Distribution (MDM)	MASTERDATA
▼  Model for MDM	MDM TEST
▼  EC3 200 client	EC3CLNT200
▼  Logical system for PI 7.1	PI2CLNT100
▼  MATMAS	Material master
No filter set	

## In PI system -

- Using T-code SM59, create an RFC(ABAP connection) for connecting to ECC system as under –

### RFC Destination EC3CLNT200

Remote Logon   Connection Test   Unicode Test   

RFC Destination  

Connection Type  ABAP Connection   Description

**Description**  
 Description 1   
 Description 2   
 Description 3

Administration   **Technical Settings**   Logon & Security   Unicode   Special Options




**Target System Settings**  
**Load Balancing Status**  
 Load Balancing ☐ Yes ☒ No

Target Host    System Number

**Save to Database as**  
 Save as ☐ Hostname ☒ IP Address

- Using T-code IDX1, create an Port(ABAP connection) for connecting to ECC system-

### Port Maintenance in IDoc Adapter

Ports	Description
Ports	
EC4_800	Por for EC4 system client
LS_LIMS_400	Port for LIMS system (Log
PORT800_800	AR_PORT
PORT_NEW_10	This port is mapped with
PORT_NEW_60	This port is mapped with
SAPEC3_100	Port to EC3 client 100
<b>SAPEC3_200</b>	Port to EC3 Client 200
SAPEC3_350	EC3
SAPEC3_600	This port is mapped with
SAPEC3_800	Port for EC3 Clnt 800
SAPEC3EW_60	demo port

Port   
 Client   
 Description








RFC Destination


**Receiver of Status Messages**  
 Partner No.   
 Partn.Type

# PI 7.1 Training – Exercise – Idoc to File

- Using T-code IDX2, Load the metadata for the idoc to be used from ECC system-

## Metadata Overview for IDoc Adapter

Loaded Metadata	Description
<div>  Loaded Metadata           </div>	

Reload a Type Description

Loading Meta Data for:

IDoc Type

MATMAS05

Extension


Of:

Source Port



SAPHE6

Continue

Information



Structure information loaded successfully

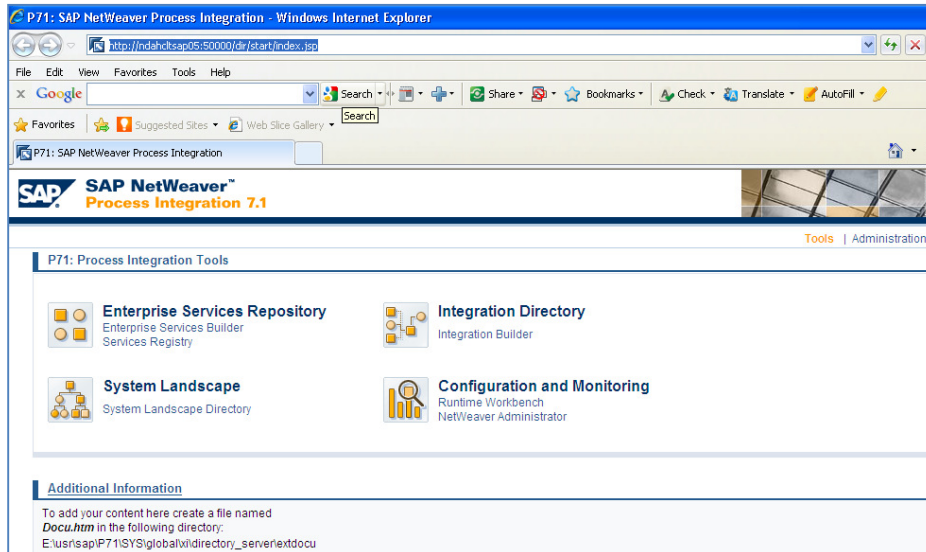


## Design

### 1. Access to the Process Integration Tools

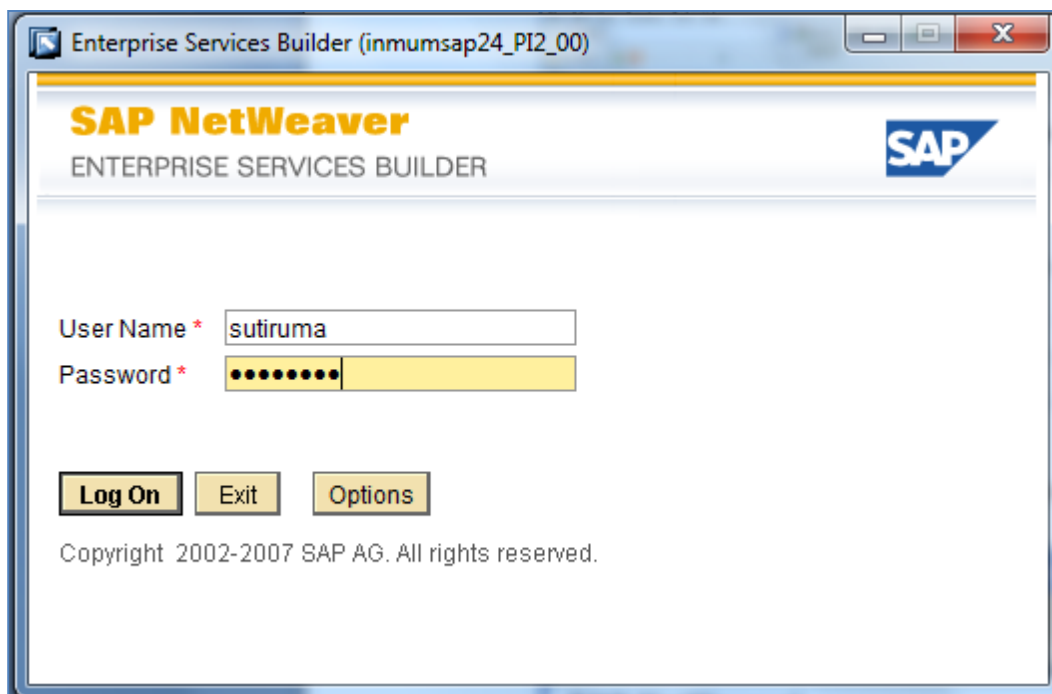
Link provided.

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 PI7.1 using your user id and password.

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

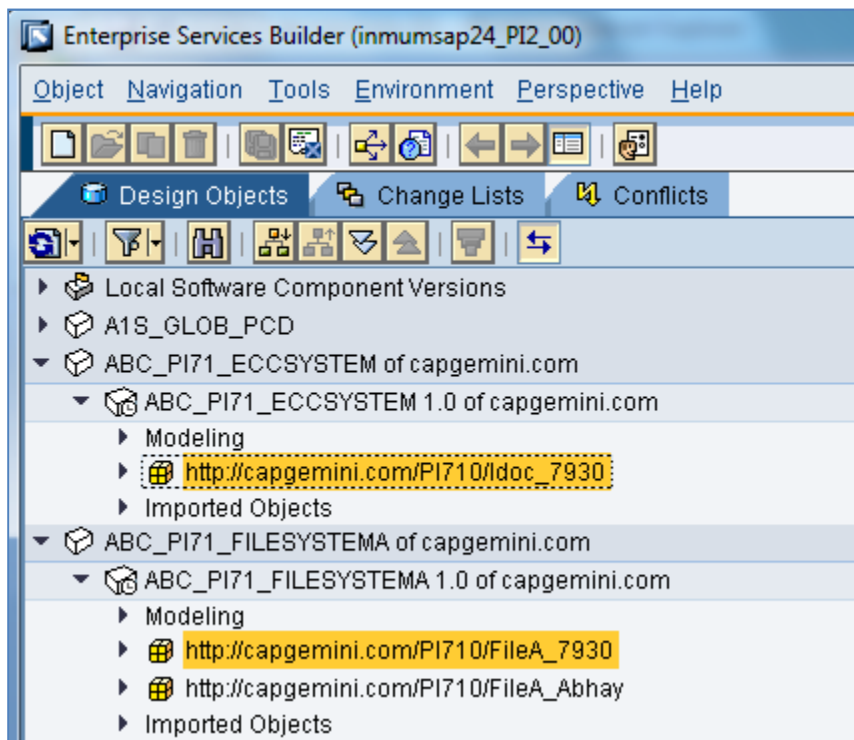
Import the following software component defined for the scenario into ESR

