Install Guide for mWorkOrder 2208

Connected Worker Solutions

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Preface

Understand audience, know related documents and products and conventions followed in this document.

Audience

This guide is for technical configurators who Install and do related configurations for mWorkOrder, a Mobile Workorder Management Solution of *Connected Workforce Platform*™.

Document Conventions

Table 0-1 Conventions followed in the document

Convention	Meaning
boldface	Indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Indicates book titles, emphasis, or placeholder variables for which you supply values.
`monospace`	Indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter

Related Products

- Work Order Management
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- Inspections Checklist
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- Field Procurement
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1. Install mWorkOrder

Ensure that the preinstallation requirements are met before you install mWorkOrder. See *Pre Install or Pre Upgrade Configurations Guide* for information.

mWorkOrder installation process involves two stages:

- Install supporting systems *(on page 8)*
- Install mWorkOrder *(on page 10)*

1.1. Install supporting systems

Install the following supporting systems as part of the preinstallation requirements.

Table 1-1 Prerequisites

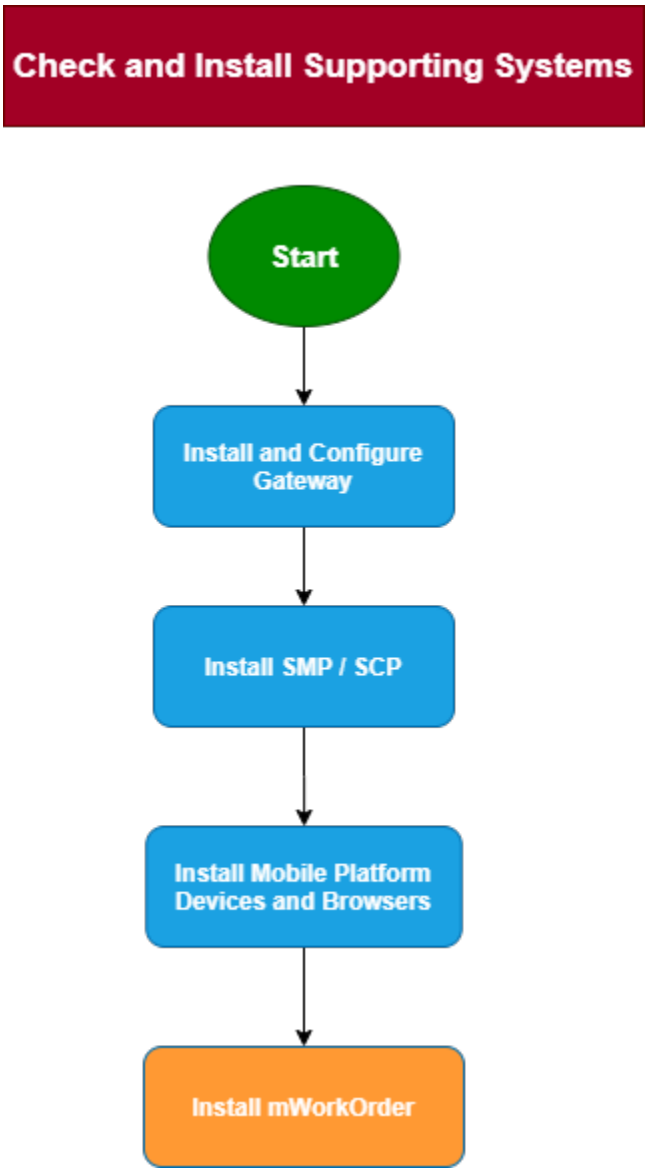
Software	• SMP 3.0 SP11 PL06 and above (SAP Mobile Platform) • BTPms (Business Technology Platform Mobile service) • SAP Cloud Connector latest version • SAP NetWeaver Gateway 7.4 and above with SAP_GWFND 740 component (SP 13 and above) • Reverse proxy (SAP Web Dispatcher, Apache, Junos Pulse, NetScaler proxy servers are recommended. Others need to be evaluated) • RACE 2208—SAP_UI 740 SP13 and above or SAP_UI 750 SP01 and above or provide access to online UI5 libraries of version 1.71 • SPAM Version 69 and above (only for Add-Ons)

Table 1-1 Prerequisites (continued)

SAP Business Suite	• ECC 6.0 EHP 5 with SAP_BASIS 702 and above (recommended) • Lower versions are compatible (requires evaluation) • SAP S/4HANA Business Suite 1709, 1809, 1909 and 2021 (versions requires evaluation)
Compatible Security Authentication Mechanism	• Basic authentication • SSO2 between SMP and NetWeaver Gateway Active Directory SSO • SAML 2.0 Authentication
Access	• SAP Basis System Admin with access to 000 clients in HUB (Gateway and ECC systems) / EMBEDDED system, based on the type. • Access to SAP File OS directory **usr/sap/trans/EPS/in** to upload PAT files.
Assumptions	Access to the RACE™ portal can be completed after the RACE™ admin user credentials setup is completed.

Install the supporting systems in the order defined in the flow.

