



TGH

Making Integrations Simpler

boomi
Partner



Soap API



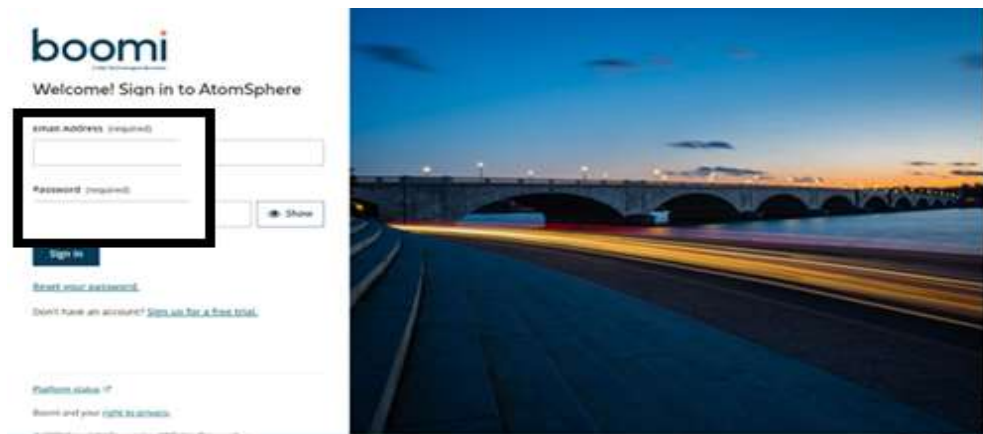
In this blog, we will develop a synchronous soap API.

In this Use case,

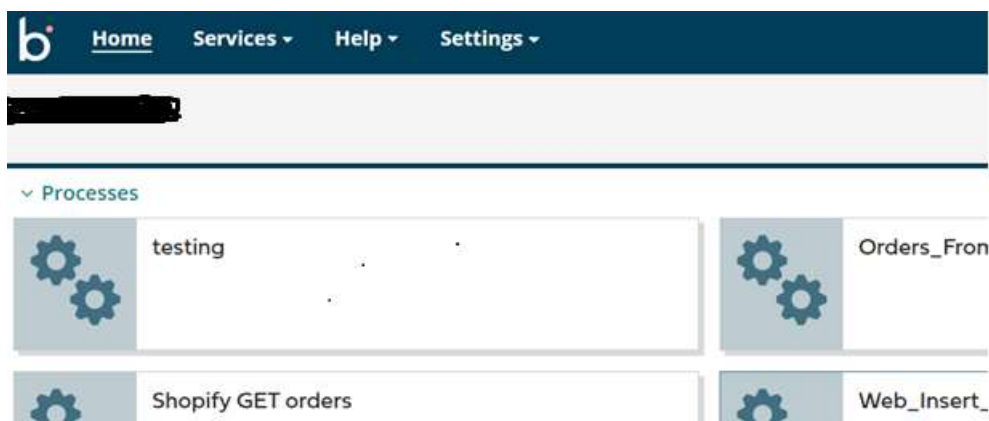
- We will expose soap which takes employee id as request.
- We will retrieve employee data from database using employee id.
- Then, we will send employee data as response.

Let us begin with the steps.

Step 1: Log on to Boomi platform (<https://platform.boomi.com/>) with required credentials i.e Email Address and Password.



Step 2: Once logged into Boomi platform, we will be able to view Home page.

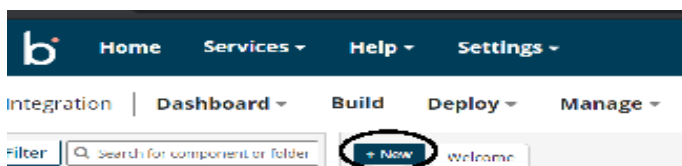
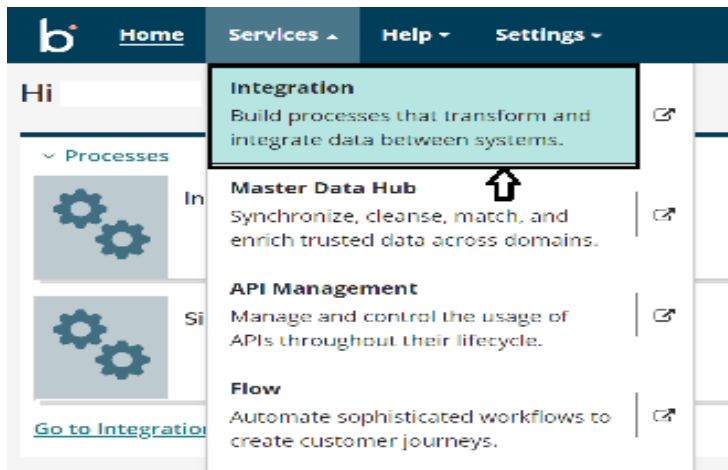


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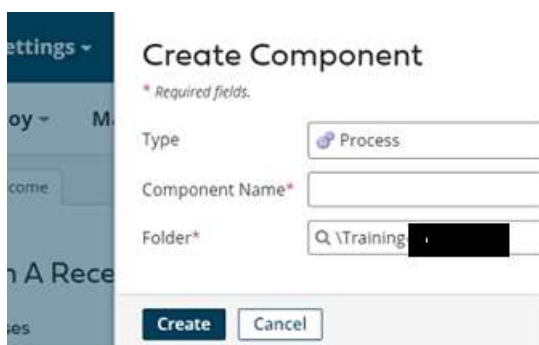
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Step 3: Now, click on Services followed by Integration. We will see the Build page. Click on New.



Step 4: Once, clicked on New, we will be able to see three fields i.e. Type, Component Name and Folder.

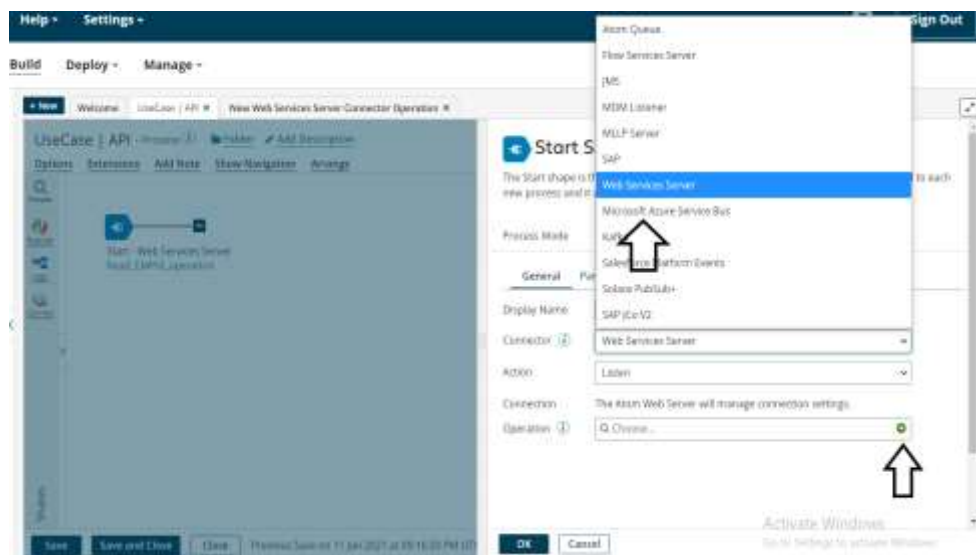


- Select Type as process as we are building a process. Component Name and Folder can be given based on your choice (i.e which name to be given and where do we want to create the process). Click on create.

Step 5: We see that the process gets created with a start shape which is configured with AS2 Shared Server by default.



Step 6: Select the start shape and choose Web Services server from drop down in connector tab and click on “+” to add new operation.



Step 7: Give a relevant name to the operation and configure the following.

- **Operation Type:** We have to choose field based on the operation which we are going to perform. In this case, we are developing a service to display the welcome message. Therefore, Operation would be Create.
- **Object:** It can be given any name based on the operation. Here, we are giving it as Welcome.

- **Expected Input Type:** We have to choose input based on the profile we want to add i.e (XML, JSON etc). Here, we are considering **Expected Input Type as Single XML Object** as request profile is in XML format.

SOAP Expose Welcome Operation - Web Services Server Opera

Options Archiving Tracking

Connector Action Listen

Simple URL Path /ws/simple/createWelcome

SOAP URL Path /ws/soap- Unavailable

Operation Type CREATE

Object Welcome

Expected Input Type Single XML Object

Request Profile Choose...

Response Output Type None

Attachment Cache Choose...

- **Request Profile:** To choose the request profile, click + and give it a relevant name. Choose import



Welcome SOAP Request Profile XML Profile Folder Add Description

Name the profile (arrow pointing to the profile name)

click import (arrow pointing to the Import button)

Getting Started
XML Profiles

XML profiles represent the structure of the various XML documents sent through Boomi processes, including all the elements, attributes, and other configuration information. The XML profile allows you to configure repeating data sets.

You can import from a file, a schema, or one of the XML template standards that Boomi provides. Would you like to import your profile from one of these sources now?

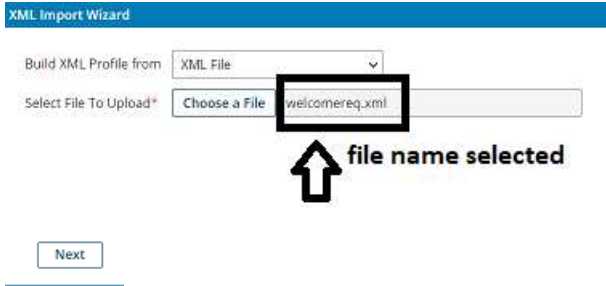
- Once, clicked on import we will have to choose input file from the location where file is saved. Click Next and Finish

XML Import Wizard

Build XML Profile from XML File

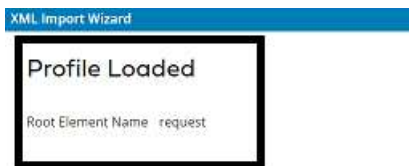
Select File To Upload* **Choose a File** No file chosen

(arrow pointing to the Choose a File button)



The screenshot shows the 'XML Import Wizard' interface. At the top, there is a blue header with the text 'XML Import Wizard'. Below the header, there are two main sections. The first section is 'Build XML Profile from', which has a dropdown menu currently set to 'XML File'. The second section is 'Select File To Upload*', which includes a 'Choose a File' button and a text input field containing the filename 'welcomereq.xml'. A black box highlights the filename, and a black arrow points to it with the text 'file name selected' below it. At the bottom left of the form, there is a 'Next' button.

- We see that the request profile is loaded successfully. Click Finish, Save and Close.



The screenshot shows the 'XML Import Wizard' interface at the 'Profile Loaded' step. A blue header at the top contains the text 'XML Import Wizard'. Below the header, a large black box highlights the text 'Profile Loaded'. Underneath this, it says 'Root Element Name request'.



The screenshot shows the 'Welcome SOAP Request Profile - XML Profile' interface. At the top, there is a blue header with the text 'Welcome SOAP Request Profile - XML Profile'. Below the header, there are several tabs: 'Data Elements', 'Types', and 'Options'. The 'Data Elements' tab is active, showing a tree view of the XML profile. The tree view has a root node 'request' with a sub-node 'name'. A black box highlights the 'name' node, and a black arrow points to it with the text 'input which has to be given' below it. At the top right of the interface, there is an 'Import' button.

- Click save and close.



The screenshot shows the 'SOAP Expose Welcome Operation - Web Services' interface. At the top, there is a blue header with the text 'SOAP Expose Welcome Operation - Web Services'. Below the header, there are several tabs: 'Options', 'Archiving', and 'Tracking'. The 'Options' tab is active, showing various configuration options. The 'Connector Action' is set to 'Listen'. The 'Simple URL Path' is '/ws/simple/createWelcome'. The 'SOAP URL Path' is '/ws/soap- Unavailable'. The 'Operation Type' is 'CREATE'. The 'Object' is 'Welcome'. The 'Expected Input Type' is 'Single XML Object'. The 'Request Profile' is 'Welcome SOAP Reques'. The 'Response Output Type' is 'None'. The 'Attachment Cache' is 'Choose...'. A black box highlights the 'Expected Input Type' and 'Request Profile' fields.

Welcomereq.xml file looks like:

```
<?xml version="1.0" encoding="UTF-8"?>
<class>
<id>201</id>
</class>
```

- **Response Output Type:** We have to choose the output based on how the data should be represented as response. Here, we are expecting the output to be in XML format. Therefore, we are considering **Response Output Type to be as a single XML object** as response would be in XML Format.