1. ABC\_PI71\_ECCSYSTEM 1.0 of capgemini.com
2. ABC\_PI71\_FILESYSTEMA 1.0 of capgemini.com

### 4. Define Namespace

1. Namespace ([http://<CompanyName>.com/PI710/I Doc\\_<Name/EmpNo>](http://<CompanyName>.com/PI710/I Doc_<Name/EmpNo>) ) for Sender SWCV
2. Namespace ([http://<CompanyName>.com/PI710/FileA\\_<Name/EmpNo>](http://<CompanyName>.com/PI710/FileA_<Name/EmpNo>)) for Receiver SWCV

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

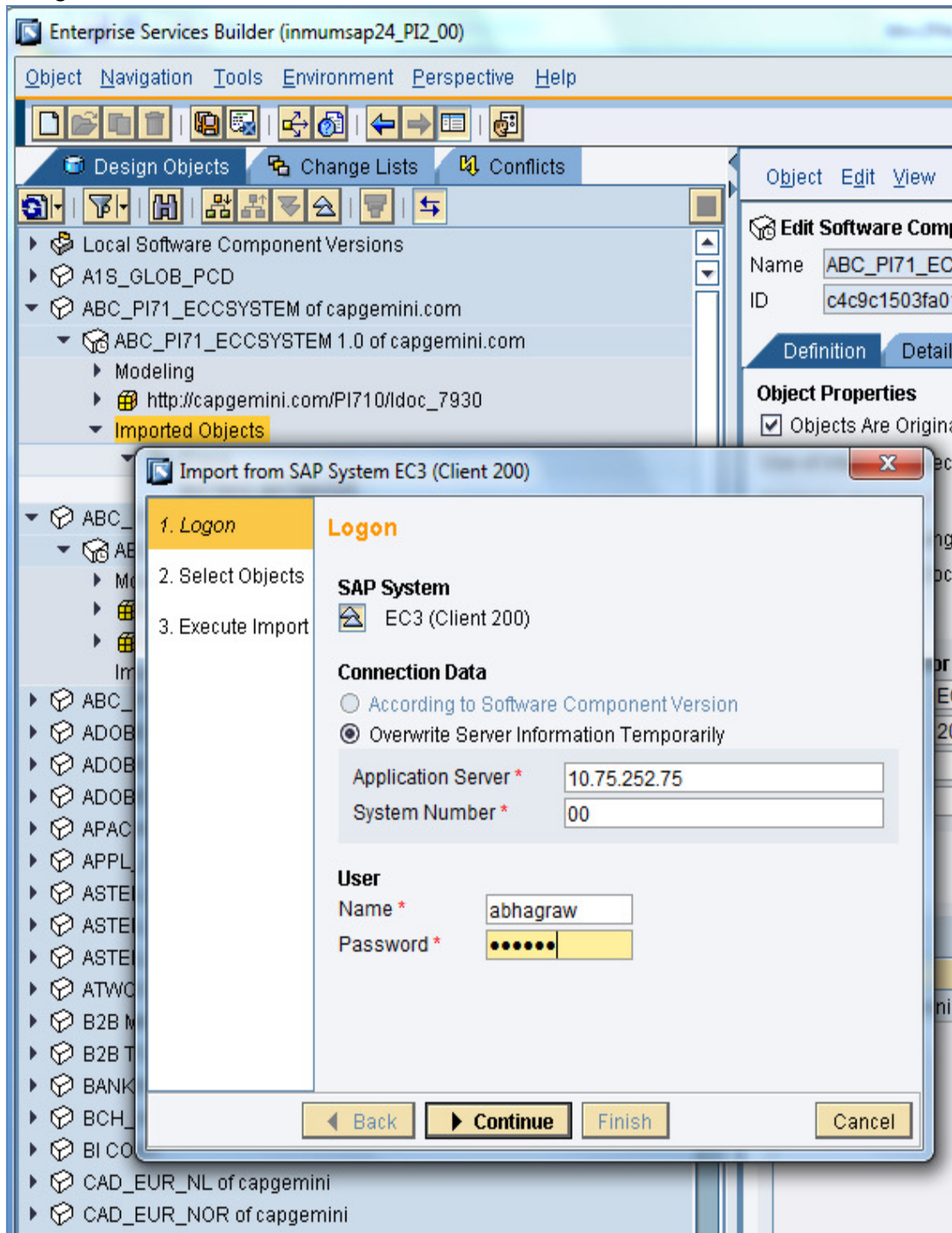


### 5. Import IDoc

**Note :** For Scenarios involving I Doc on sender/receiver , no need to define Data Type, Message type and service Interface. Just need to import the IDoc for ECC server and use it in place of message type and service interface.

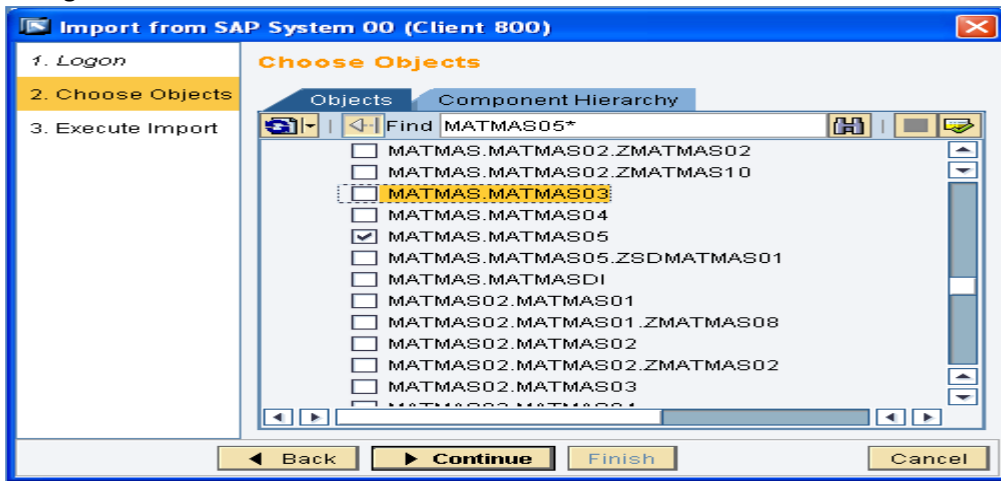
Import the required IDoc into ESR under the software component defined for ECC system as below -