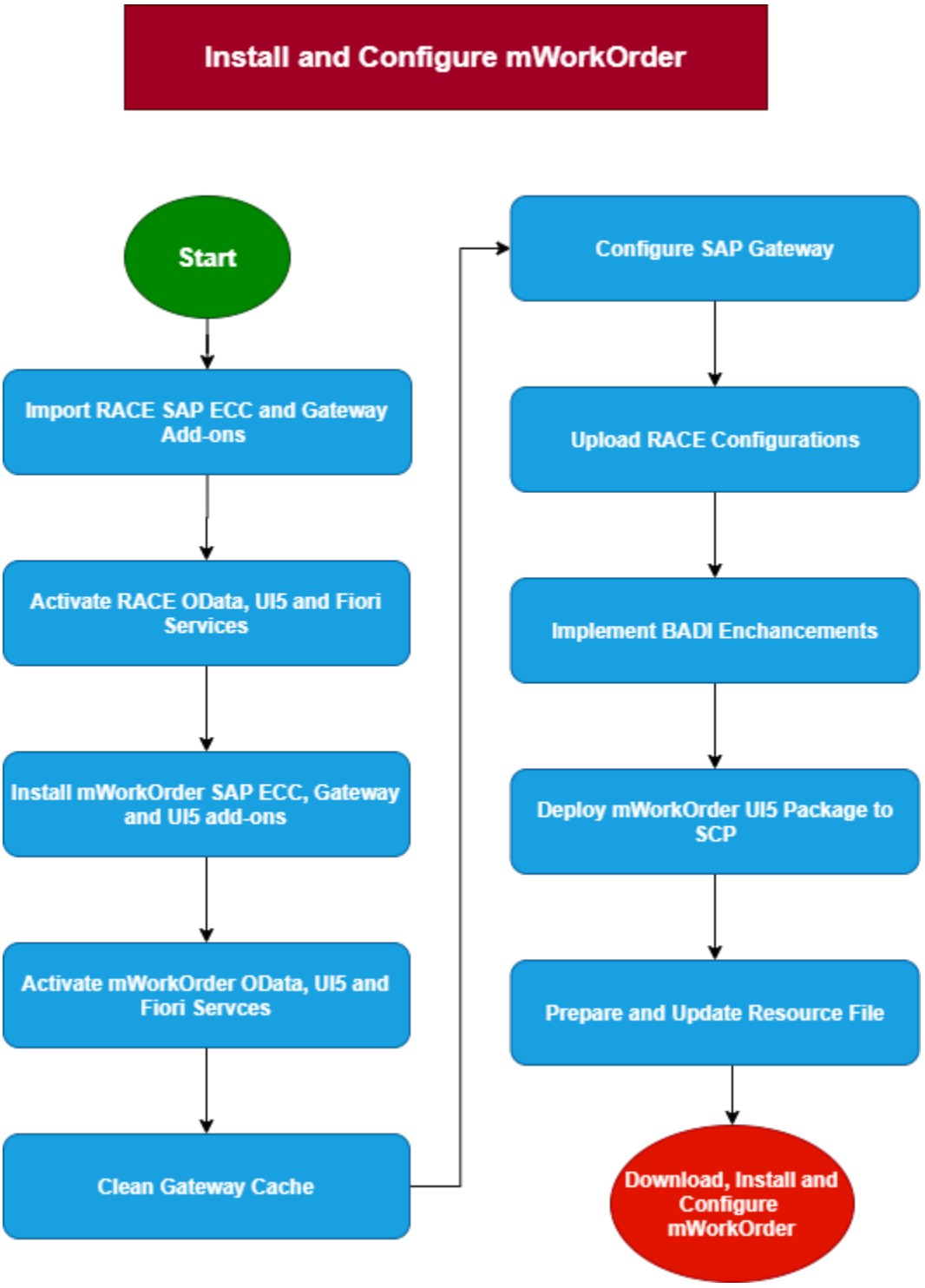
Figure 1-1 Install Systems



1.2. Install mWorkOrder

Once you complete all pre-installation requirements, begin mWorkOrder installation. The following flow gives you an overview of the steps involved in installing mWorkOrder.

Figure 1-2 Installation configurations for MWO



The sections in the following table guide you with the mWorkOrder installation process

Table 1-2 References

Task	Reference to section
Install RACE™ SAP ECC and Gateway Add-ons or Support Packs / Import Transports	• Install RACE™ SAP® ECC and Gateway *(on page 14)* • Import RACE™ SAP® ECC and Gateway ABAP Transports *(on page 31)*
Activate RACE™ oData, UI5, and Fiori Services	Activate RACE™ OData Service *(on page 25)*
	Activate UI5 Service *(on page 27)*
	Activate FIORI Service *(on page 29)*
Install mWorkOrder SAP ECC, Gateway and UI5 Add-ons/ Import Transports	• Install mWorkOrder SAP® ECC, Gateway, and UI5 *(on page 44)* • Import mWorkOrder SAP® ECC, Gateway and UI5 Transports *(on page 61)*
Activate mWorkOrder oData, Gateway UI5 and Fiori Services	Activate mWorkOrder OData Service *(on page 56)*
	Activate Gateway UI5 Service *(on page 58)*
	Activate Gateway FIORI Service *(on page 59)*
Check Schema Indicator	Check Schema Change Indicator *(on page 71)*
Clean Gateway Cache	Clean SAP Gateway Cache *(on page 73)*
Configure SAP Gateway for mWorkOrder	Configure SAP Gateway for mWorkOrder *(on page 77)*
Upload the Configurations in Excel format to RACE™ Application	How to Configure RACE™ for mWorkOrder *(on page 94)*
Deploy mWorkOrder UI5 package to SCP	Deploy MWO UI5 package to SAP Cloud platform (SCP) *(on page 100)*
Implement BADI enhancements	Implement BADIs *(on page 107)*

Table 1-2 References (continued)

Task	Reference to section
Prepare & Update Resource File	Update Resource File *(on page 130)*
Download and Install App	Download App and Install *(on page 137)*

2. Install RACE™ SAP® ECC and Gateway

Add-On: All the transports of previous releases and the transports of the current release are packaged into a single add-on for the main release. For example, 2003, 2006 and so on. Install the add-on for the current release that is provided by Innovapptive representative.

Transport: Only the changes for that HotFix are packaged into a transport. You MUST install all the transports till date and must install them in the order they are mentioned. Even a single misplaced installation of transport could result in installation errors.

Note:
Ask your Innovapptive contact for the latest add-ons and support-packs and these components will be provided in a compressed file format, such as .zip, .rar, and sent to you either through email or through FTP.

Table 2-1 RACE™ ECC Add-On and Support Packages

Type	Add-On	Description	Dependency
Add-On	EWY0090055494_-0000000.PAT	INNOV:RACE™:2208 ECC Objects	None

Table 2-2 RACE™ Gateway Add-On and Support Packages

Type	Add-On	Description	Dependency
Add-On	NWY0090055495_-0000000.PAT	INNOV:RACE™:2208 Gateway Objects	None
SP01 - Support Pack	NWY0090055495_-0000002.PAT	IN-NOV:RACE™:2208_-FIORI Application	Install RACE™ Add-On (NWX0090055495_-0000000.PAT) before importing SP01
Transport	NG5K903267	INNOV:RACE™: 2208_FIORI Launch-pad Configurations	Import the SP01 Support Pack NWX0090055495_-0000002.PAT) before importing the trans-port (NG5K903097)

2.1. Install RACE™ SAP® ECC and Gateway Add-ons and support packs

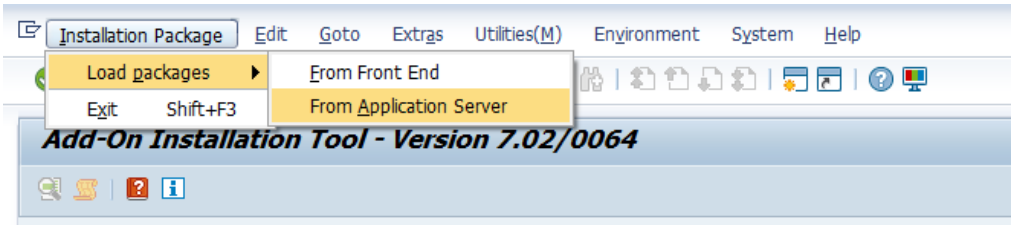
Install the add-ons and support packs at one go using the steps given below. However, if you have already installed add-ons and now you want to install the support packs (hotfixes), follow the procedure detailed in Support packs installation procedure *(on page 20)*.

To install RACE™ SAP® ECC and Gateway add-ons:

1. Extract the zip or .rar files that you received from Innovapptive representative and save the files to your local machine.
2. Upload/copy the Add-On files and Support Packs from software deployment package to the USR/SAP/TRANS/EPS/in path on SAP ECC & GW systems.

   Note:
   Upload all the add-ons and support packs that are mentioned in the tables.
3. Log in to **000** clients of SAP GW / ECC System (based on the Add-On being imported).
4. Navigate to the transaction code **SAINT**.
5. Navigate to **Installation Package**, **Load Packages**, **From Application Server**.