SOAP Expose Welcome Operation - Web Services Server Operation

Options	Archiving	Tracking
Connector Action	Listen	
Simple URL Path	/ws/simple/createWelcome	
SOAP URL Path	/ws/soap- Unavailable	
Operation Type	CREATE	
Object	Welcome	
Expected Input Type	Single XML Object	
Request Profile	Welcome SOAP Reques	
Response Output Type	Single XML Object	
Response Profile	Choose...	
Result Content Type	application/xml	
Attachment Cache	Choose...	

- **Response Profile:** To choose the response profile, click + and give it a relevant name. Choose import.



Welcome SOAP Response profile XML Profile Folder Add Description

Getting Started

XML Profiles

XML profiles represent the structure of the various XML documents sent through Boomi processes, including all the elements, attributes, and other configuration information. The XML profile allows you to configure repeating data sets.

You can import from a file, a schema, or one of the XML template standards that Boomi provides. Would you like to import your profile from one of these sources now?

Import a Profile

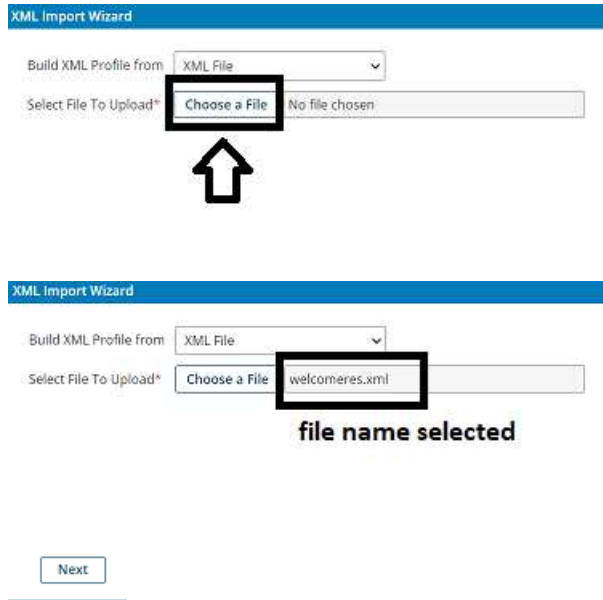
click on import

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- Once, clicked on import we will have to choose output file from the location where file is saved. Click Next and Finish.



The screenshot shows the 'XML Import Wizard' interface. It has a blue header with the title 'XML Import Wizard'. Below the header, there are two main sections. The first section is 'Build XML Profile from' with a dropdown menu set to 'XML File'. The second section is 'Select File To Upload*' with a 'Choose a File' button and a text field that says 'No file chosen'. A black box highlights the 'Choose a File' button, and a black arrow points upwards from below the button. The second screenshot shows the same interface, but the text field now contains 'welcomeres.xml', and a black box highlights this text. Below the text field, the text 'file name selected' is written in bold. At the bottom of the interface, there is a 'Next' button.

- We see that the response profile is loaded successfully. Click Finish, Save and Close.



The screenshot shows the 'XML Import Wizard' interface with the title 'Profile Loaded'. Below the title, it says 'Root Element Name response'. There is a 'Next' button at the bottom. The second screenshot shows the 'Welcome SOAP Response Profile - XML Profile' interface. It has a blue header with the title 'Welcome SOAP Response Profile - XML Profile'. Below the header, there are three tabs: 'Data Elements', 'Types', and 'Options'. The 'Data Elements' tab is active, and it shows a tree view with 'response' and 'message' elements. A black box highlights the 'message' element. Below the tree view, there is an 'Output' section. At the top right of the interface, there is an 'Import' button.

- Click save and close.

SOAP Expose Welcome Operation - Web Services

Options Archiving Tracking

Connector Action Listen

Simple URL Path /ws/simple/createWelcome

SOAP URL Path /ws/soap

Operation Type CREATE

Object Welcome

Expected Input Type Single XML Object

Request Profile Q Welcome SOAP Reques

Response Output Type Single XML Object

Response Profile Q Welcome SOAP Respon

Result Content Type application/xml

Attachment Cache Q Choose...

- Post adding Request and Response profiles, the operation looks like

SOAP Expose Welcome Operation - Web Services Serv

Options Archiving Tracking

Connector Action Listen

Simple URL Path /ws/simple/createWelcome

SOAP URL Path /ws/soap

Operation Type CREATE

Object Welcome

Expected Input Type Single XML Object

Request Profile Q Welcome SOAP Reques

Response Output Type Single XML Object

Response Profile Q Welcome SOAP Respon

Result Content Type application/xml

Attachment Cache Q Choose...

- Welcomeres.xml file looks like

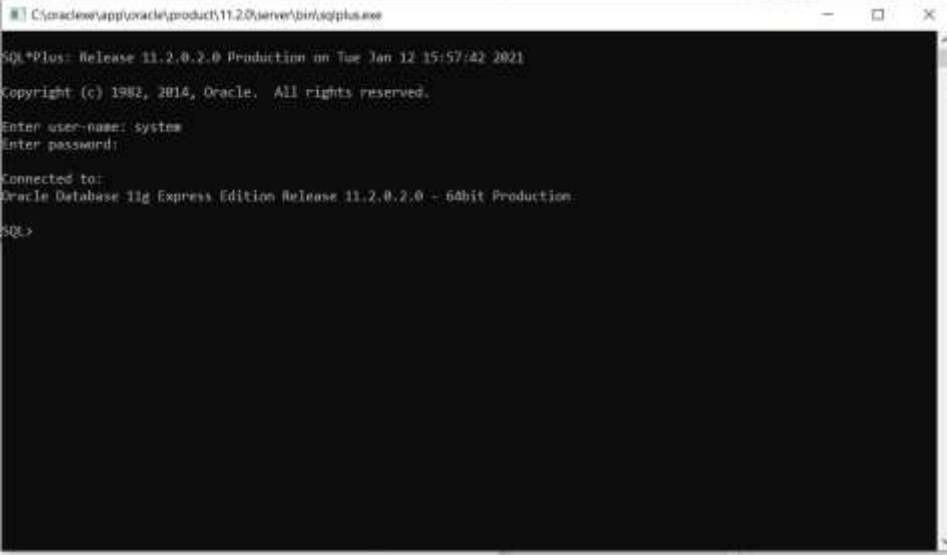
```
<?xml version="1.0" encoding="UTF-8"?>
<class>
<empid>201</empid>
<empname>Smith</empname>
<country>Australia</country>
<age>30</age>
<salary>10000</salary>
</class>
```

- Click save and close.

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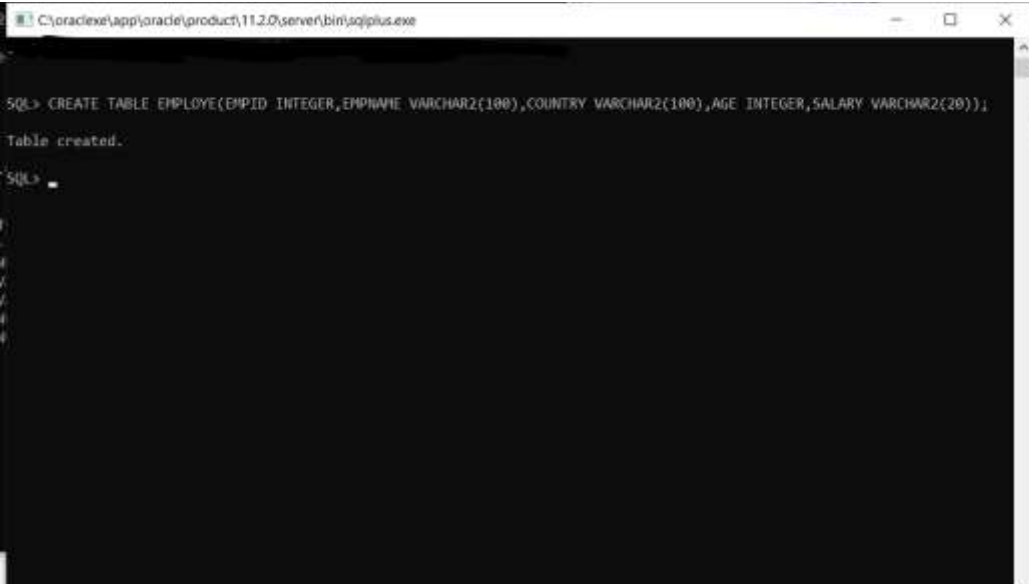
Step 8: We will create a table in the database using oracle database.

- Open SQL plus and connect as below:



```
C:\oracle\app\oracle\product\11.2.0\server\bin\sqlplus.exe
SQL*Plus: Release 11.2.0.2.0 Production on Tue Jan 12 15:57:42 2021
Copyright (c) 1982, 2014, Oracle. All rights reserved.
Enter user-name: system
Enter password:
Connected to:
Oracle Database 11g Express Edition Release 11.2.0.2.0 - 64bit Production
SQL>
```

- Create a table with name “employee” as follows:

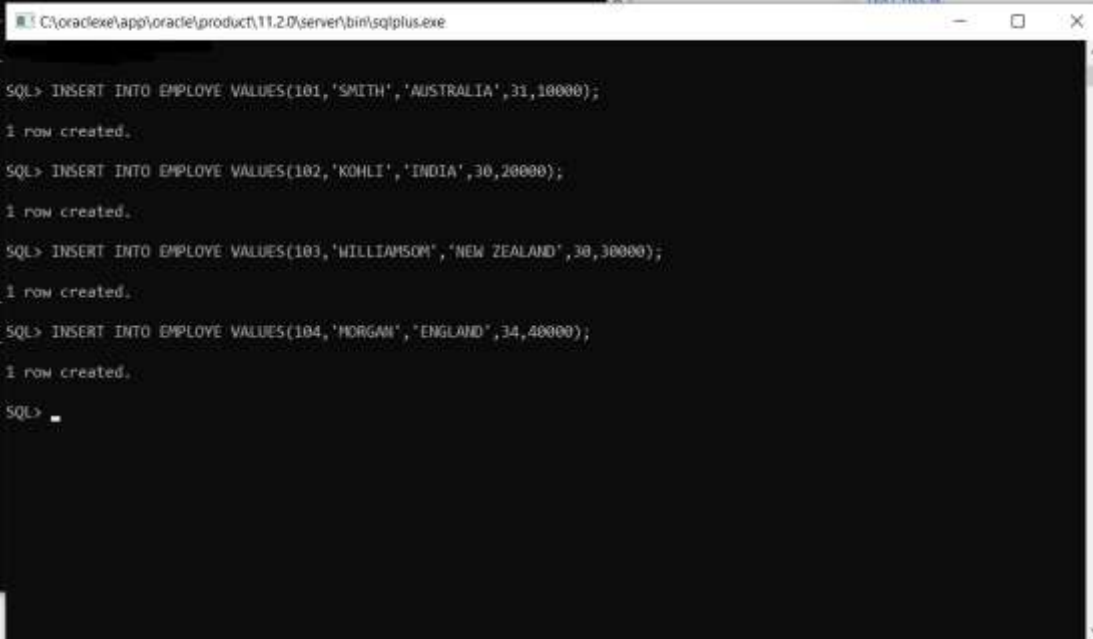


```
C:\oracle\app\oracle\product\11.2.0\server\bin\sqlplus.exe
SQL> CREATE TABLE EMPLOYEE(EMPID INTEGER,EMPNAME VARCHAR2(100),COUNTRY VARCHAR2(100),AGE INTEGER,SALARY VARCHAR2(20));
Table created.
SQL>
```

- **Command:**

CREATE TABLE EMPLOYE (EMPID INTEGER, EMPNAME VARCHAR2(100),
COUNTRY VARCHAR2(100),AGE INTEGER, SALARY VARCHAR2(20));