## PI 7.1 Training – Exercise – Idoc to File

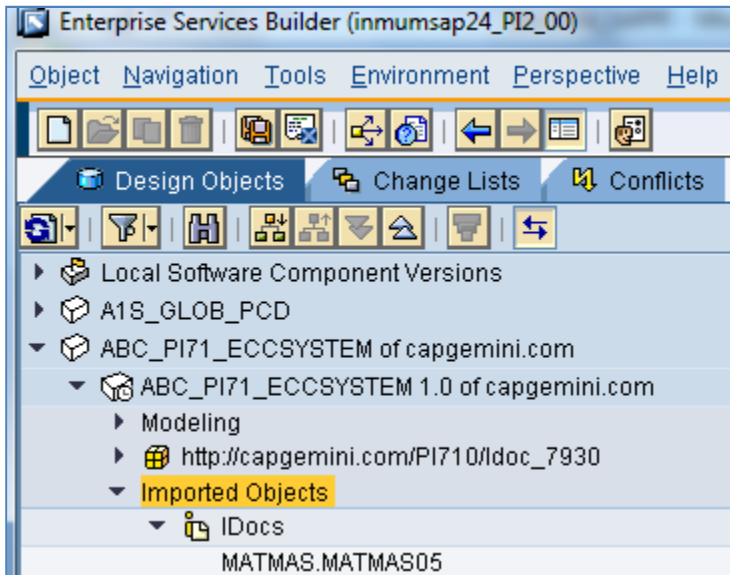


Select the Idoc required and continue as under –

## PI 7.1 Training – Exercise – Idoc to File



Once the Idoc is successfully imported, activate the same and it appear as below in ESR-

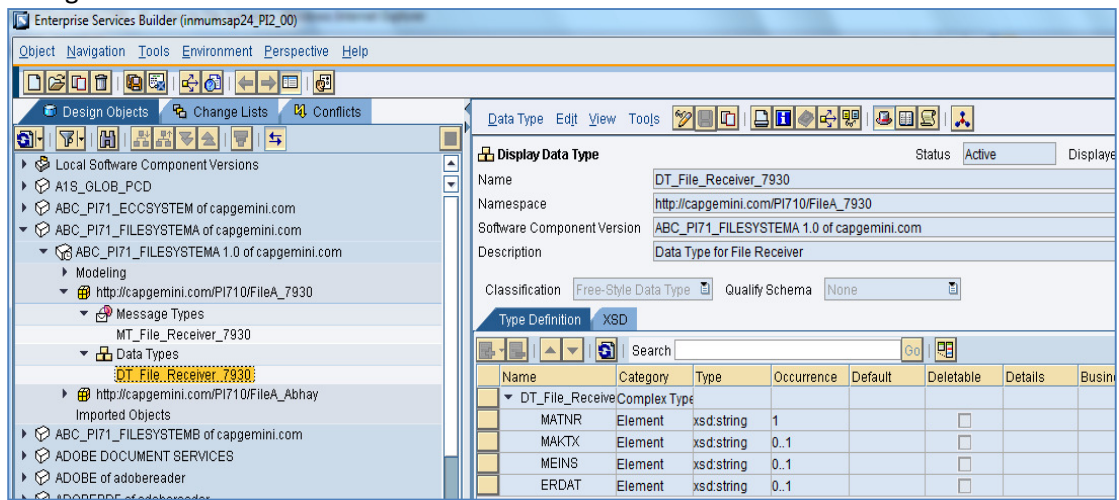


### 6. Define Data Type

1. Date type(DT\_File\_Receiver\_< Name/EmpNo >) for Receiver System (FileSystemA)

Create DT\_Idoc\_File\_Receiver\_< Name/EmpNo > for the inbound message to the receiver FileA System.

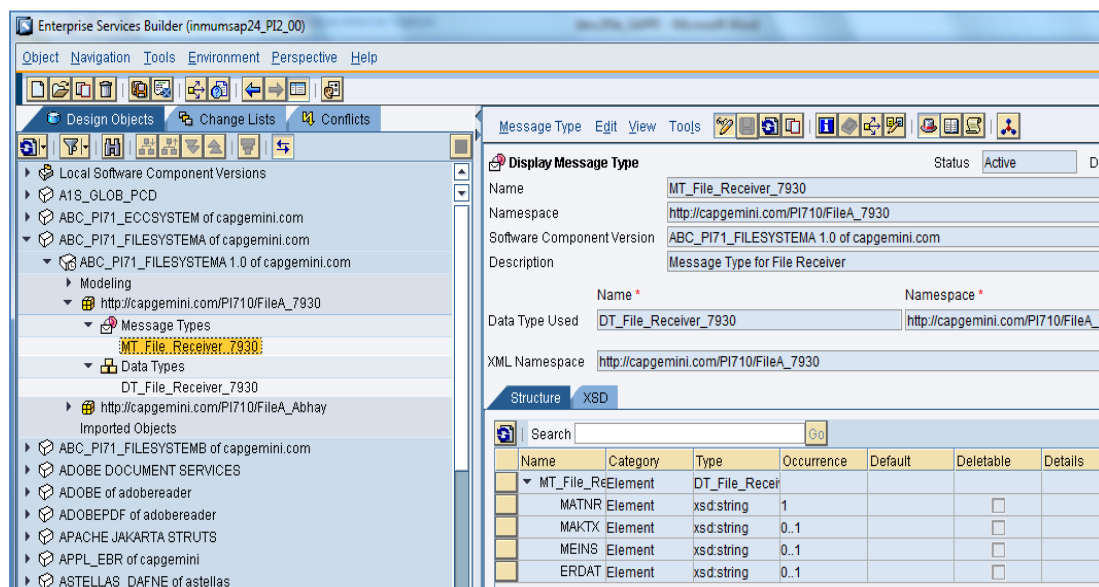
## PI 7.1 Training – Exercise – Idoc to File



### 7. Define Message Type

1. Message type(MT\_Idoc\_File\_Receiver\_< Name/EmpNo >) for Receiver System (FileSystemA)

Create MT\_Idoc\_File\_Receiver\_< Name/EmpNo > for the receiver FileA System as below-