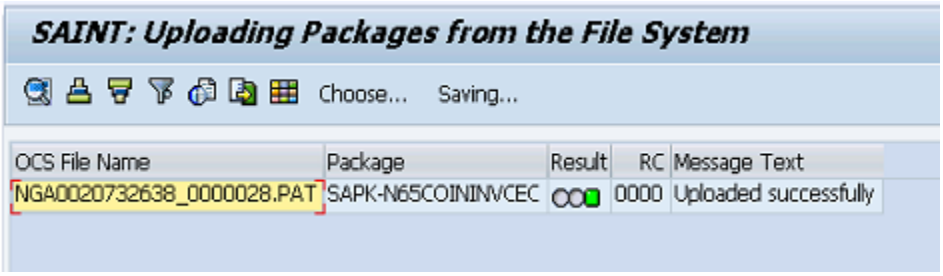
   Figure 2-1 SAINT

6. Click **Yes** in the confirmation screen.

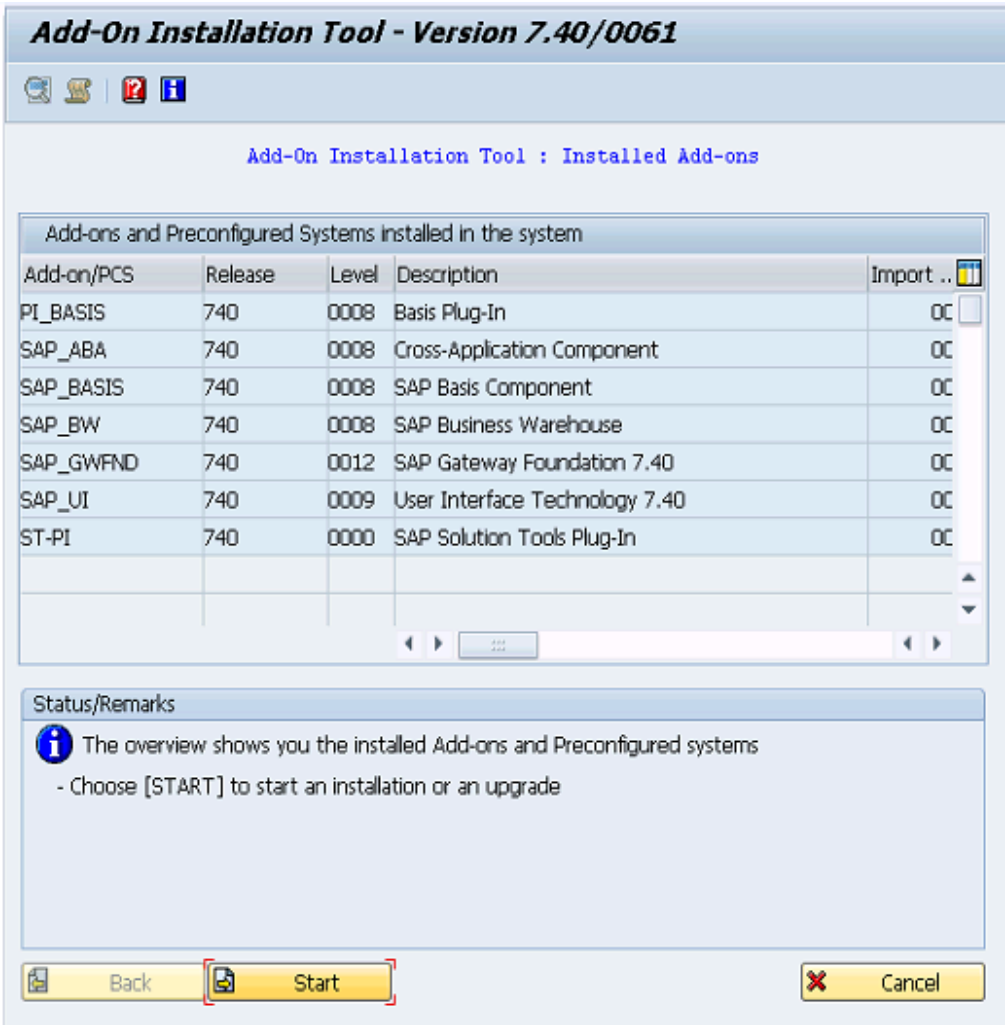
   Packages are loaded in the file system

   Figure 2-2 SAINT: Upload Packages

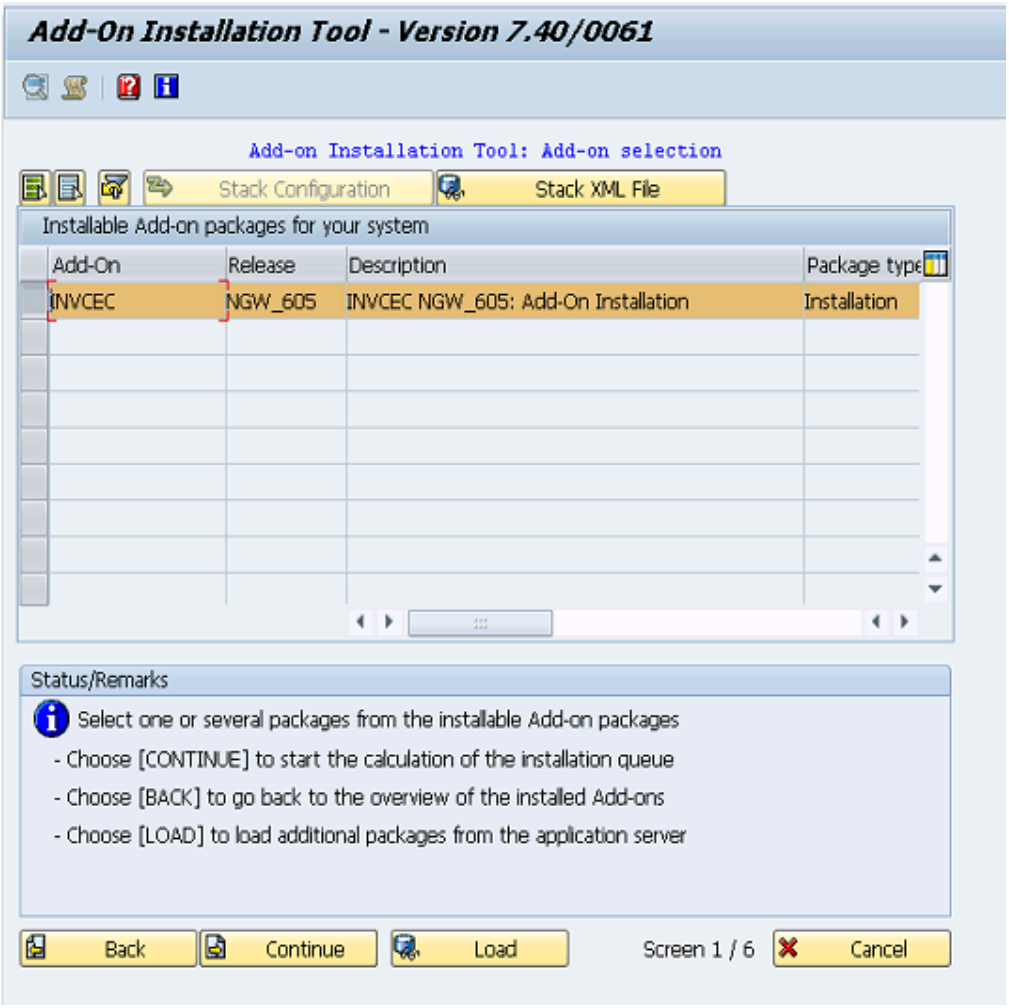
7. Once the packages are loaded, go back to the main screen, and click **Start**.