- **Insert values into table as follows:**



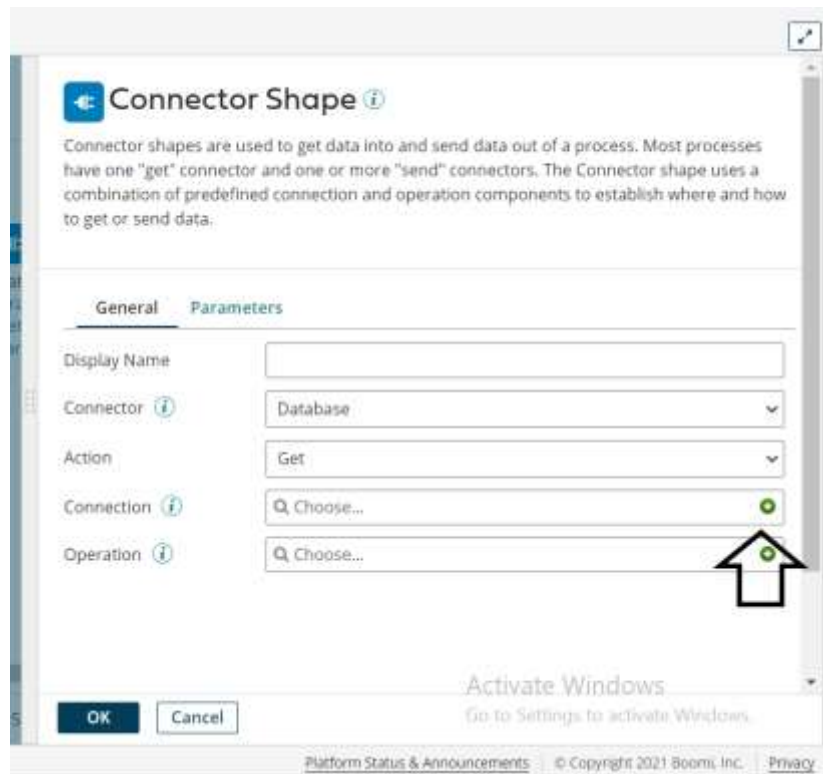
```
C:\oracle\app\oracle\product\11.2.0\server\bin\sqlplus.exe
SQL> INSERT INTO EMPLOYE VALUES(101,'SMITH','AUSTRALIA',31,10000);
1 row created.
SQL> INSERT INTO EMPLOYE VALUES(102,'KOHLI','INDIA',30,20000);
1 row created.
SQL> INSERT INTO EMPLOYE VALUES(103,'WILLIAMSOM','NEW ZEALAND',30,30000);
1 row created.
SQL> INSERT INTO EMPLOYE VALUES(104,'MORGAN','ENGLAND',34,40000);
1 row created.
SQL>
```

- **COMMAND:**

INSERT INTO EMPLOYE VALUES (101,'SMITH','AUSTRALIA',31,10000);
INSERT INTO EMPLOYE VALUES (102,'KOHLI','INDIA',30,20000);
INSERT INTO EMPLOYE VALUES (103,'WILLIAMSOM','NEW ZEALAND',30,30000);
INSERT INTO EMPLOYE VALUES (104,'MORGAN','ENGLAND',34,40000);

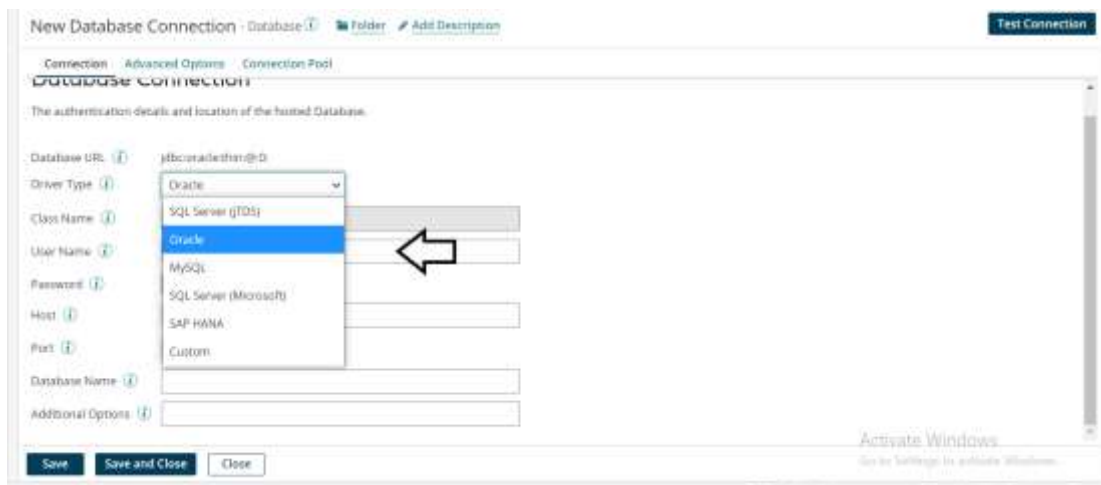
Step 9: Search for database shape in search pallet. Drag and drop the it after Web Services Server connector.

- Choose the action as Get and click on “+” to add a new database connection.



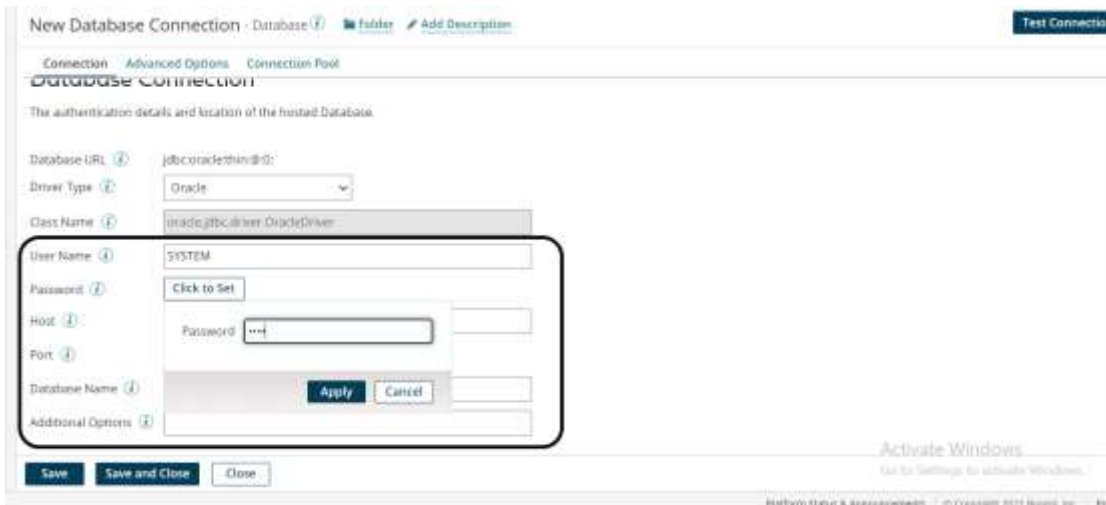
Here we have to configure:

- **Driver type:** It is the type of the driver we are using. In our case it is Oracle. Select Oracle from dropdown.



- **User name:** It is the Username of our database. Here it is SYSTEM.
- **Password:** Give the password of the database.

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New Database Connection - Database [?](#) [Folder](#) [Add Description](#) [Test Connection](#)

Connection [Advanced Options](#) [Connection Pool](#)

DATABASE CONNECTION

The authentication details and location of the hosted Database.

Database URL [?](#) jdbc:oracle:thin:@:

Driver Type [?](#) Oracle

Class Name [?](#) oracle.jdbc.driver.OracleDriver

User Name [?](#) SYSTEM

Password [?](#) [Click to Set](#)

Host [?](#) Password

Port [?](#)

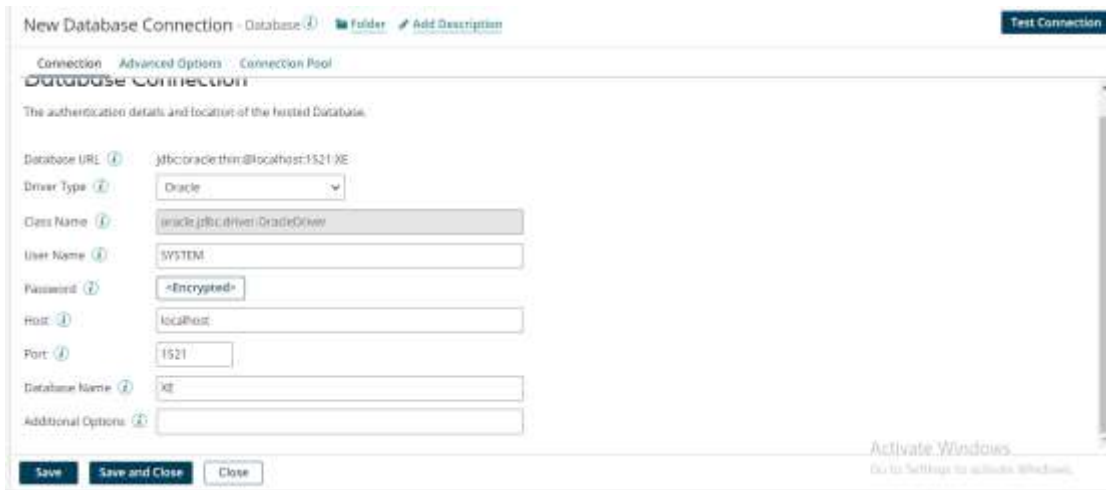
Database Name [?](#) [Apply](#) [Cancel](#)

Additional Options [?](#)

[Save](#) [Save and Close](#) [Close](#)

Activate Windows
Go to Settings to activate Windows.

- **Host:** It is the address of the host. Localhost in our case.
- **Port:** Port number of the database. In our case it is 1521.
- **Database Name:** It is the name of the database. Here it is “XE”.



New Database Connection - Database [?](#) [Folder](#) [Add Description](#) [Test Connection](#)

Connection [Advanced Options](#) [Connection Pool](#)

DATABASE CONNECTION

The authentication details and location of the hosted Database.

Database URL [?](#) jdbc:oracle:thin@localhost:1521:XE

Driver Type [?](#) Oracle

Class Name [?](#) oracle.jdbc.driver.OracleDriver

User Name [?](#) SYSTEM

Password [?](#) -Encrypted-

Host [?](#) localhost

Port [?](#) 1521

Database Name [?](#) XE

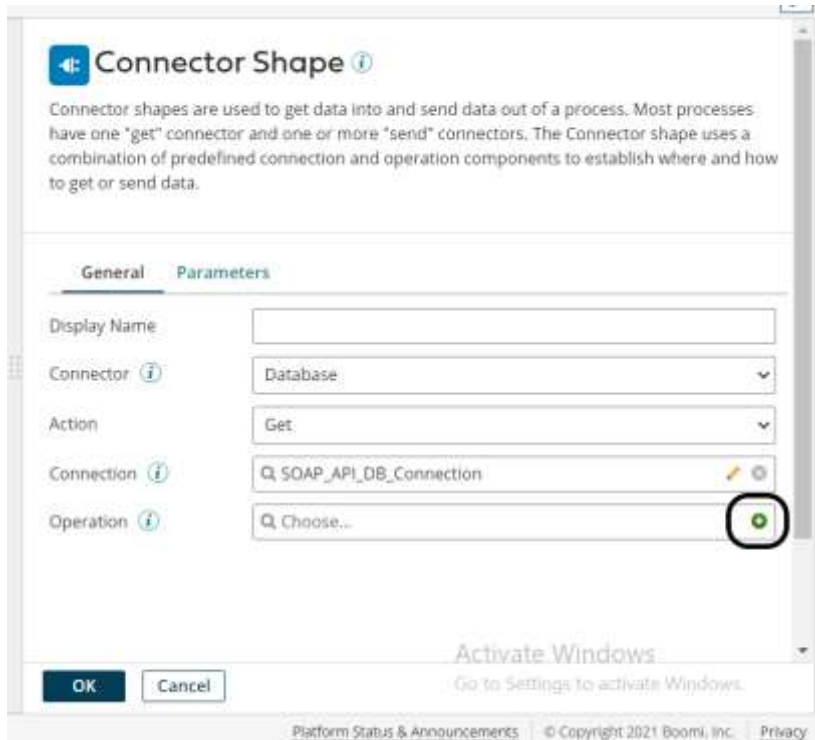
Additional Options [?](#)

[Save](#) [Save and Close](#) [Close](#)

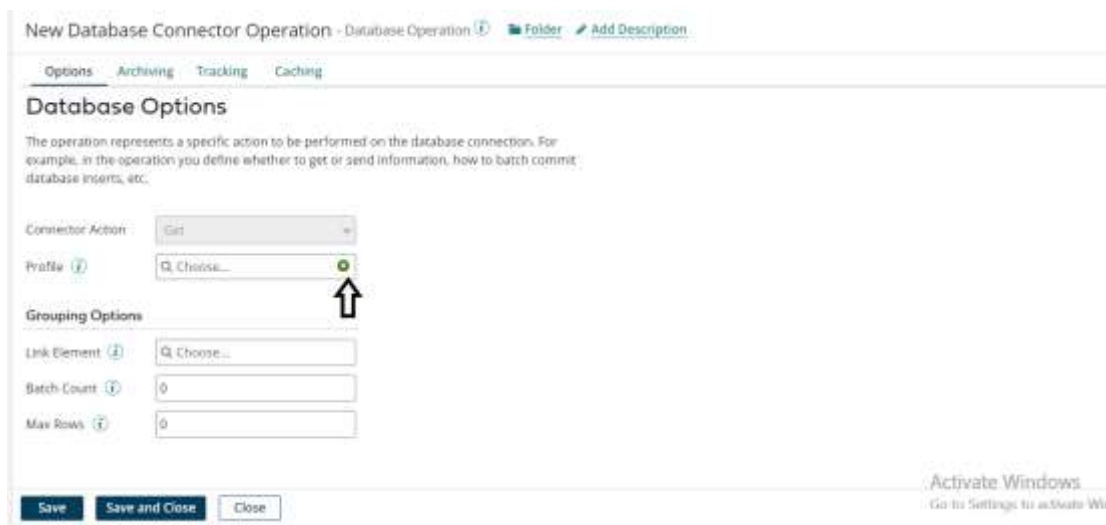
Activate Windows
Go to Settings to activate Windows.