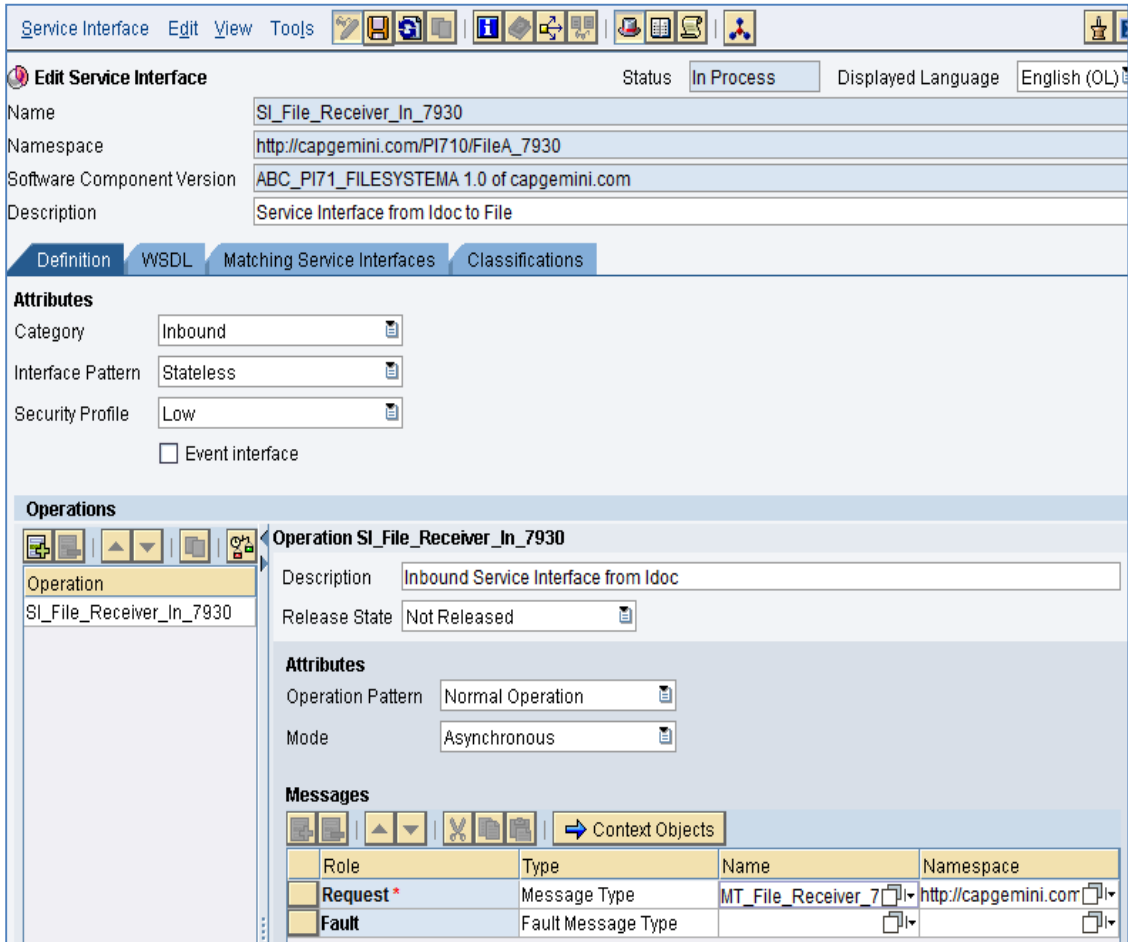
### 8. Create Service Interfaces

1. Service Interface(SI\_File\_Sender\_In\_< Name/EmpNo> ) for Sender System (FileSystemA).

Service Interfaces specify the Mode(Sync/Async), direction(inbound/outbound) and the corresponding Message Type. Define the Service Interface using the attributes given below.

Service Interface	Message Type	Category	Mode	Operation Pattern
SI_File_Sender_In_< Name/EmpNo>	MT_Idoc_File_Sender_<Name/EmpNo>	Inbound	Asynchronous	Stateless

This is the service interface for the receiver system -



**Edit Service Interface** Status: In Process Displayed Language: English (OL)

Name: SI\_File\_Receiver\_In\_7930  
 Namespace: http://capgemini.com/PI710/FileA\_7930  
 Software Component Version: ABC\_PI71\_FILESYSTEMA 1.0 of capgemini.com  
 Description: Service Interface from Idoc to File

**Definition** WSDL Matching Service Interfaces Classifications

**Attributes**

Category: Inbound  
 Interface Pattern: Stateless  
 Security Profile: Low  
☐ Event interface

**Operations**

Operation SI\_File\_Receiver\_In\_7930

Description: Inbound Service Interface from Idoc  
 Release State: Not Released

**Attributes**

Operation Pattern: Normal Operation  
 Mode: Asynchronous

**Messages**

Role	Type	Name	Namespace
Request	Message Type	MT_File_Receiver_7	http://capgemini.com
Fault	Fault Message Type		

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.