Figure 2-3 Installed Add-ons



8. Select the Add-On in the next screen and click **Continue**.

Figure 2-4 Select Add-on

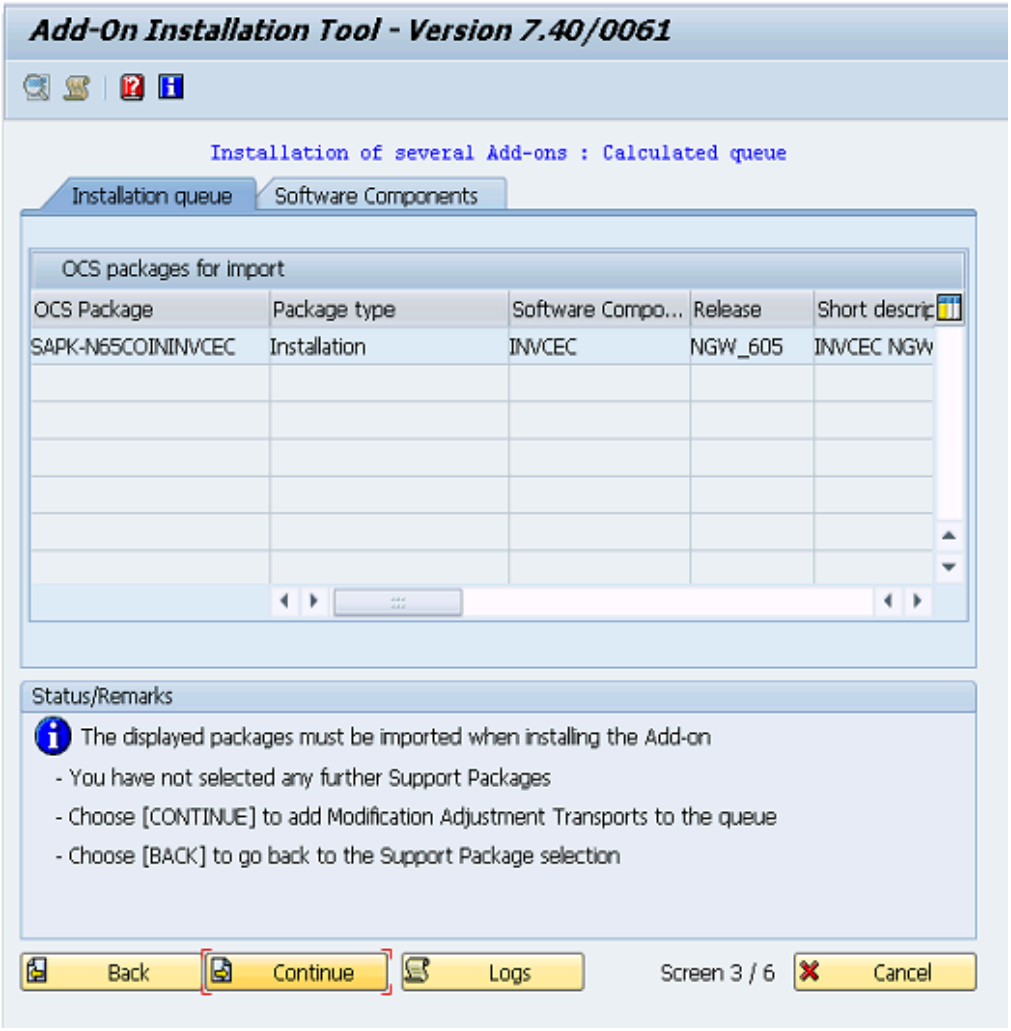


9. Click **Continue** in the next screen.

   The OCS packages that are going to be imported are displayed in the next screen.

10. Click **Continue** to proceed to the next step.

Figure 2-5 Add-on Queue



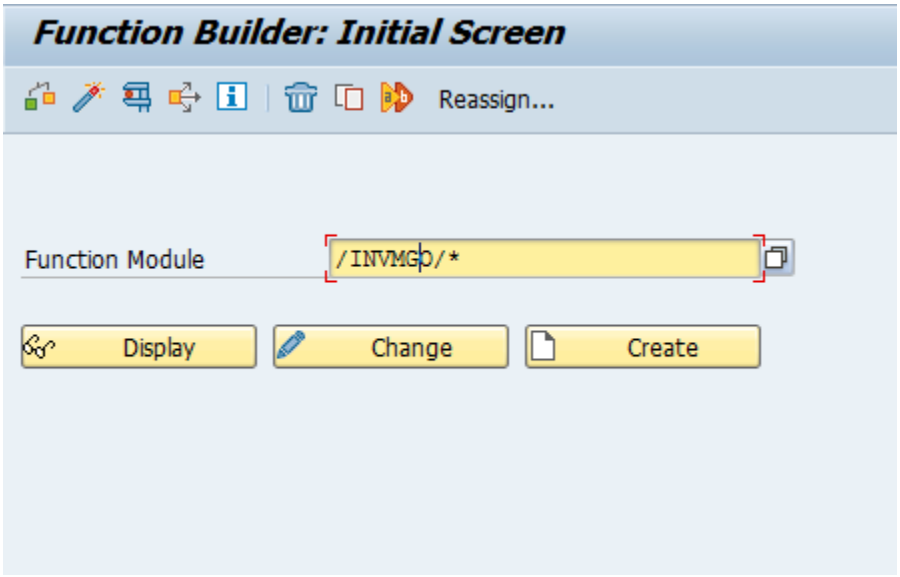
11. Click **No**, when asked to add Modification Adjustment Transports to the queue.
12. Click the **Import** icon.
13. Click **Finish**.

2.1.1. Verify SAP® ECC RACE™ Add-On

To verify the SAP® ECC RACE™ add-on:

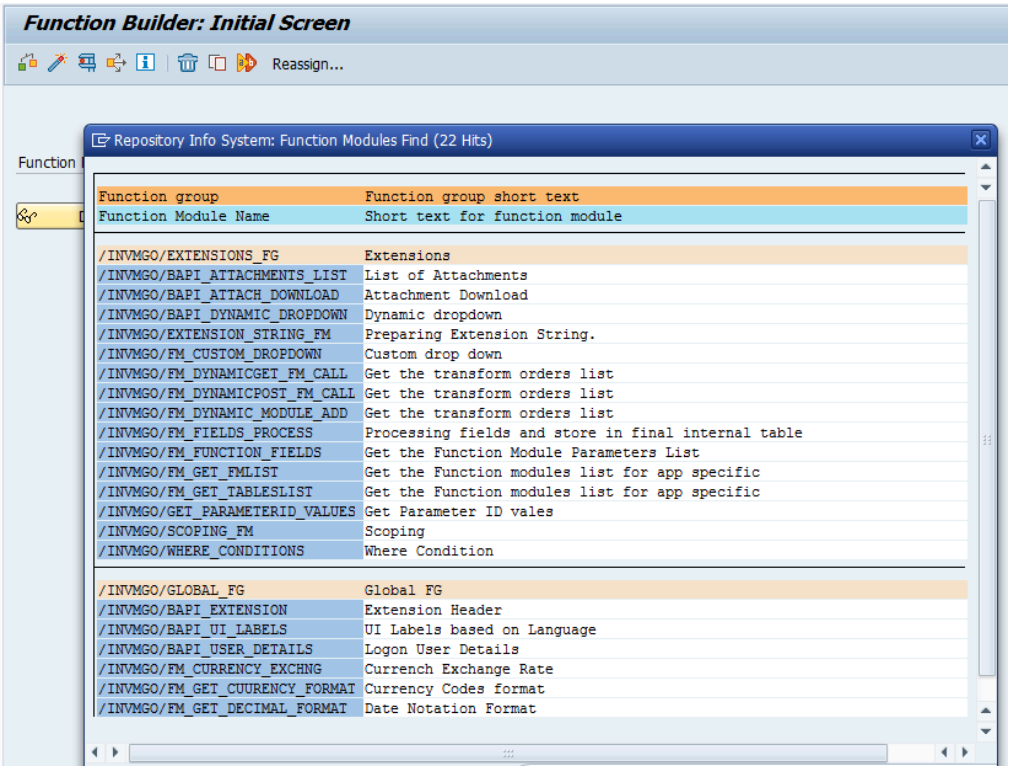
1. Run the transaction code **SE37**.
2. Enter **object type** to search for all objects **/INVMGO/***.