- Click on save and close.

Step 10: Click on “+” to add a new operation as below:



- Click on “+” to add a new profile.

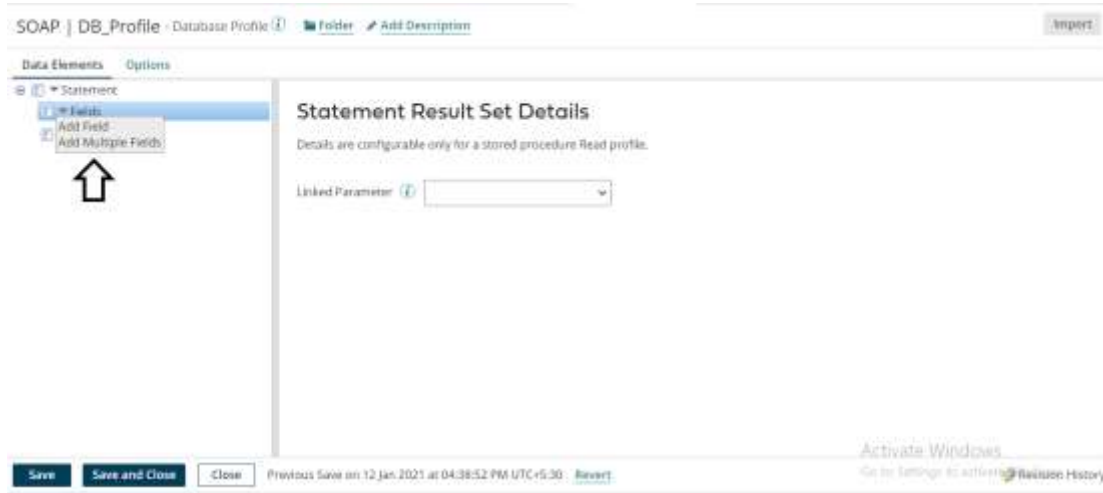


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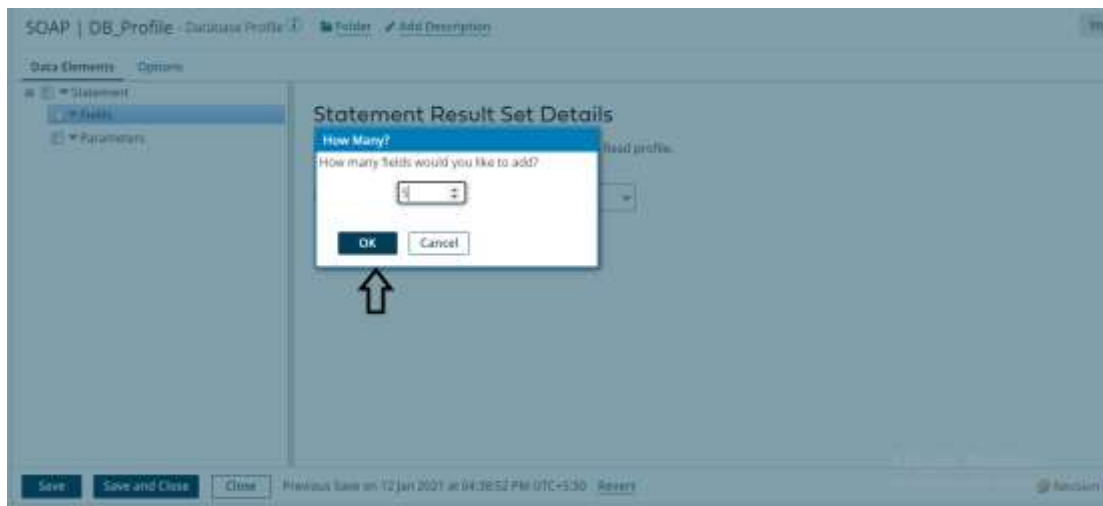
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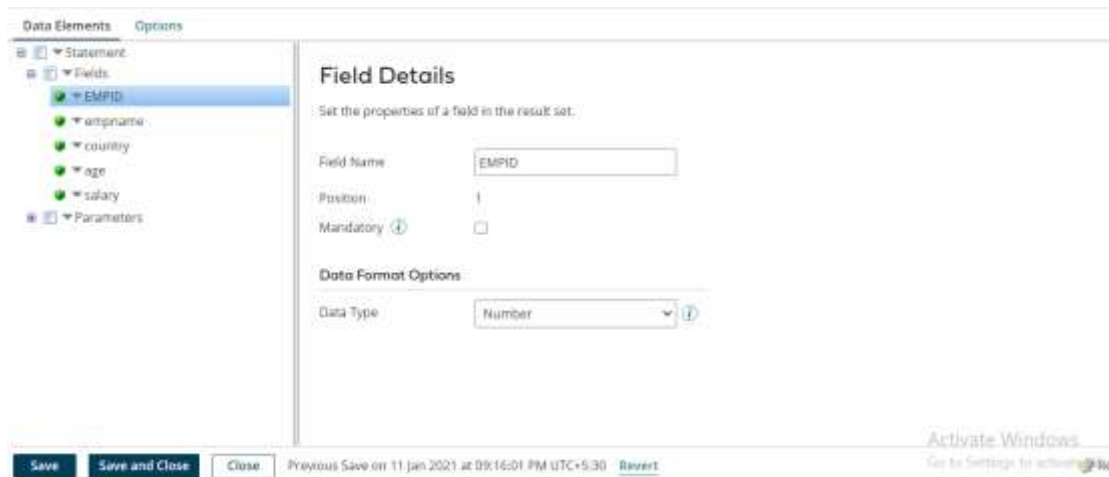
- Click on Fields and add multiple fields as below:



- Select 5 and click on ok.



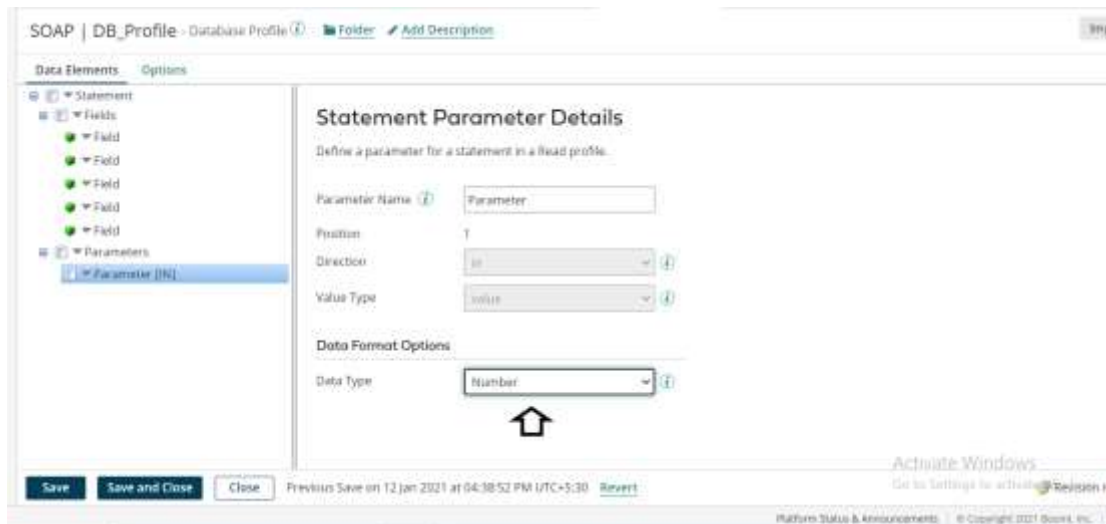
- Click on each field to rename as follows:



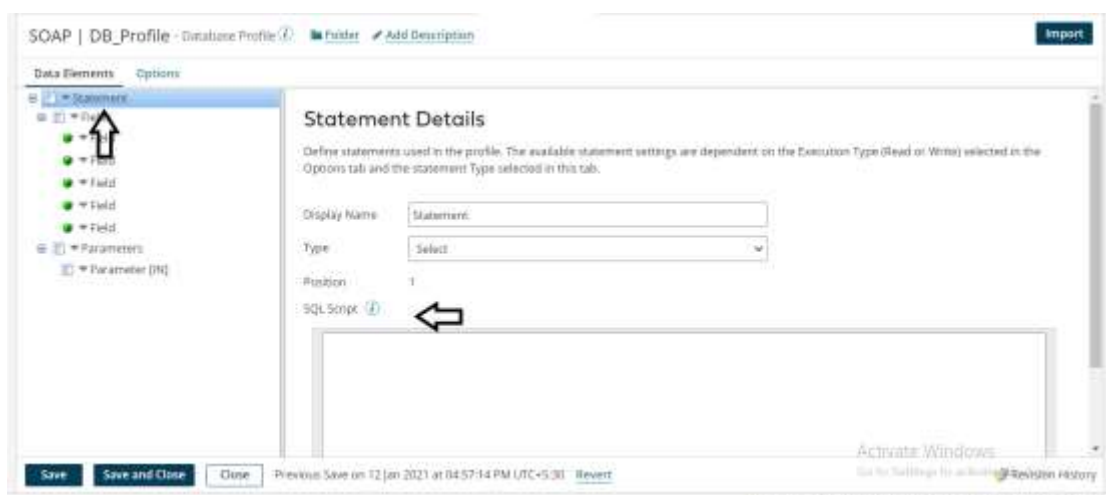
- Expand parameters tab and click on add new parameter.



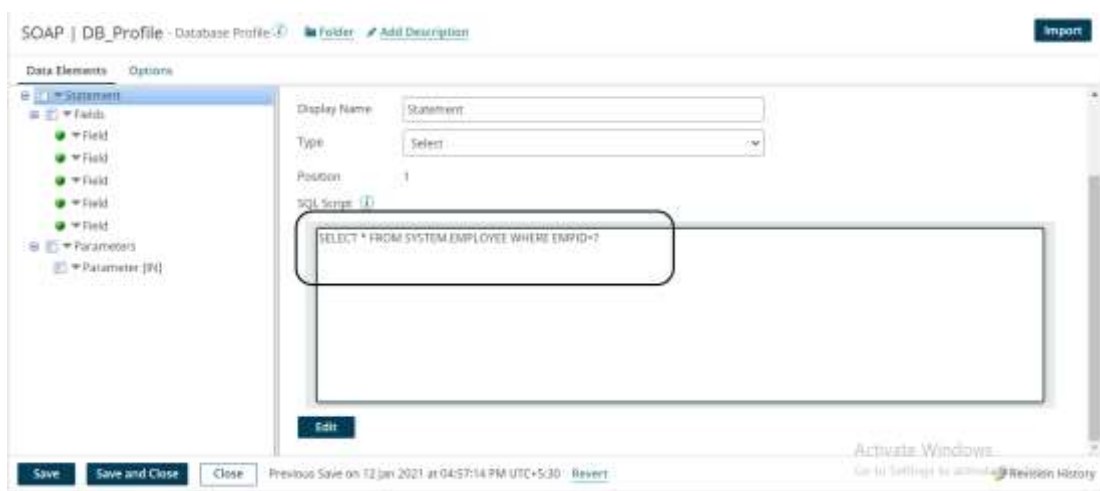
- Rename parameter and select number from the datatype drop down.



- Now we have to write a SQL statement to retrieve data from database. To write a query click on Statement as follows:



- Add the query in the SQL script tab as follows:

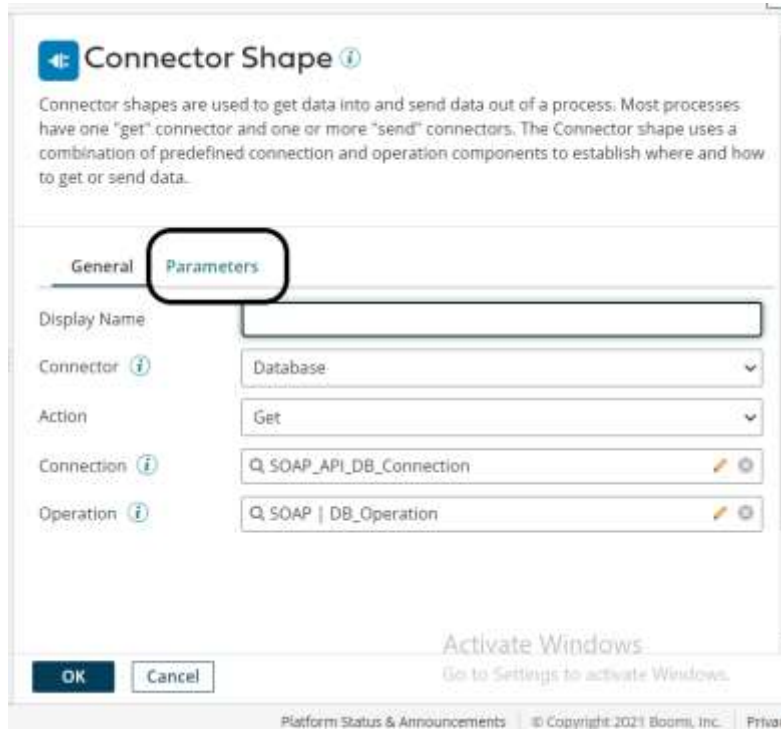


- **STATEMENT:**

- **SELECT * FROM SYSTEM.EMPLOYEE WHERE EMPID=?**

- Here we are getting all fields from employee table using empid. Here "?" indicates the dynamic parameter.
- Click on save and close.