## PI 7.1 Training – Exercise – Idoc to File

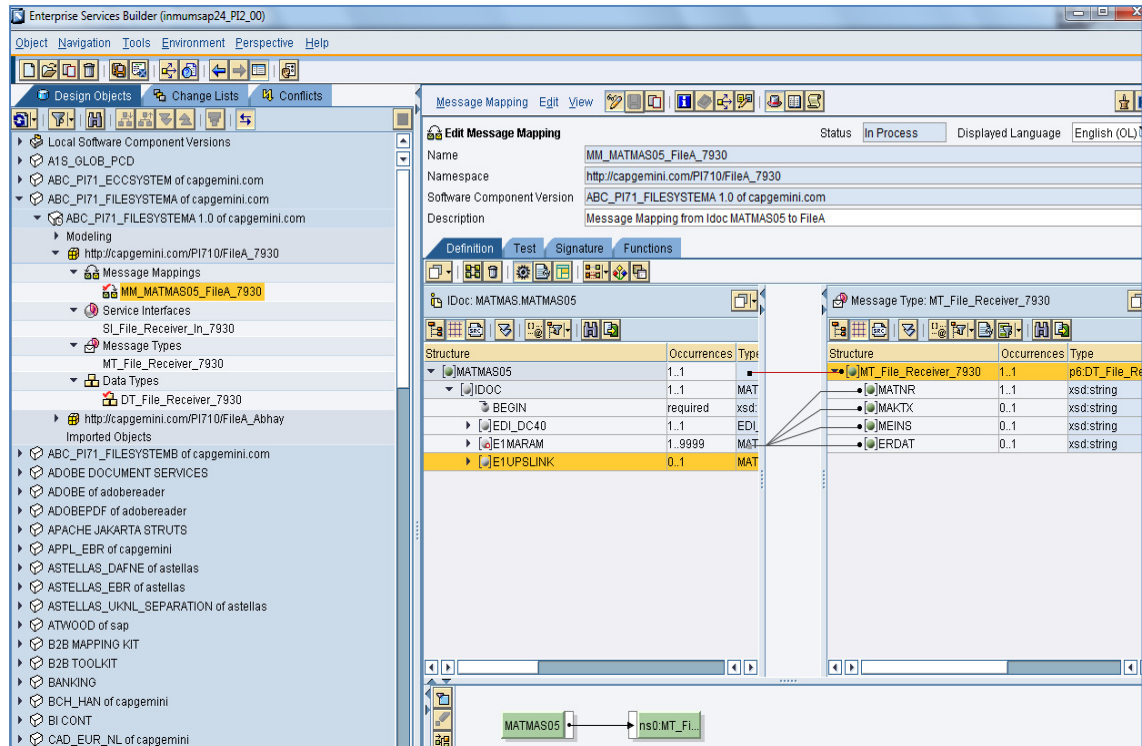
### 9. Create the Message Mapping

1. MM\_MATMAS05\_FileA\_<Name/EmpNo> in the receiver File SystemA

Create a new Message mapping MM\_Idoc\_FileA\_<Name/EmpNo>

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

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

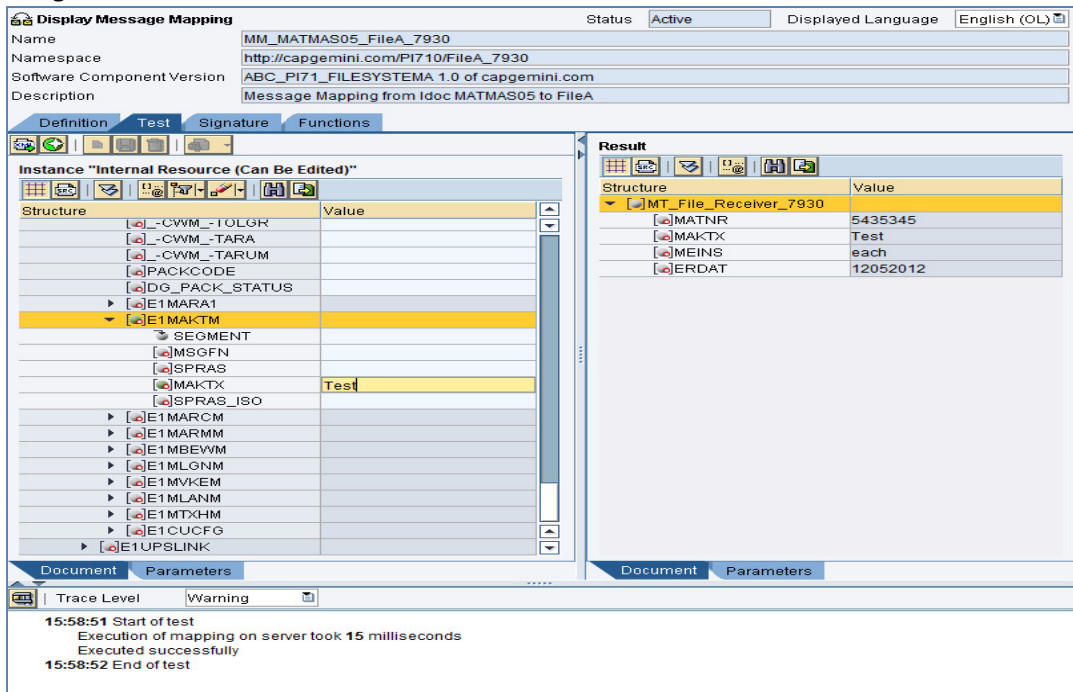


You can test you mapping by going to test Tab. You can select either of the two buttons from the tool bar to test your scenario.

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.

## PI 7.1 Training – Exercise – Idoc to File



**Display Message Mapping** Status: Active Displayed Language: English (OL)

Name: MM\_MATMAS05\_FileA\_7930  
 Namespace: http://capgemini.com/PI710/FileA\_7930  
 Software Component Version: ABC\_PI71\_FILESYSTEMA 1.0 of capgemini.com  
 Description: Message Mapping from Idoc MATMAS05 to FileA

**Definition** | Test | Signature | Functions

**Instance "Internal Resource (Can Be Edited)"**

Structure	Value
[-] _CWM_-TOLGR	
[-] _CWM_-TARA	
[-] _CWM_-TARUM	
[-] PACKCODE	
[-] DG_PACK_STATUS	
[-] E1MARA1	
[-] E1MAKTM	
[-] SEGMENT	
[-] MSGFN	
[-] SPRAS	
[-] MAKTX	Test
[-] SPRAS_ISO	
[-] E1MARCM	
[-] E1MARMM	
[-] E1MBEVM	
[-] E1MLGNM	
[-] E1MVKEM	
[-] E1MLANM	
[-] E1MTXHM	
[-] E1CUCFG	
[-] E1UPSLINK	

**Result**

Structure	Value
[-] MT_File_Receiver_7930	
[-] MATNR	5435345
[-] MAKTX	Test
[-] MEINS	each
[-] ERDAT	12052012

**Document** | Parameters

Trace Level: Warning

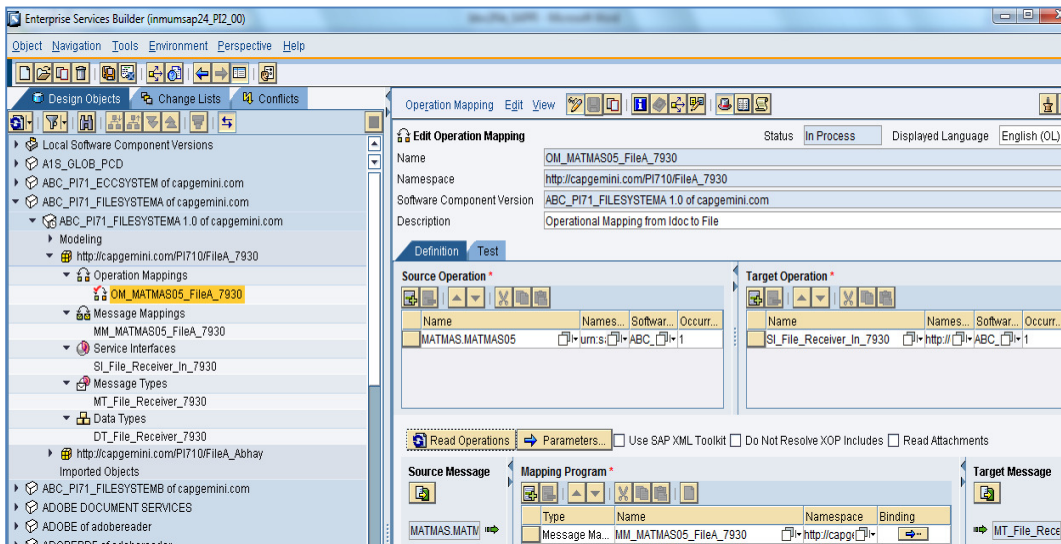
15:58:51 Start of test  
 Execution of mapping on server took 15 milliseconds  
 Executed successfully  
 15:58:52 End of test

### 10. Create the Operation Mapping

1. OM\_Idoc\_FileA\_<Name/EmpNo> in the receiver File SystemA.

In the operation mapping, Select the source interface as “MATMAS.MATMAS05” and target interface as “SI\_Idoc\_File\_Sender\_In\_<Name/EmpNo>”. Click on the Read Interfaces tab and source/target message types automatically get populated.

Select the message mapping as “MM\_Idoc\_FileA\_<Name/EmpNo>”



**Enterprise Services Builder (inmumsap24\_P12\_00)**

Object Navigation | Tools | Environment | Perspective | Help

Design Objects | Change Lists | Conflicts

Local Software Component Versions

- ABC\_PI71\_ECCSYSTEM of capgemini.com
- ABC\_PI71\_FILESYSTEMA 1.0 of capgemini.com
  - Modeling
    - http://capgemini.com/PI710/FileA\_7930
      - Operation Mappings
        - OM\_MATMAS05\_FileA\_7930

**Edit Operation Mapping** Status: In Process Displayed Language: English (OL)

Name: OM\_MATMAS05\_FileA\_7930  
 Namespace: http://capgemini.com/PI710/FileA\_7930  
 Software Component Version: ABC\_PI71\_FILESYSTEMA 1.0 of capgemini.com  
 Description: Operational Mapping from Idoc to File