Figure 2-6 Function Builder Initial Screen



3. Press **<F4>** to view the list of classes and capture the screenshot(s) to share the results.

Figure 2-7 Function Module Classes

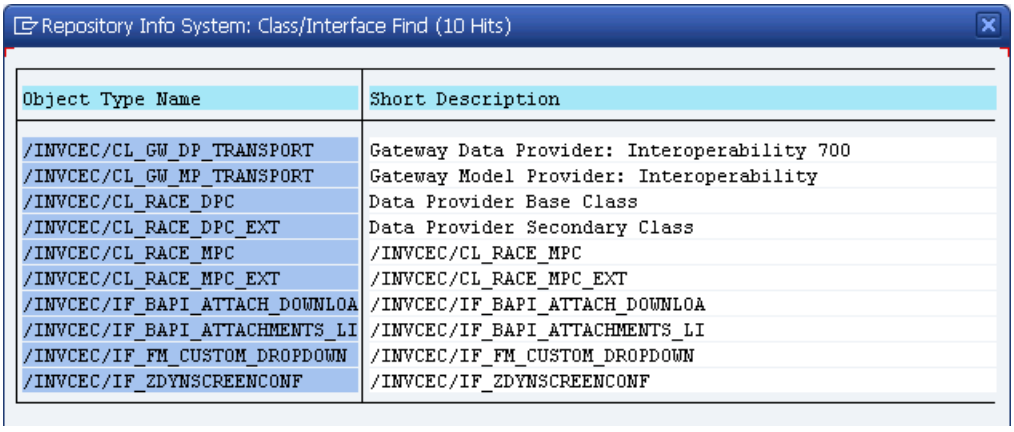


2.1.2. Verify SAP® GW RACE™ Add-On

To verify the SAP® GW RACE™ Add-On:

1. Navigate to the transaction code **SE24**.
2. Enter **object type** to search for all objects **/INVCEC/***.
3. Press **<F4>** to view the list of classes and capture the screenshot(s) to share the results.

Figure 2-8 Object Classes



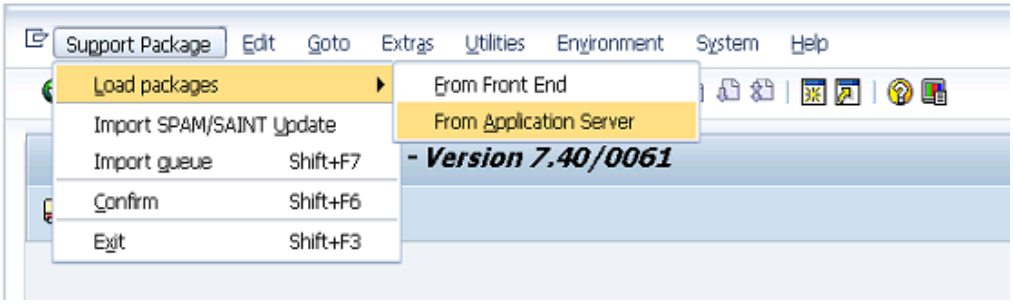
2.2. Install RACE™ SAP® ECC and Gateway Support packs

If you have installed the add-ons and are installing only the support pack (hotfixes), follow the steps described below.

To install the RACE™ SAP® ECC and Gateway support pack:

1. Log in to **000** client of SAP GW & ECC System (based on the support pack being imported).
2. Navigate to the transaction code **SPAM**.
3. Navigate to **Support Package**, **Load Packages**, **From Application Server**.

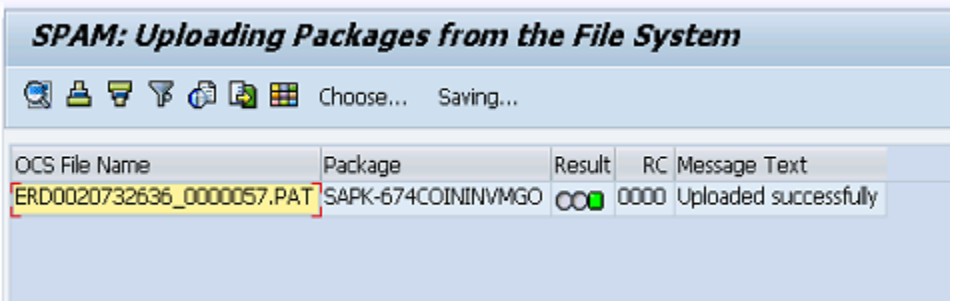
Figure 2-9 SAINT



4. Click **Yes** in the confirmation screen.

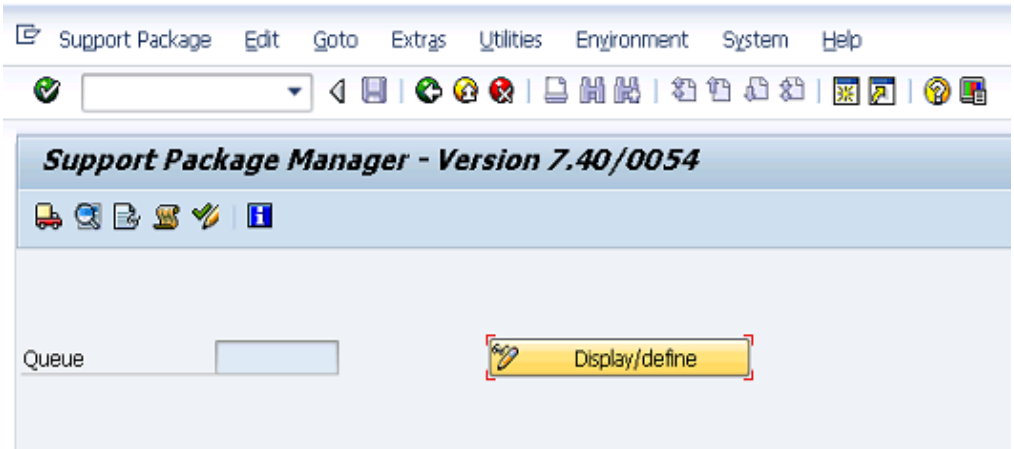
   Packages are loaded in the file system

Figure 2-10 SAINT: Upload Packages



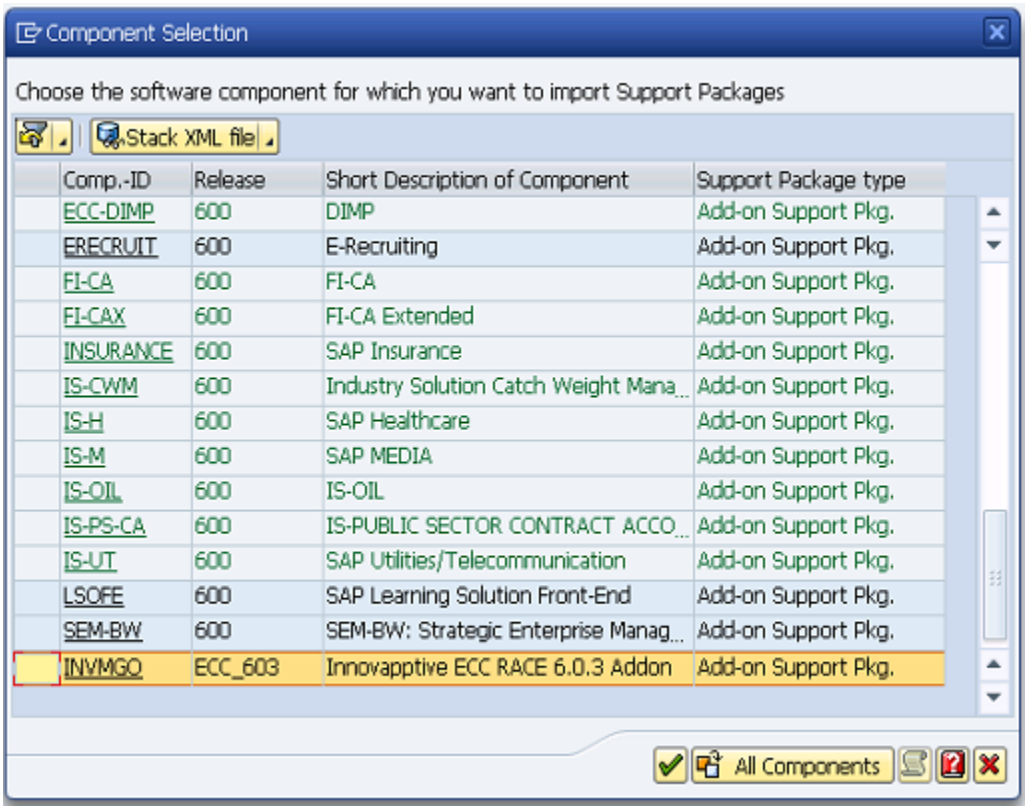
5. Once the packages are loaded, go back to the main screen, and click **Display/define**.