- Click on parameters to add a parameter.



- Click on “+” to add a parameter.

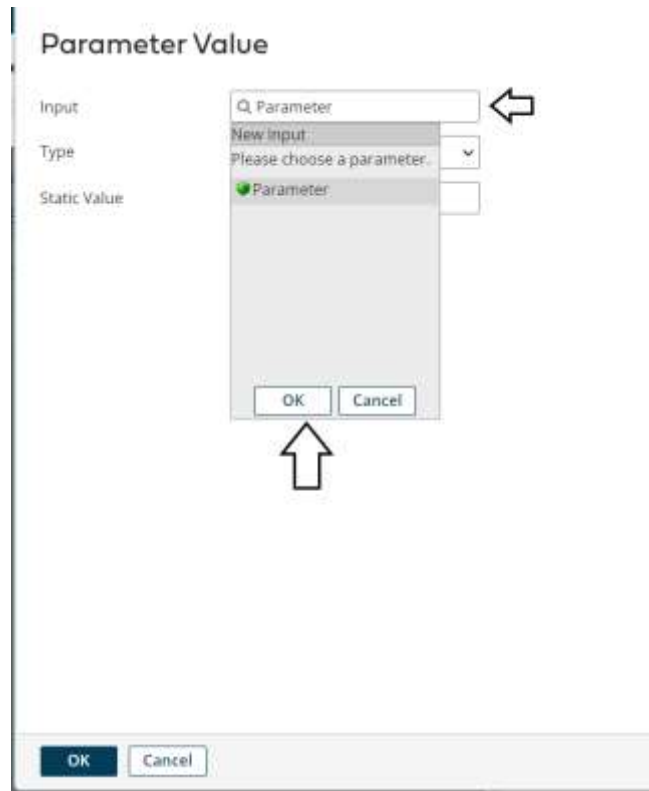


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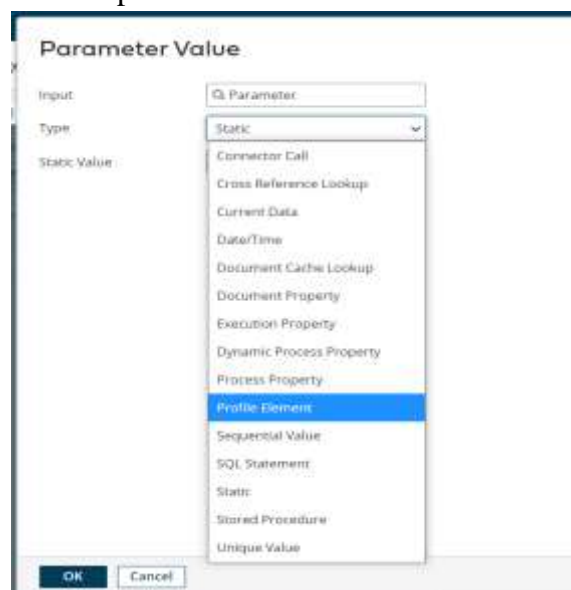
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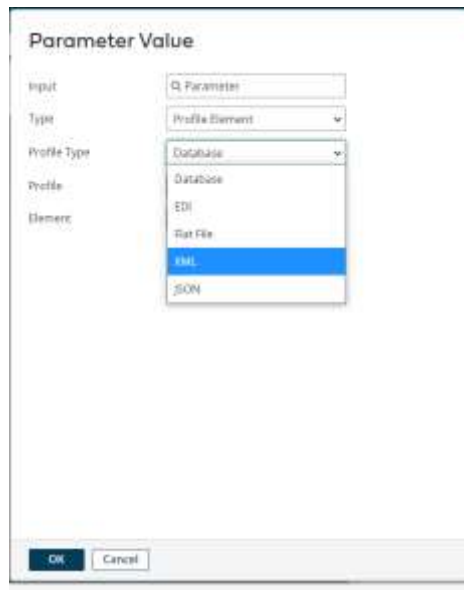
- Click on input tab and select parameter and click ok.



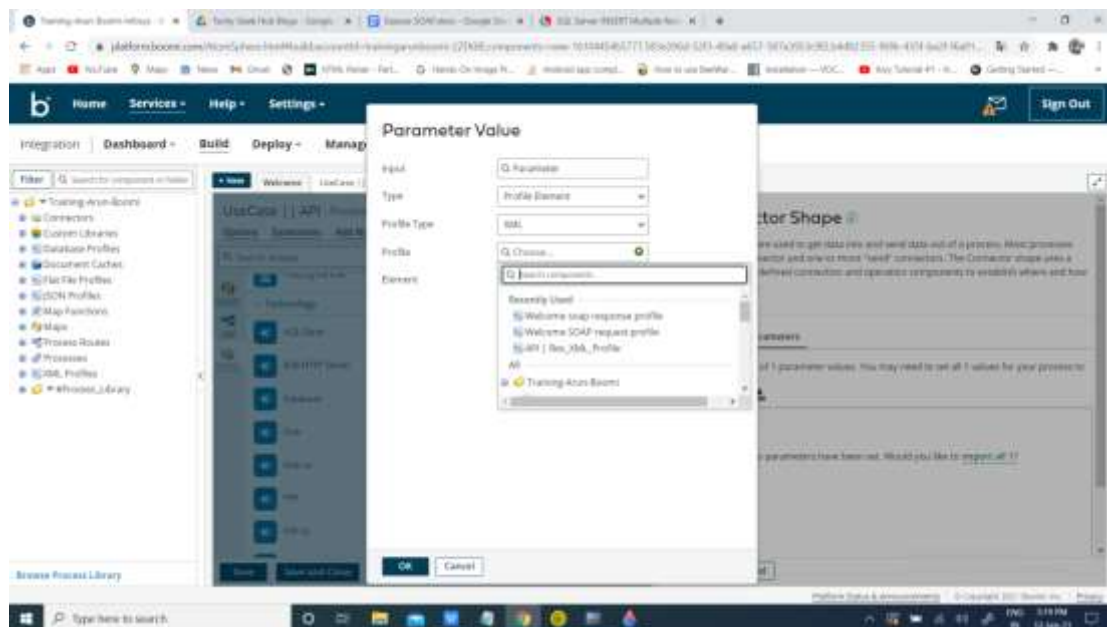
- Click on Type tab and select profile element and click ok.



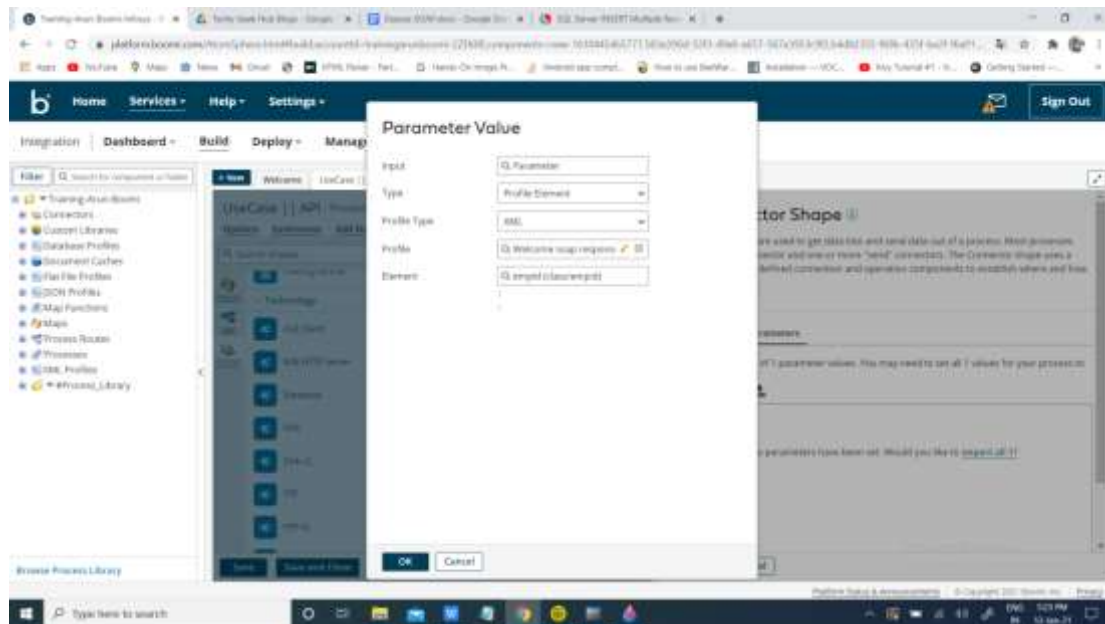
- Click on profile type and select XML from drop down.



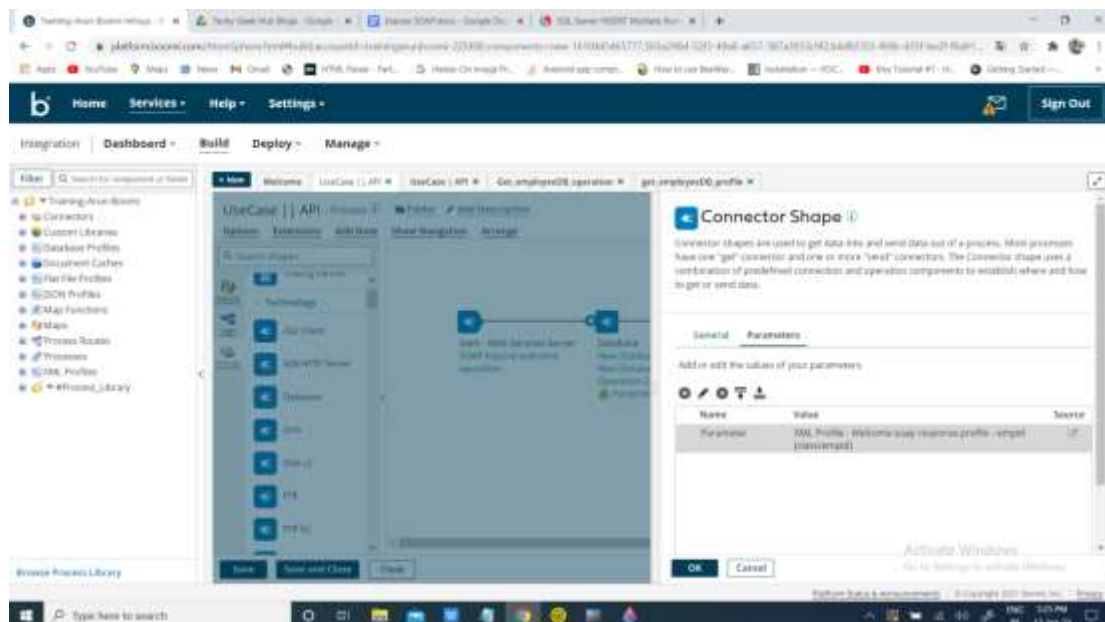
- Click on profile and select welcome soap response profile which we created early.



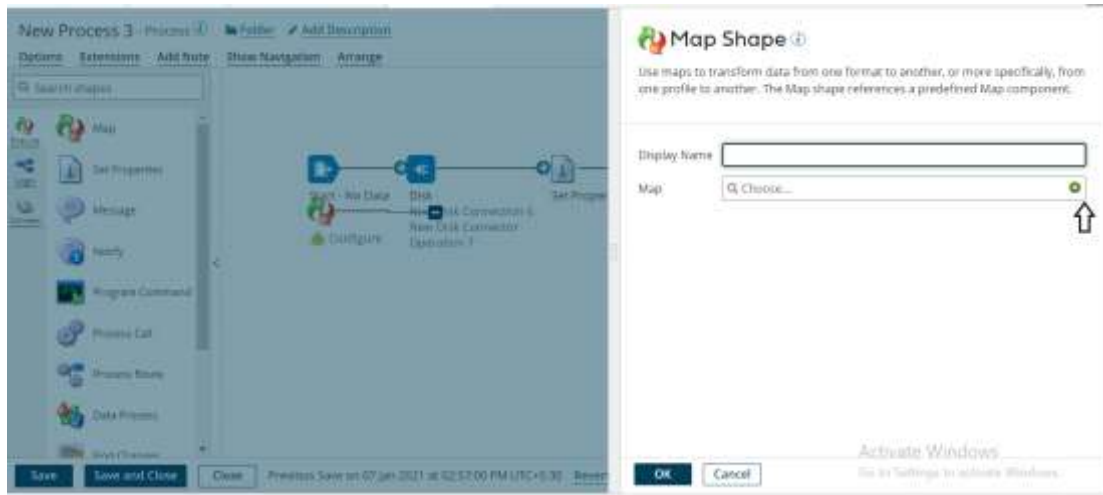
- Click on element and choose empid from drop down and click ok.