**Definition** | Test

**Source Operation \***

Name	Names...	Softwar...	Occurr...
MATMAS.MATMAS05		um:s:ABC	1

**Target Operation \***

Name	Names...	Softwar...	Occurr...
SI_File_Receiver_In_7930		http://ABC	1

**Read Operations** | Parameters... | Use SAP XML Toolkit | Do Not Resolve XOP Includes | Read Attachments

**Source Message** | Mapping Program | Target Message

Type	Name	Namespace	Binding
Message Ma...	MM_MATMAS05_FileA_7930	http://capgri	

MT\_File\_Rece

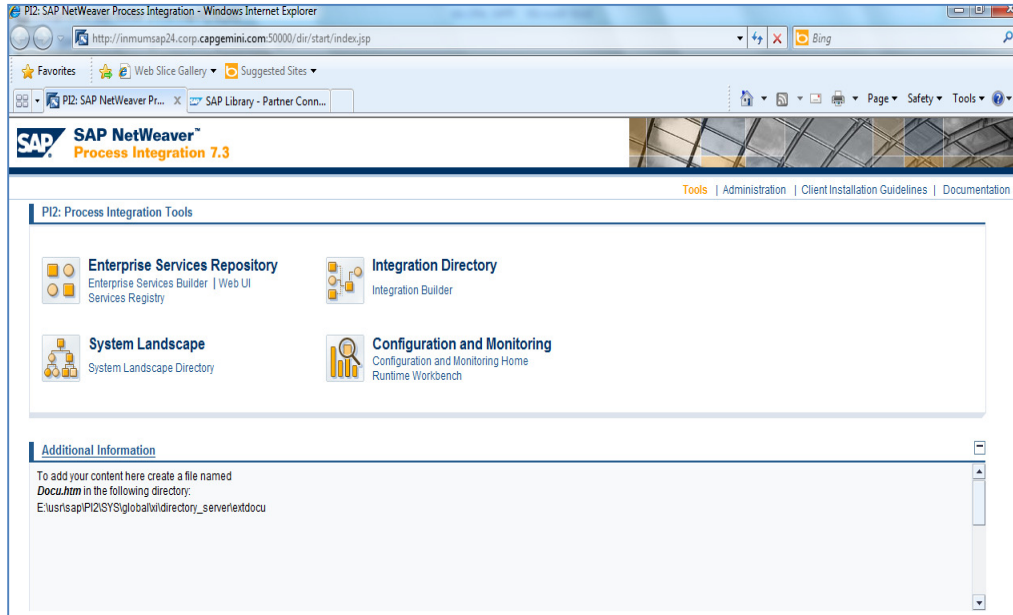


## Configuration

### 1. Access to the Process Integration Tools

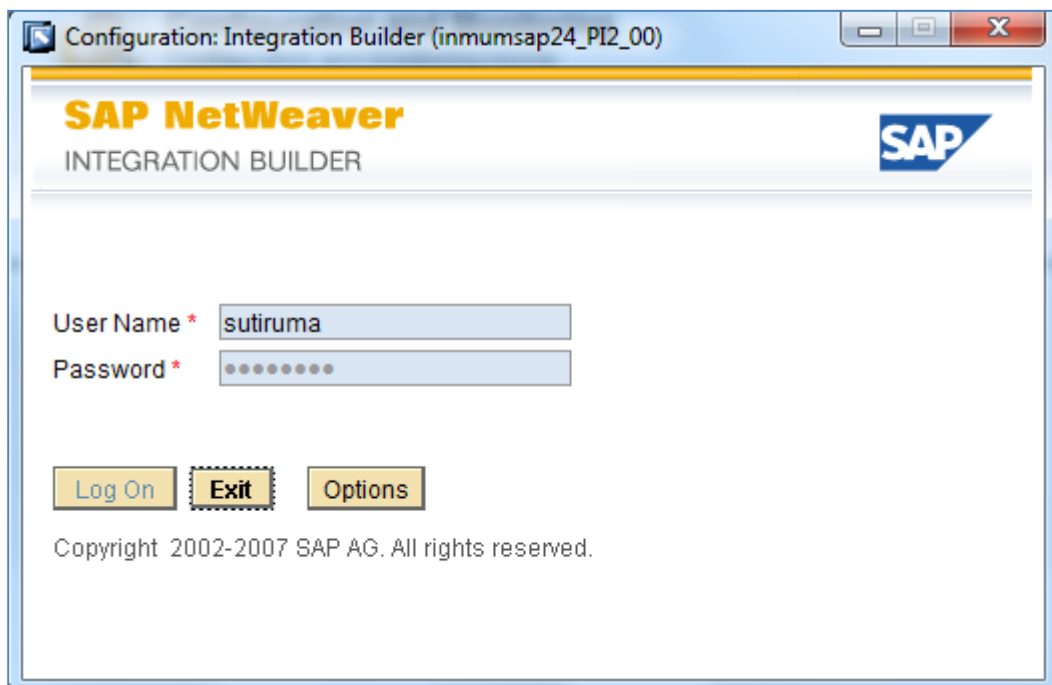
Link provided.

For Eg - <http://innumsap24.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 PI7.1 using your user id and password.

**3. Create a new Directory and Scenario.**

Directory will contain the scenario and scenario is a place holder for the configuration of interfaces. A scenario can hold the configuration for multiple interfaces.

Create a Directory IDOC2FILE\_PI71\_Training and Configuration Scenario CS\_IDOC2FILE\_7930 and add it to the Folder IDOC2FILE\_PI71\_Training.

**4. Assign Business Sender for sender ECC system.**

For any data send for ECC system, we need to have a Business system defined at SLD and we need to assign it to our scenario.

NOTE: Here Business system for sender is BS\_EC3CLNT200

**5. Create Business Component for receiving File system**

For this exercise we are going to define Business components.

NOTE: Here Business Component is BC\_FileASystem

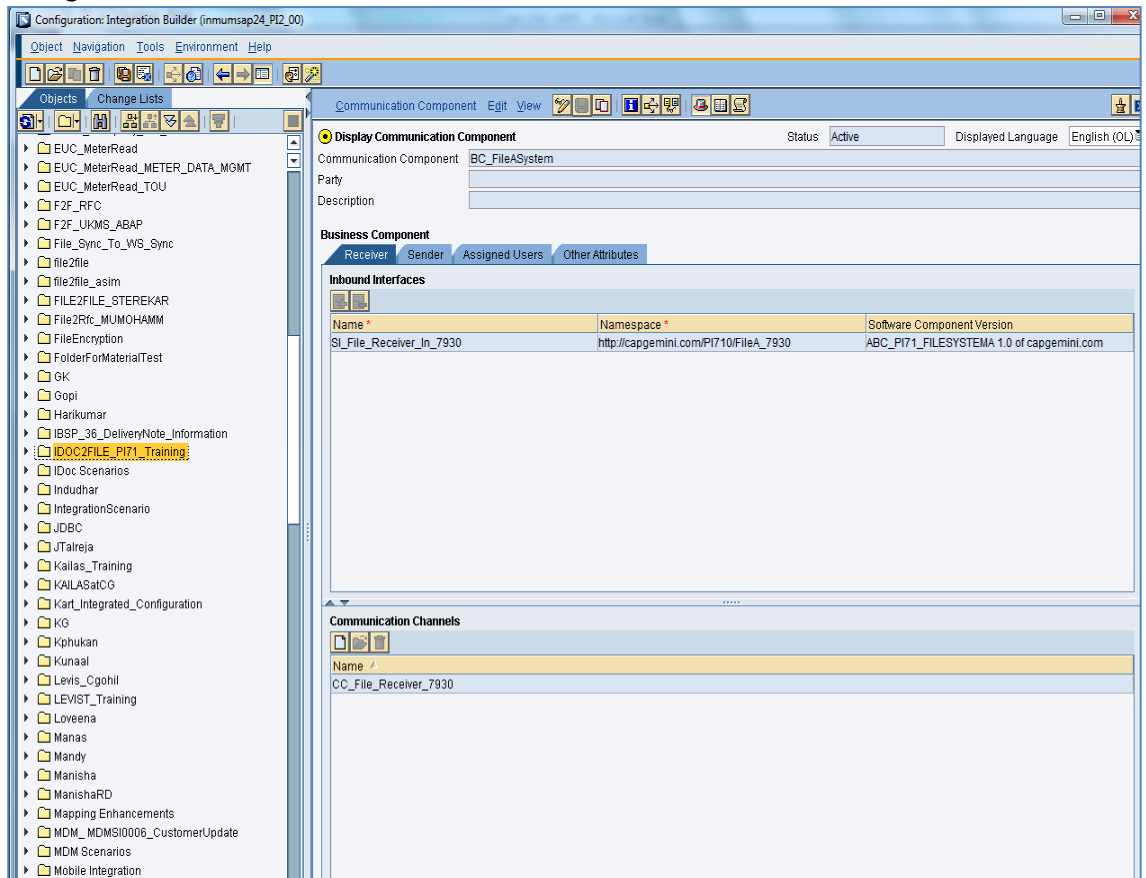
**6. Assign the Service Interfaces to Business Component.**