Figure 2-11 Support Package Manager



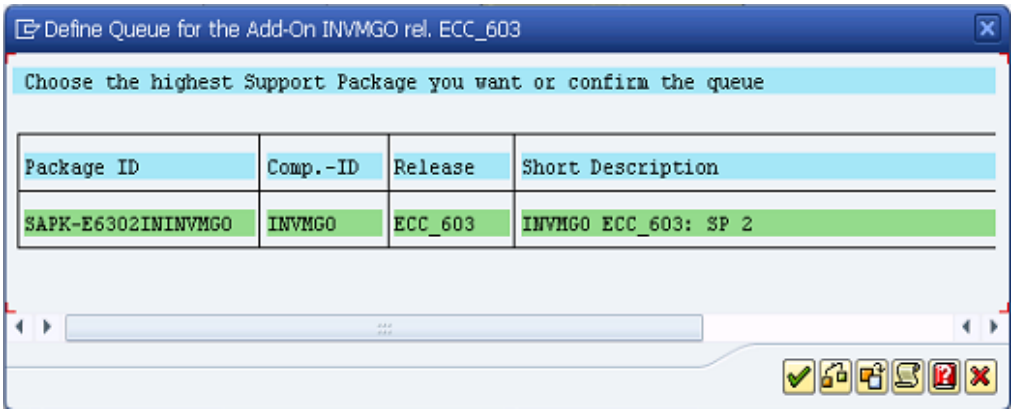
6. Choose the software component for which you want to import Support Packages and click .

Figure 2-12 Component Selection



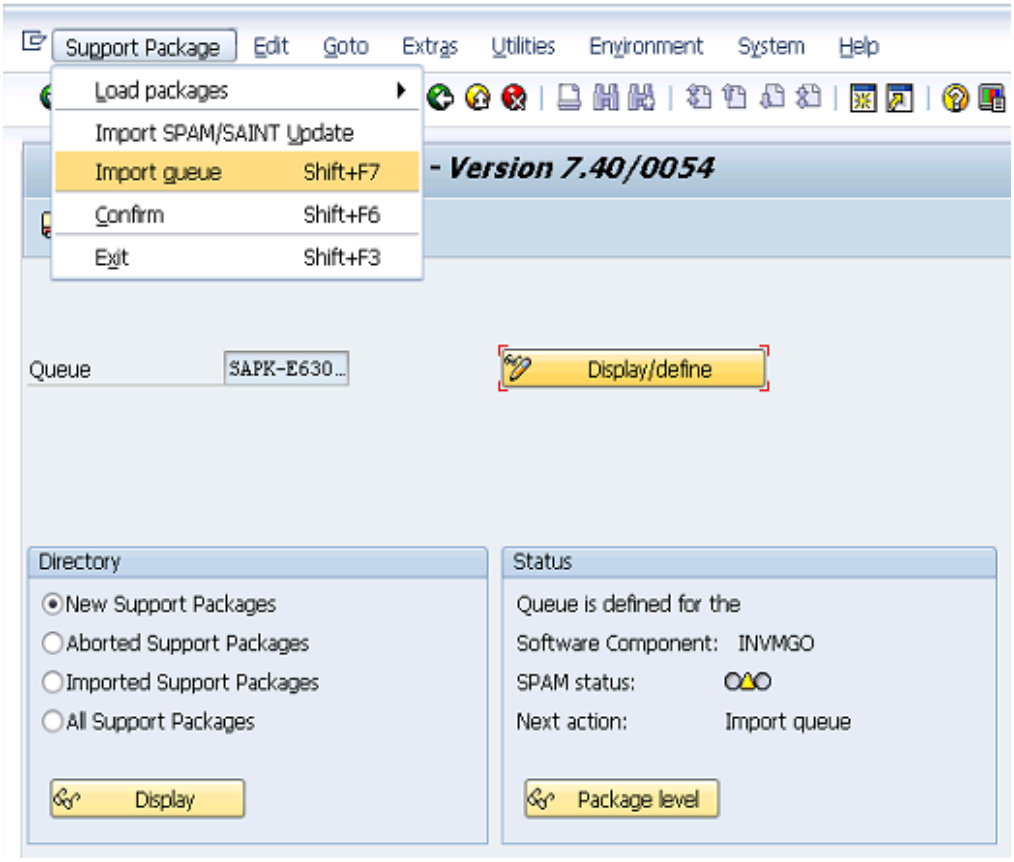
7. If all the conditions are met, and you get the package (**green**) click .

Figure 2-13 Confirm Queue



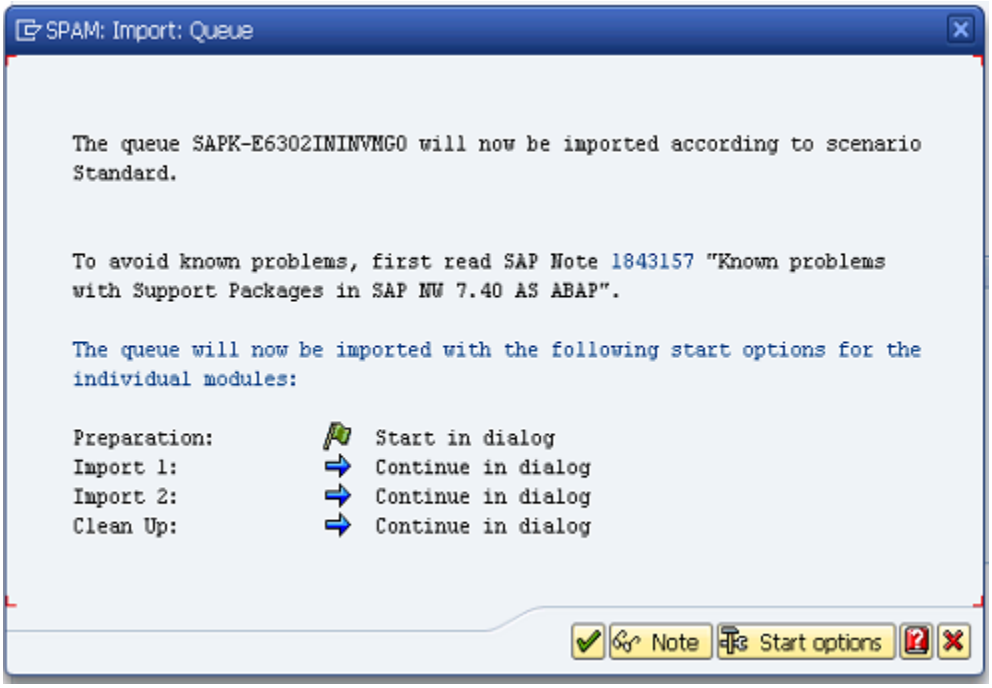
8. Click **No**, when asked to add Modification Adjustment Transports to the queue.
9. Go to **Support package** in the menu bar and click **Import Queue**.