- Close the connector by clicking ok.



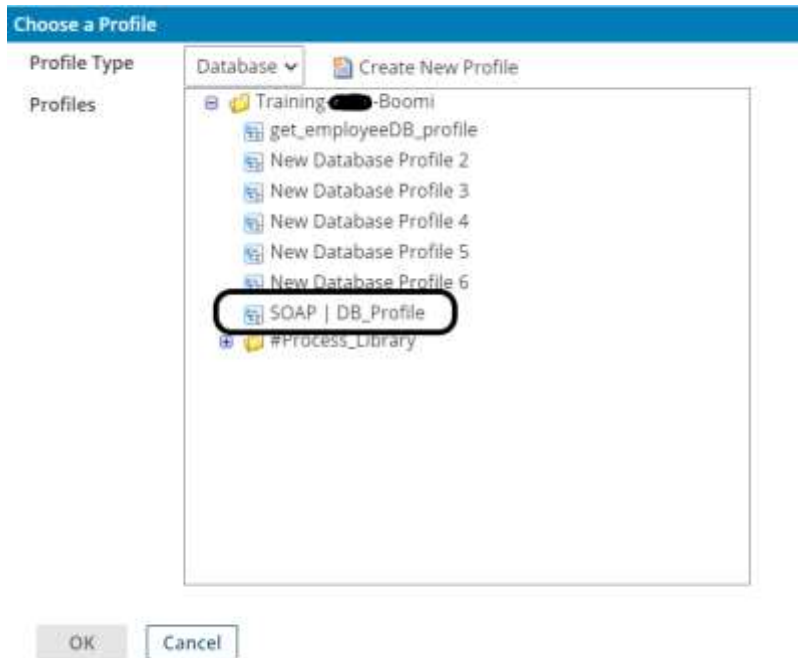
Step 11: Search for Map shape in search pallet. Drag and drop the shape onto process canvas and place it after database connector. Click on “+”.



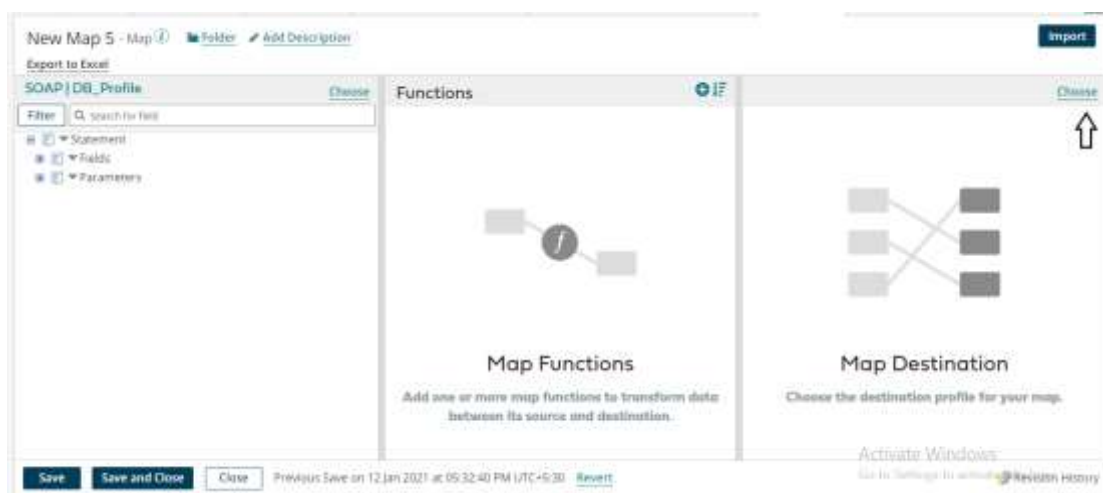
- Click on choose in map source



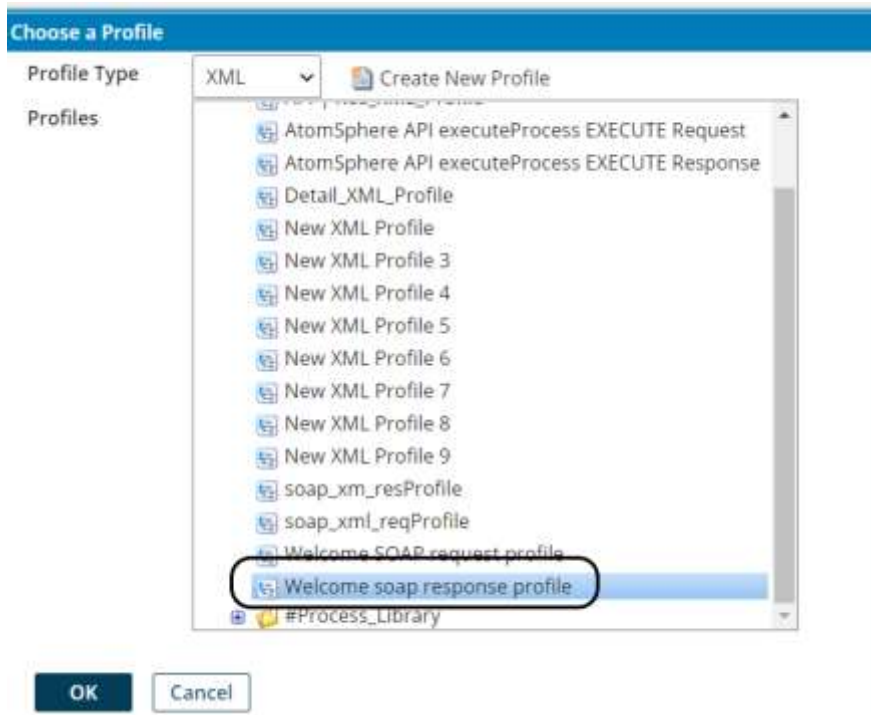
- Select the database profile we have created earlier and click ok.



- Click on choose in the map destination.



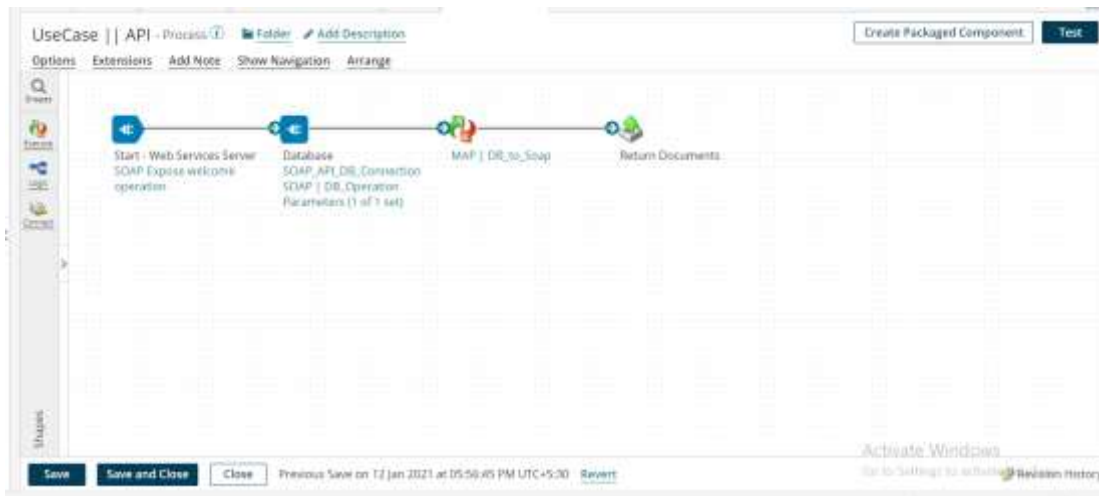
- Click on xml from drop down and select welcome soap response profile which we have created earlier and click ok.



Step 12: Provide one to one mapping as follows and click on save and close.



Step 13: Search for Return documents shape in search pallet. Drag and drop the shape onto process canvas and place it after map shape.



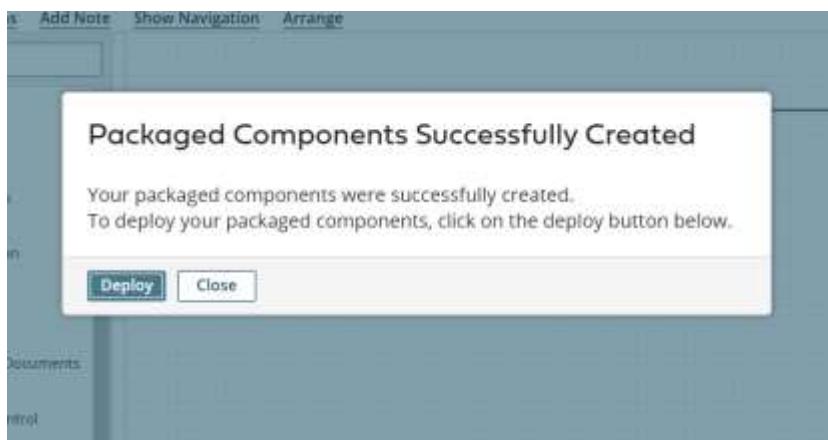
Step 14: Click on create packaged component to package.



- Click on add next details and Click Ok.



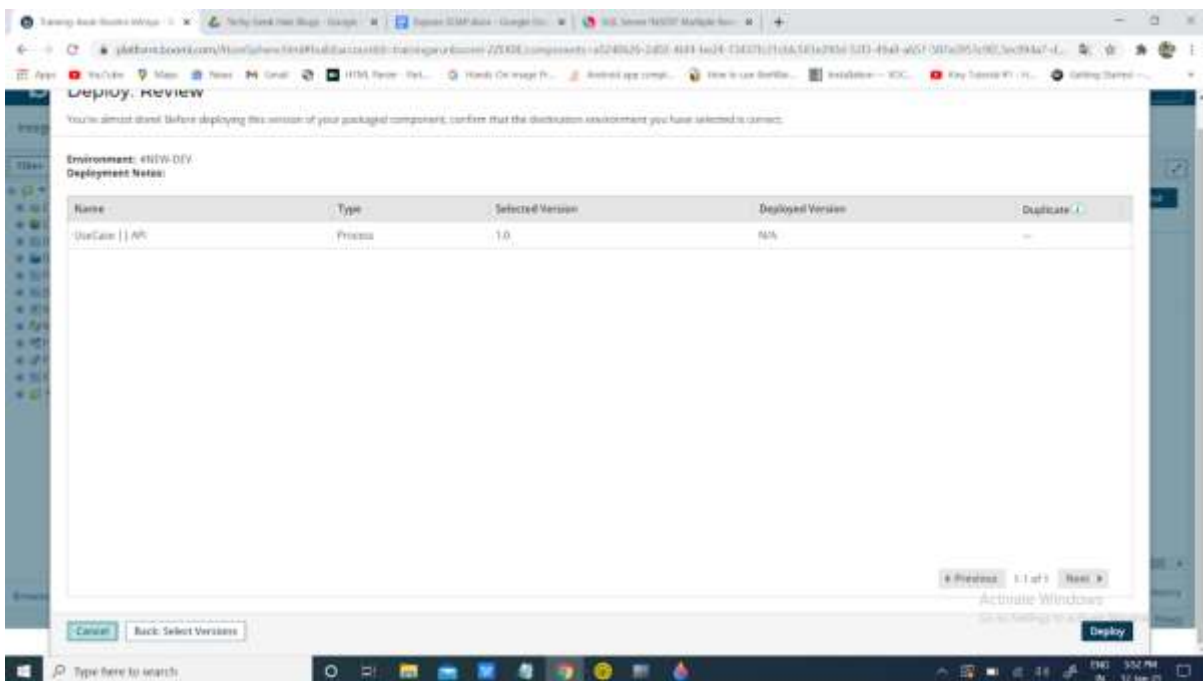
Step 15: Click on deploy to deploy the process.