**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.

**Receiver Business component –**

## PI 7.1 Training – Exercise – Idoc to File



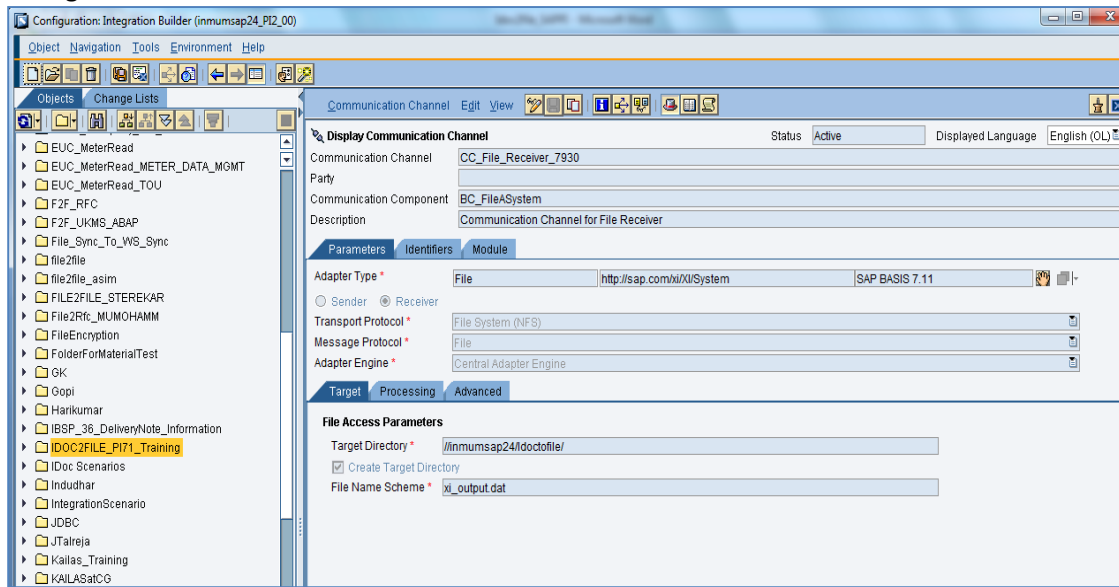
### 7. Create Communication Channels

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

Note : For IDOC sender , we do not create Communication channel.

#### Receiver Communication Channel-

## PI 7.1 Training – Exercise – Idoc to File

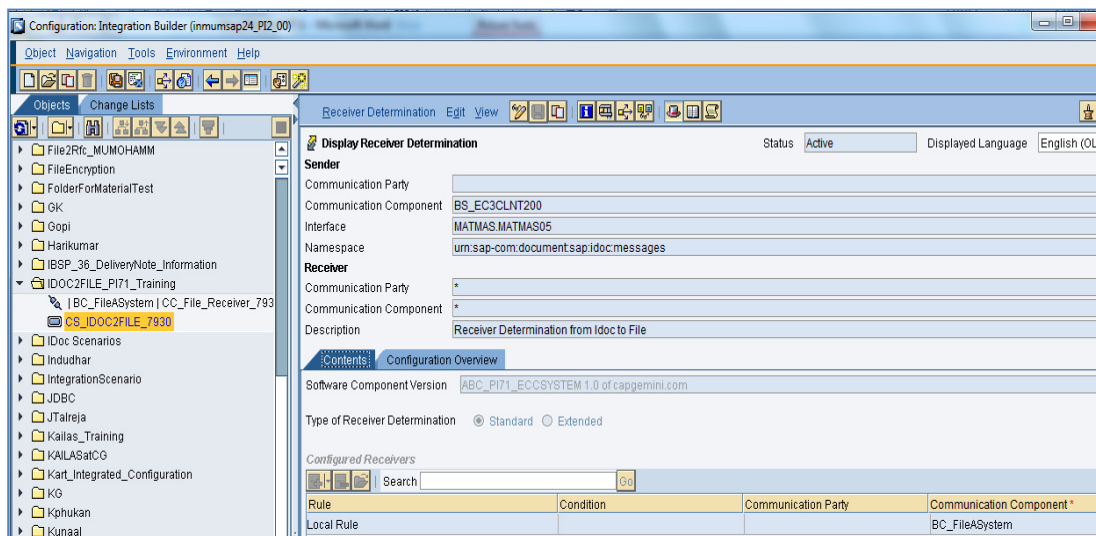


**Note:** Target Directory will depend on the system to which we are connecting. File Name Scheme will also change as per requirement.

### 8. Receiver Determination

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

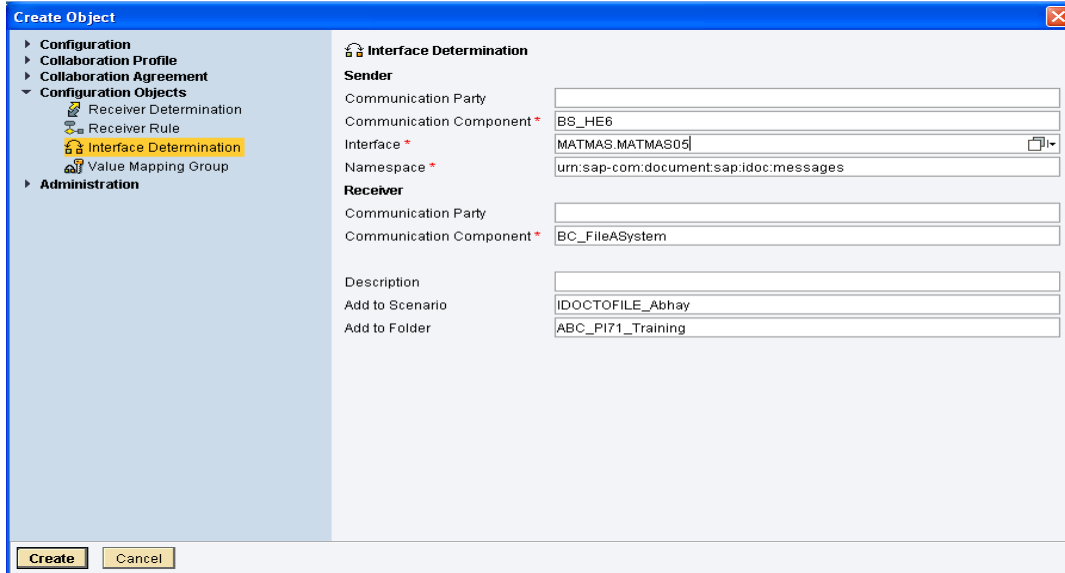
Create a new receiver determination, by right the scenario and then select Receiver Determination under Configuration Objects –



## 9. 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 –



**Create Object**

- Configuration
  - Collaboration Profile
  - Collaboration Agreement
  - Configuration Objects
    - Receiver Determination
    - Receiver Rule
    - Interface Determination**
    - Value Mapping Group
  - Administration

**Interface Determination**

**Sender**

Communication Party:

Communication Component:

Interface:

Namespace:

**Receiver**

Communication Party:

Communication Component:

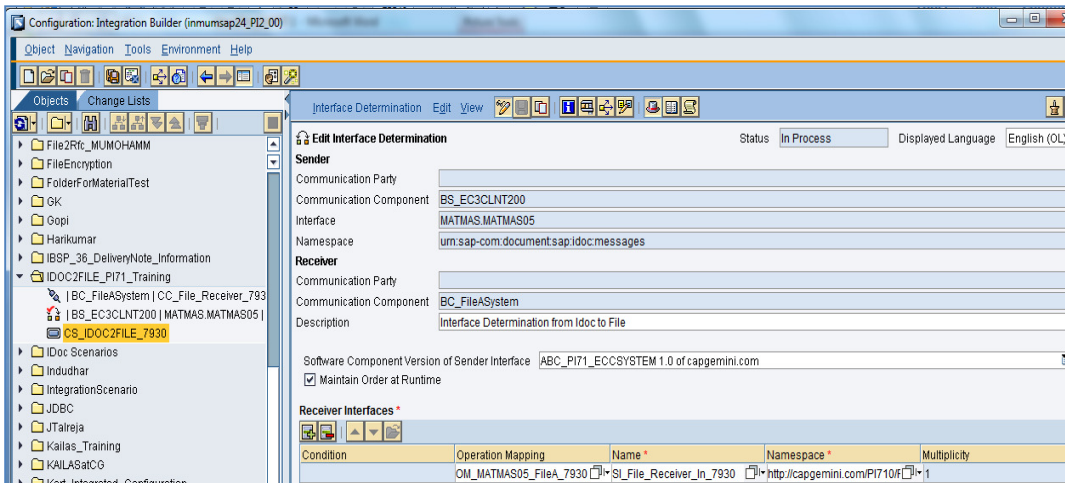
Description:

Add to Scenario:

Add to Folder:

**Create** **Cancel**

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



**Configuration: Integration Builder (mmmsap24\_P12\_00)**

Object Navigation Tools Environment Help

Objects Change Lists

**Edit Interface Determination** Status: In Process Displayed Language: English (OL)

**Sender**

Communication Party:

Communication Component:

Interface:

Namespace:

**Receiver**

Communication Party:

Communication Component:

Description:

Software Component Version of Sender Interface:

☒ Maintain Order at Runtime

**Receiver Interfaces \***

Condition	Operation Mapping	Name *	Namespace *	Multiplicity
	OM_MATMAS05_FileA_7930	SI_File_Receiver_In_7930	http://capgemini.com/PI710f	1

## 10. Sender and Receiver Agreement

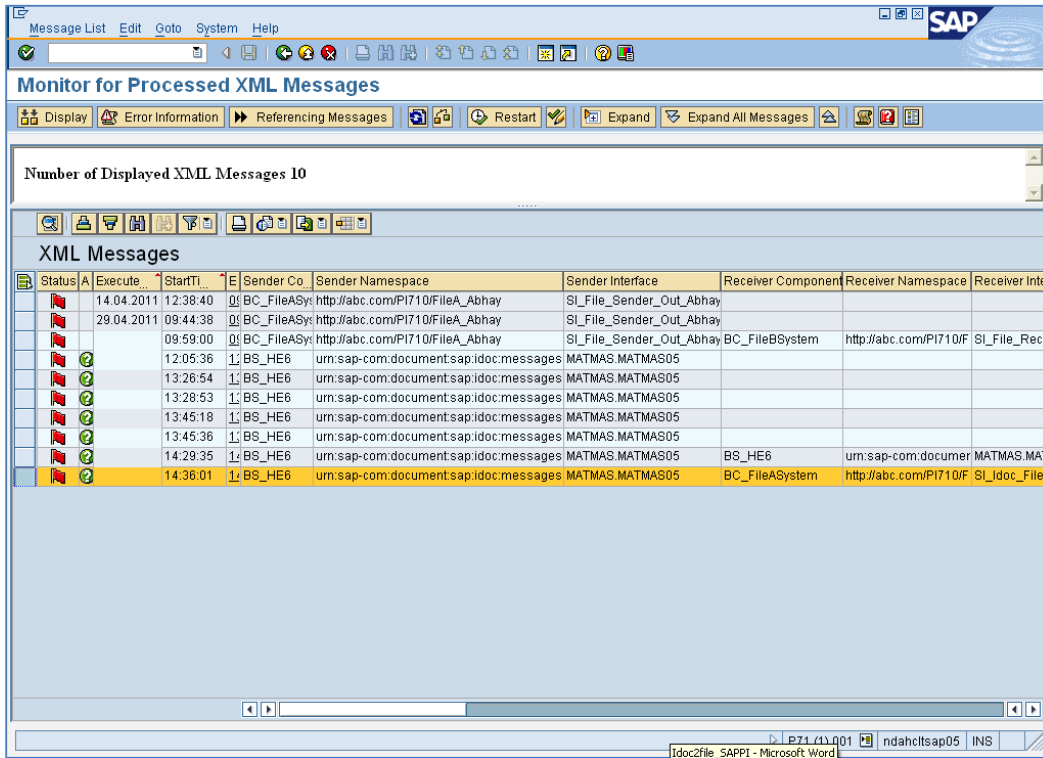
Note : For IDOC sender , we do not create Sender Agreement.



## PI 7.1 Training – Exercise – Idoc to File

### 2. Access the Integration server

Once the file is successfully picked up by the sender communication channel, the message is sent to the Integration engine. The entries can be monitored using Runtime Workbench.



The screenshot shows the SAP Runtime Workbench interface for monitoring XML messages. The title bar indicates 'Monitor for Processed XML Messages'. Below the title bar, there are several tabs: 'Display', 'Error Information', 'Referencing Messages', 'Restart', 'Expand', and 'Expand All Messages'. A status bar at the top right shows 'SAP'. Below the tabs, a summary box indicates 'Number of Displayed XML Messages 10'. The main area displays a table of XML messages with columns: Status, Execute, Start Time, End Time, Sender Co., Sender Namespace, Sender Interface, Receiver Component, Receiver Namespace, and Receiver Interface. The table contains several rows of data, with the last row highlighted in yellow.

Status	Execute	Start Time	End Time	Sender Co.	Sender Namespace	Sender Interface	Receiver Component	Receiver Namespace	Receiver Interface
		14.04.2011 12:38:40		00 BC_FileASys	http://abc.com/PI710/FileA_Abhay	SI_File_Sender_Out_Abhay			
		29.04.2011 09:44:38		00 BC_FileASys	http://abc.com/PI710/FileA_Abhay	SI_File_Sender_Out_Abhay			
		09:59:00		00 BC_FileASys	http://abc.com/PI710/FileA_Abhay	SI_File_Sender_Out_Abhay	BC_FileBSystem	http://abc.com/PI710/F	SI_File_Rec
		12:05:36	11 BS_HE6		urn:sap-com:document:sap.idoc.messages	MATMAS.MATMAS05			
		13:26:54	11 BS_HE6		urn:sap-com:document:sap.idoc.messages	MATMAS.MATMAS05			
		13:28:53	11 BS_HE6		urn:sap-com:document:sap.idoc.messages	MATMAS.MATMAS05			
		13:45:18	11 BS_HE6		urn:sap-com:document:sap.idoc.messages	MATMAS.MATMAS05			
		13:45:36	11 BS_HE6		urn:sap-com:document:sap.idoc.messages	MATMAS.MATMAS05			
		14:29:35	11 BS_HE6		urn:sap-com:document:sap.idoc.messages	MATMAS.MATMAS05	BS_HE6	urn:sap-com:document	MATMAS.MATMAS05
		14:36:01	11 BS_HE6		urn:sap-com:document:sap.idoc.messages	MATMAS.MATMAS05	BC_FileASystem	http://abc.com/PI710/F	SI_Idoc_File

### 3. Access the Target FTP server

After the message is successfully processed by the Integration Engine, it will be sent to the Receiver Communication and in turn the output file will be placed on the Target directory. You can now access the target NFS server and check if the file is created over there. You can monitor this channel also, using the same steps as discussed above for the sender communication channel.