Figure 2-14 Import Queue



10. Click ✔ to start the import process.

Figure 2-15 Import Queue Confirm



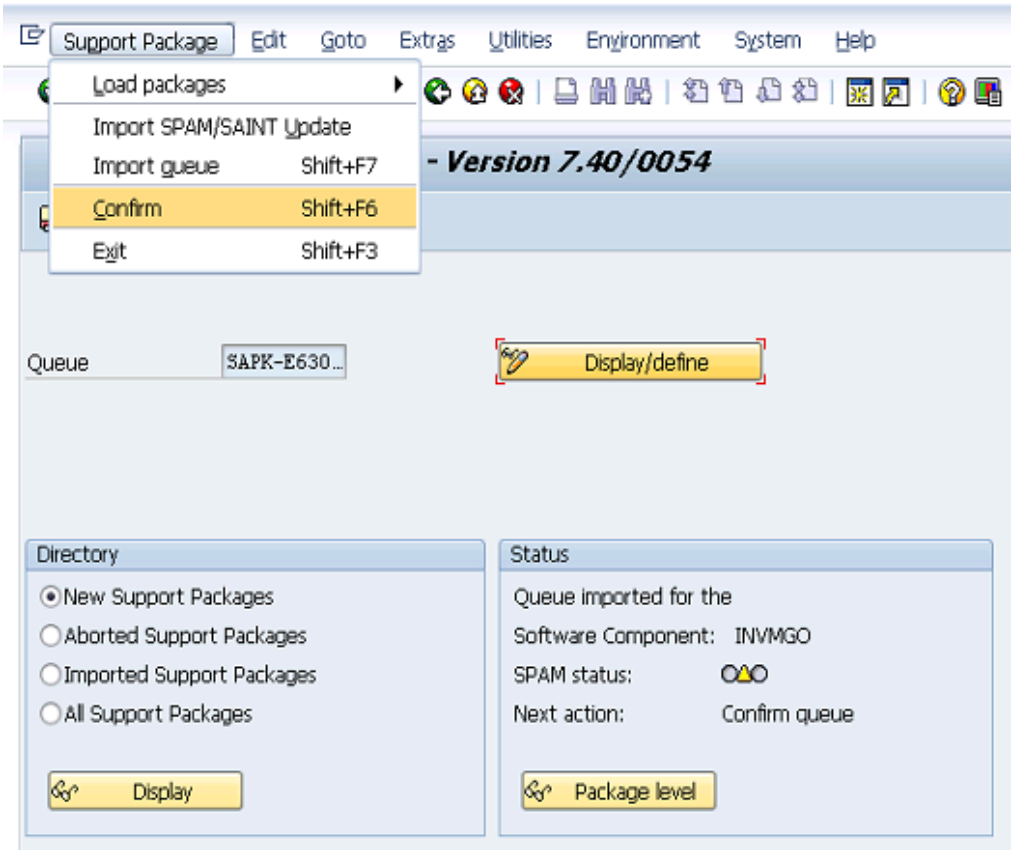
11. Once the package is imported, a confirmation screen appears. Click in the screen.

12. Go to **Support Package** in the menu bar and click **Confirm**.

    A confirmation message appears.

> **Note:**
> If you face any issues/errors while installing the Add-On/Support pack, send log files with screenshots and details of the error to your **Innovapptive SAP Basis team** contact assigned to your project.

Figure 2-16 Confirm Support Package



2.3. Activate RACE™ OData Service

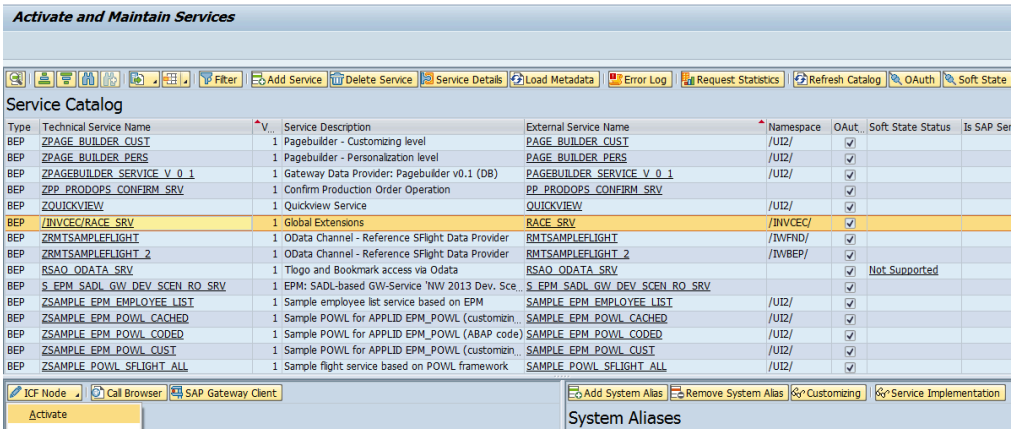
Once add-on and support packs are installed, activate RACE™ OData Service.

To activate the RACE™ OData:

1. Login to Gateway system.
2. Navigate to the transaction **/IWFND/MAINT_SERVICE**.
3. Select the service **/INVCEC/RACE_SRV**.
4. Click **Activate** from the drop-down list of **ICF Node** options.

   A message appears notifying the package selection appears.

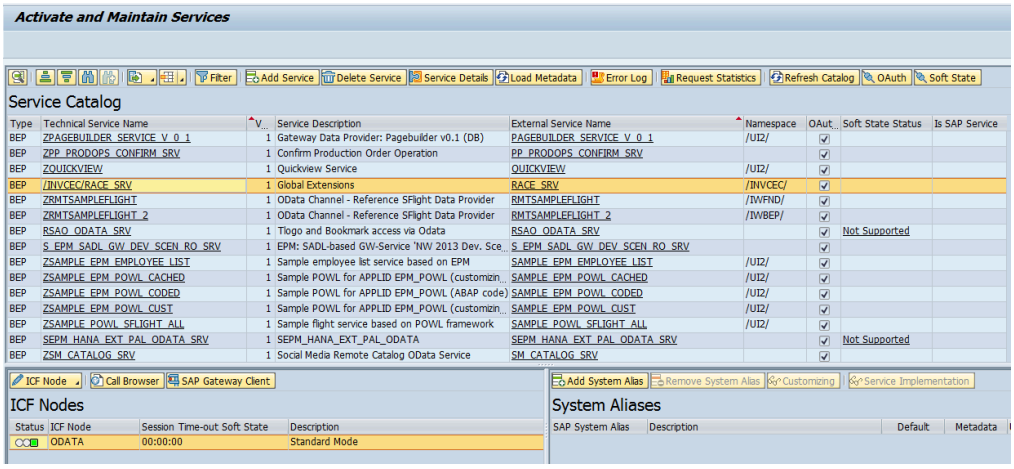
Figure 2-17 Activate and Maintain Services



5. Click the **Local Object** button and continue to activate the service.

   The OData service is activated and the status turns **green**.