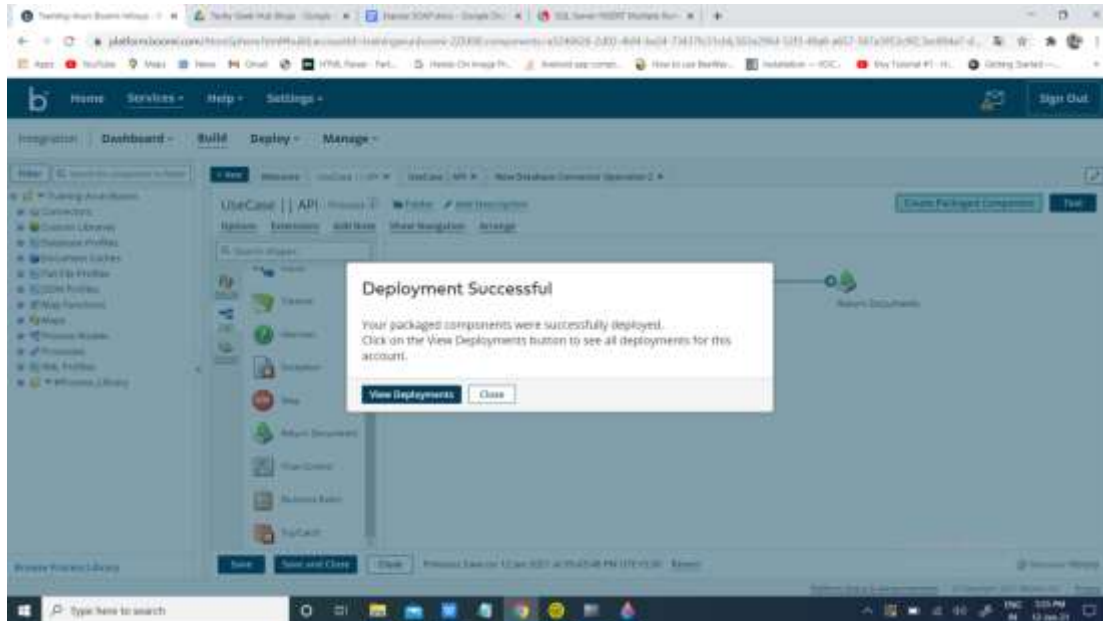


- Select the environment and click on next.

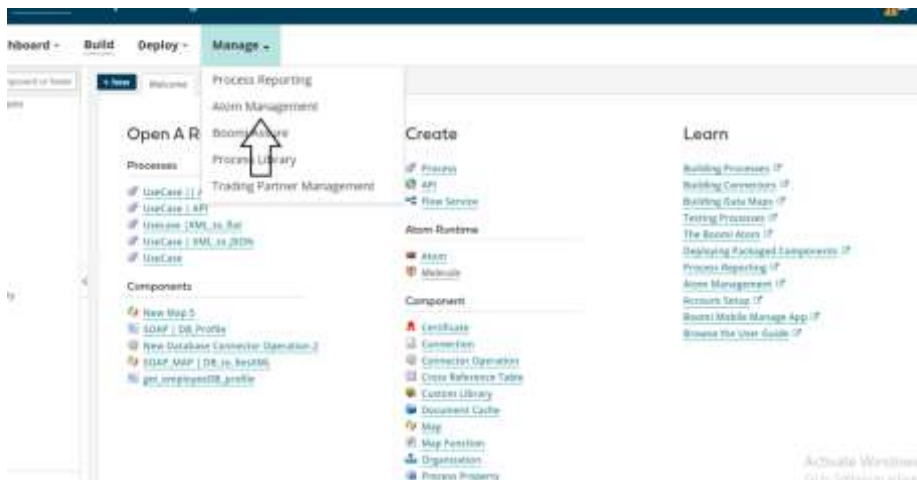


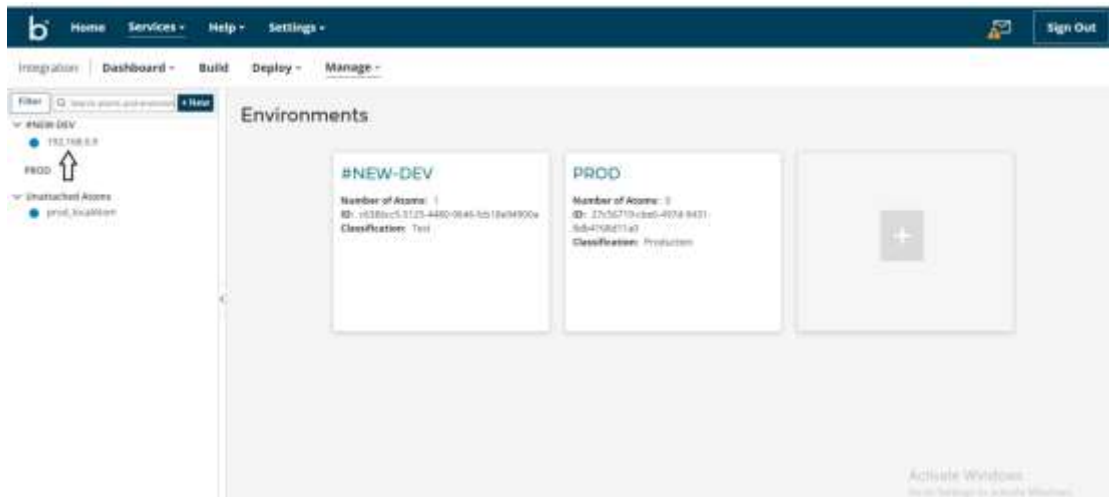
- Click on next and click Deploy.



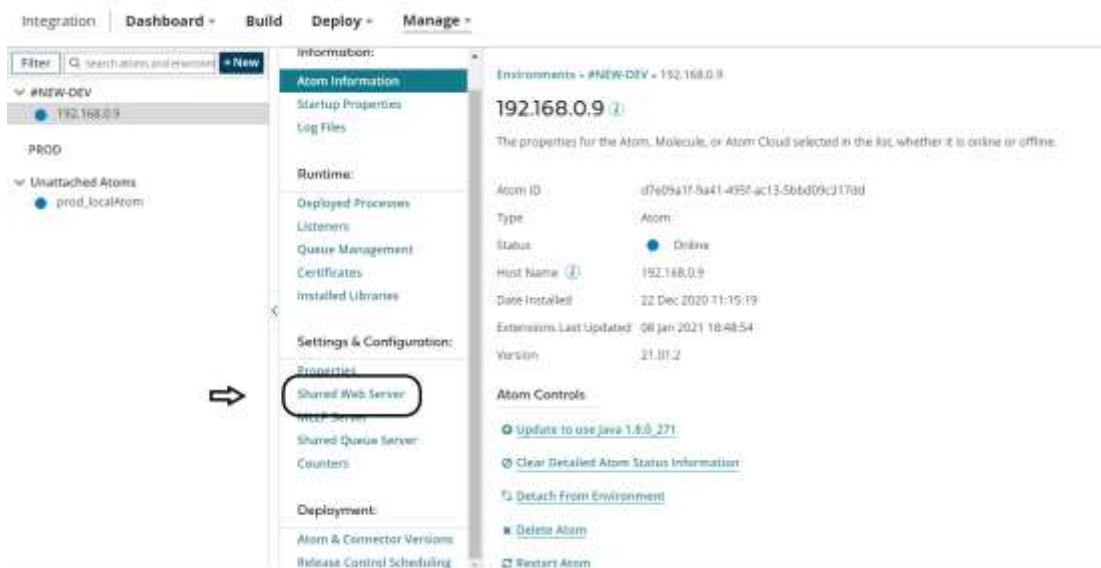


Step 16: Click on manage and go to atom management and click on the atom which we have used to deploy the process.



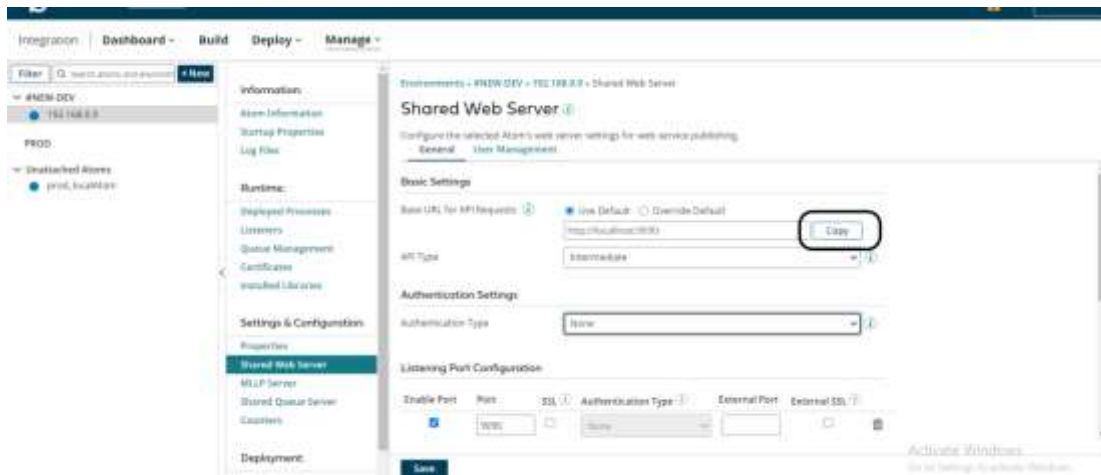


- Click on shared web server.

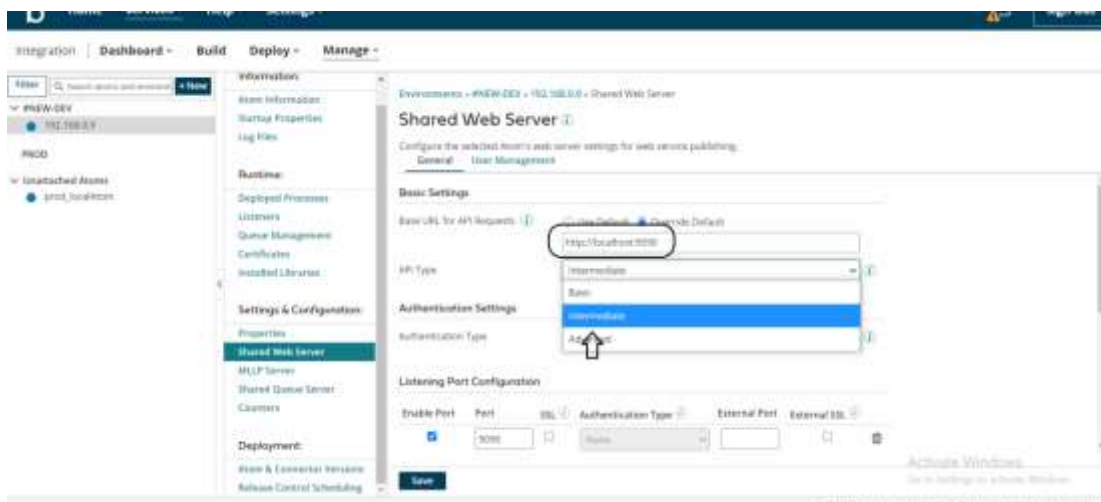


- Copy the base URL address.

➤ **<http://localhost:9090>**



- Click on API type and select intermediate and click on save.



- Click on restart plugin.

i Plugin configuration changes require a restart of the plugin for new configurations to take effect. We recommend that you restart the plugin now. Note that this will not restart the Atom. Would you like to restart this plugin?

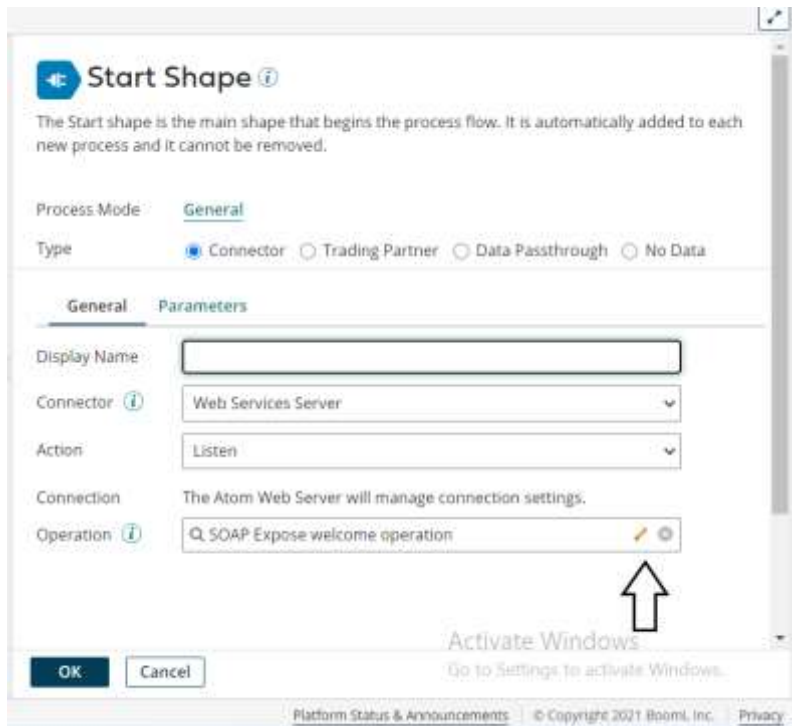
Yes, restart plugin now Cancel

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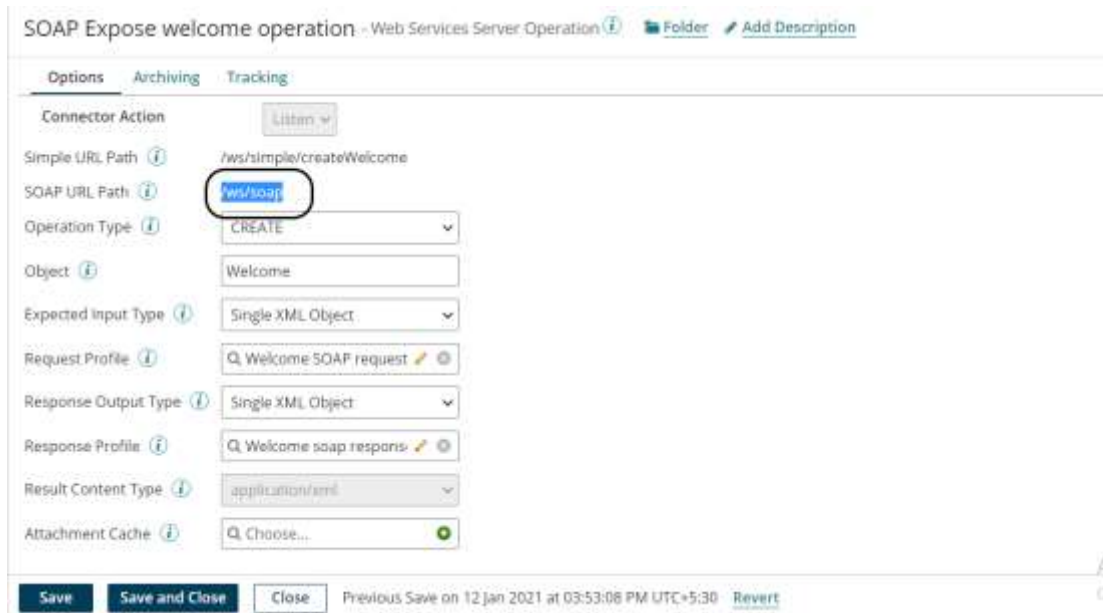
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Step 17: Click on configure in start shape and go to the operation.



- Copy the Soap URL address.

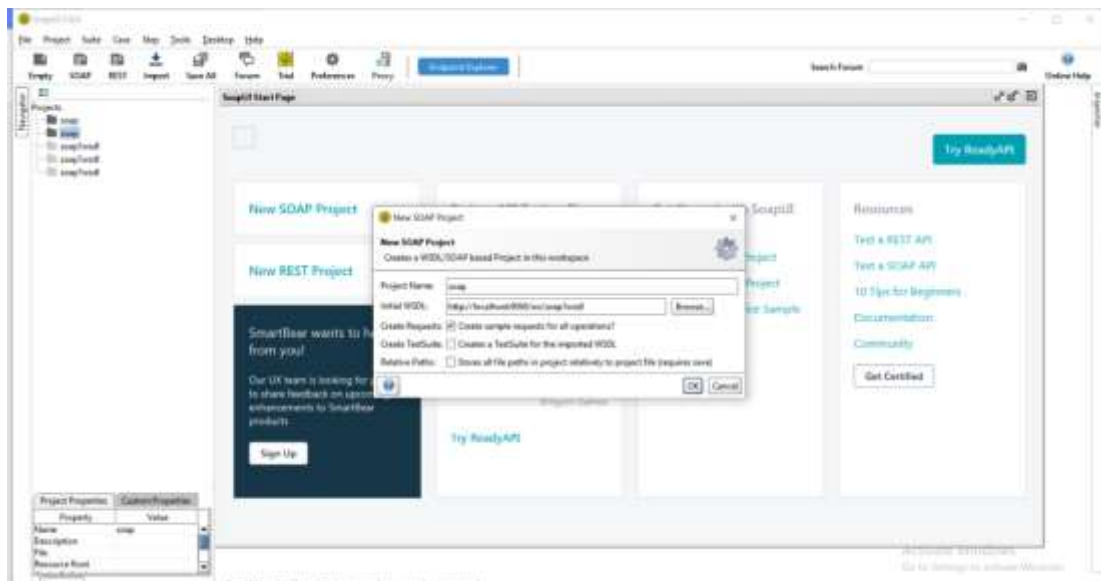


- Append the base with soap URL and add ?wsdl in the end as follows.

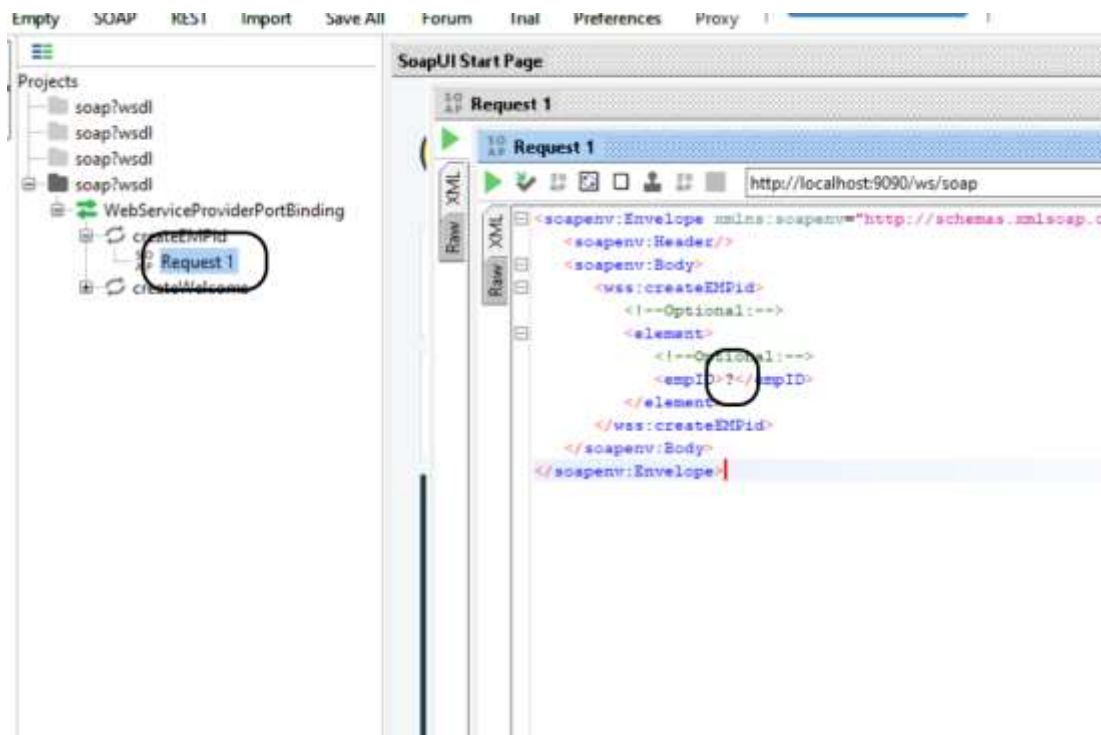
➤ **<http://localhost:9090/ws/soap?wsdl>**

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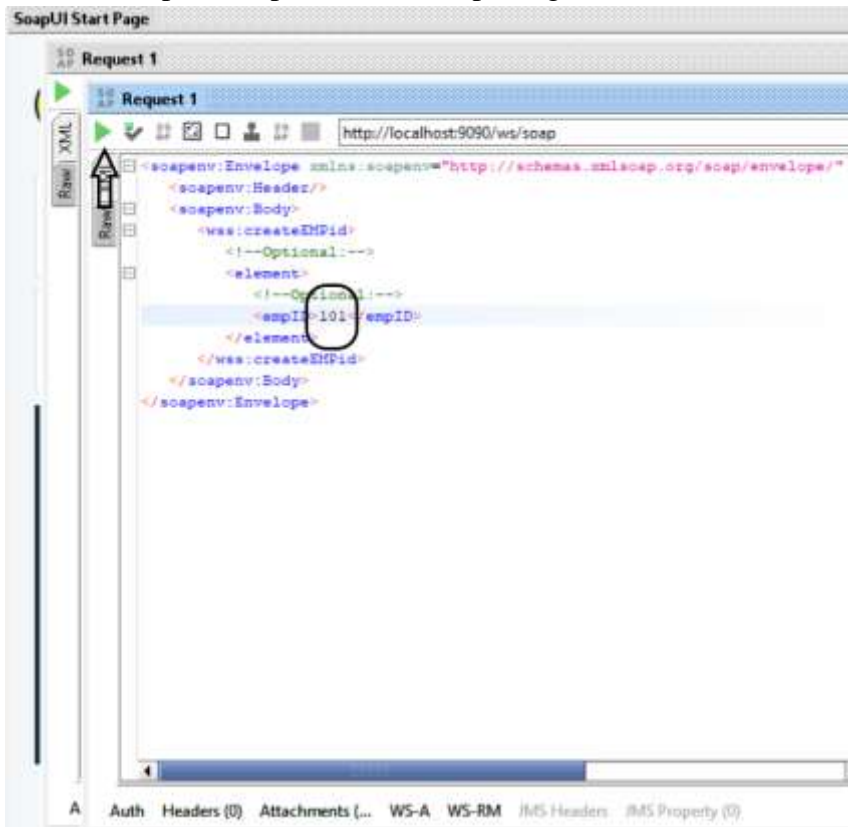
Step 18: Open soap UI and paste this URL in the initial WSDL tab and click ok.



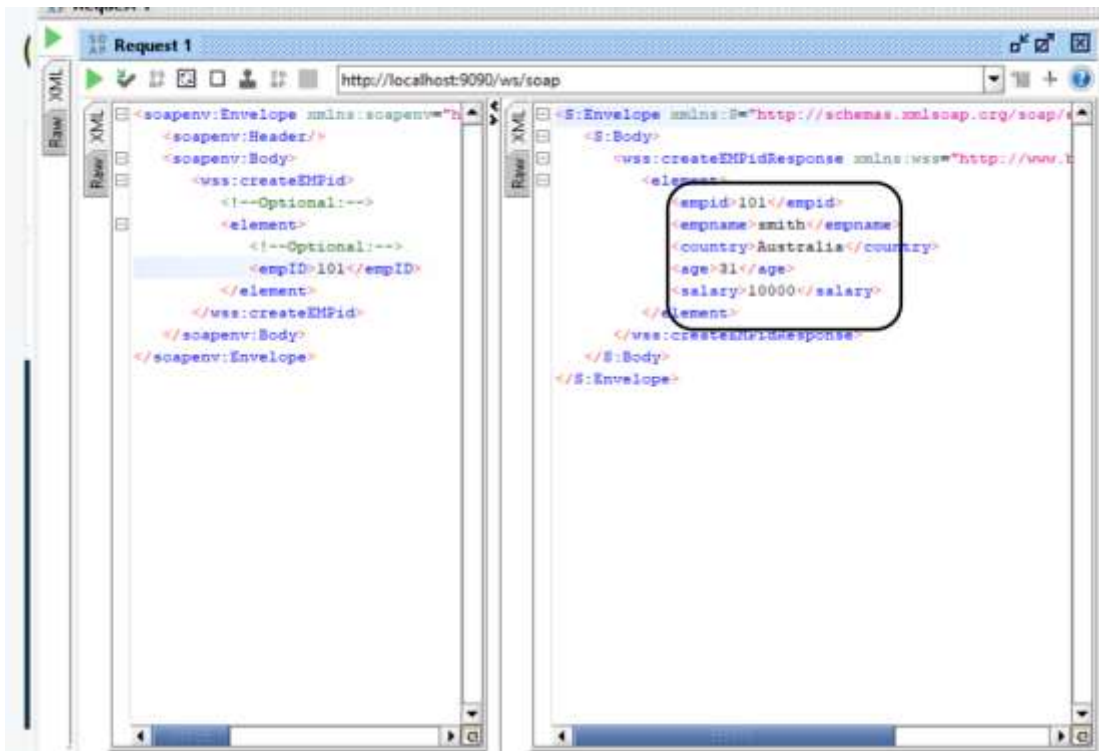
- Expand the Create EmpId and click on request 1



- Give empid as input between empID tags and click on execute as follows:



Step 19: We see that the data has retrieved from the database.





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