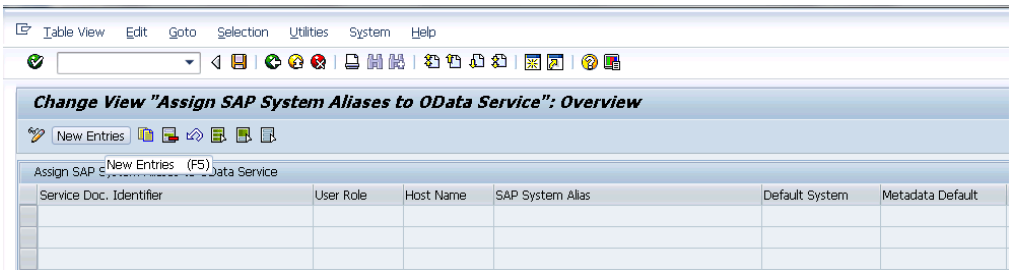
Figure 2-18 Service Status



6. Click **Add System Alias** above **System Aliases** on the right to add the SAP System alias for the selected service.

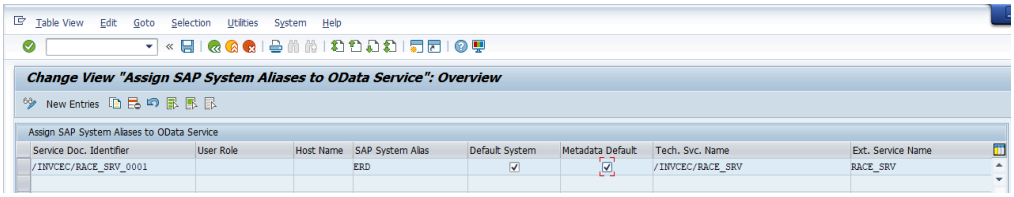
7. Click **New Entries**.

Figure 2-19 New Entries for System Alias



8. Assign the System Alias (ERD in this case) for the service and save changes.

Figure 2-20 Assign SAP System Alias to Service



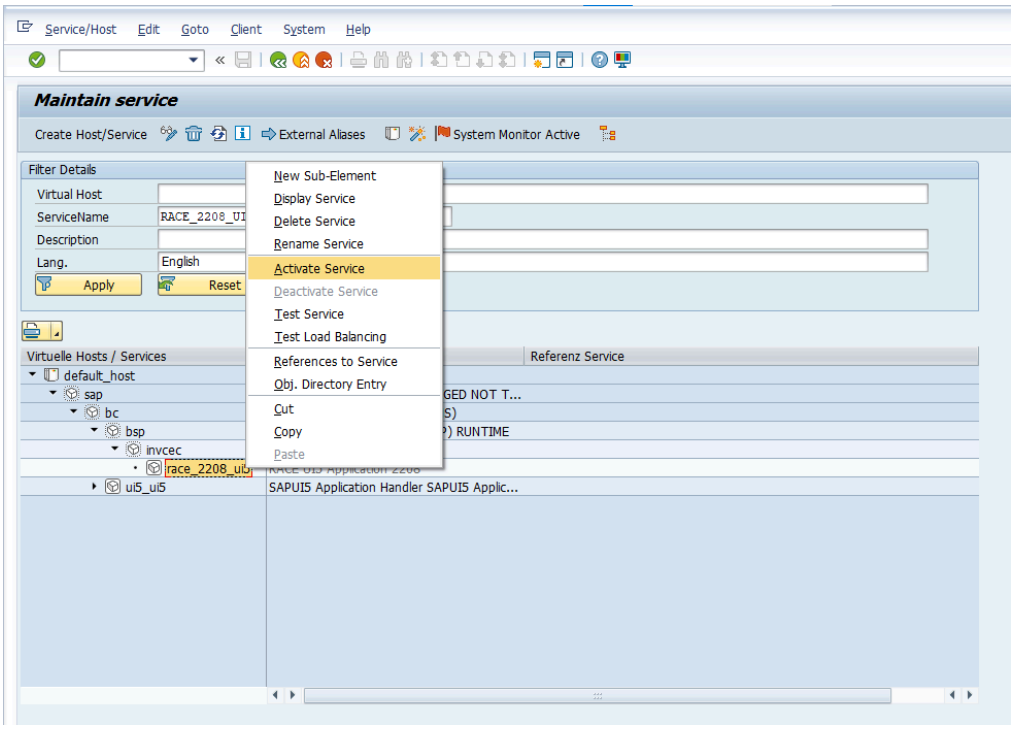
2.4. Activate UI5 Service

Activate UI5 Service once you have activated RACE™ OData Service.

To activate UI5 Service:

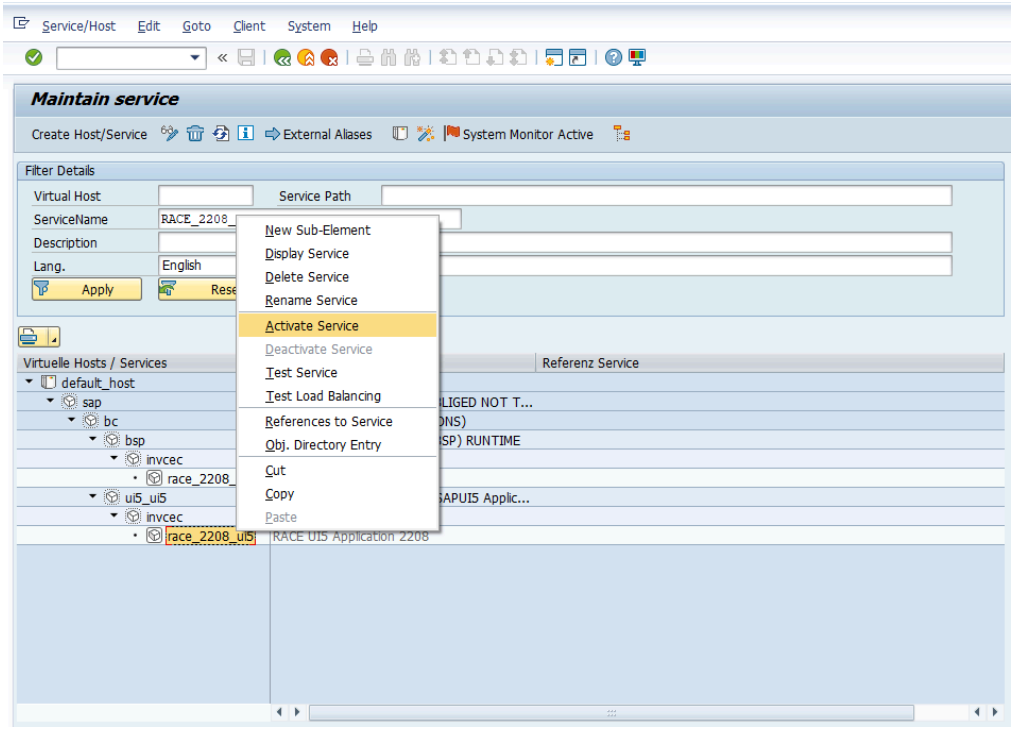
1. Go to the transaction code SICF and navigate to ***/default_host/sap/bc/bsp/invcec/race_2208_ui5***.
2. Right-click **RACE 2208 UI5** and click **Activate Service**.

Figure 2-21 Activate RACE BSP Service



3. Click **Yes**.
4. Go to ***/default_host/sap/bc/ui5_ui5/ invcec/race_2208_ui5***.

Figure 2-22 Activate RACE UI5 service



5. Right-click **RACE 2208 UI5** and click **Activate Service**.
6. Click **Yes**.

   Access the SAPUI5 web application by replacing the **host name, port number** and **client number** in the following template's URLs to match your SAP NetWeaver Gateway instance:

   - http://**<hostname>**:**<port_number>**/sap/bc/ui5_ui5/invcec/race_2208_ui5/index.html?sap-client=**100**
   - http://**<hostname>**:**<port_number>**/sap/bc/ui5_ui5/invcec/race_2208_ui5/index.html?sap-client=**100**&sap-ui-language=EN&sap-ui-appcache=false

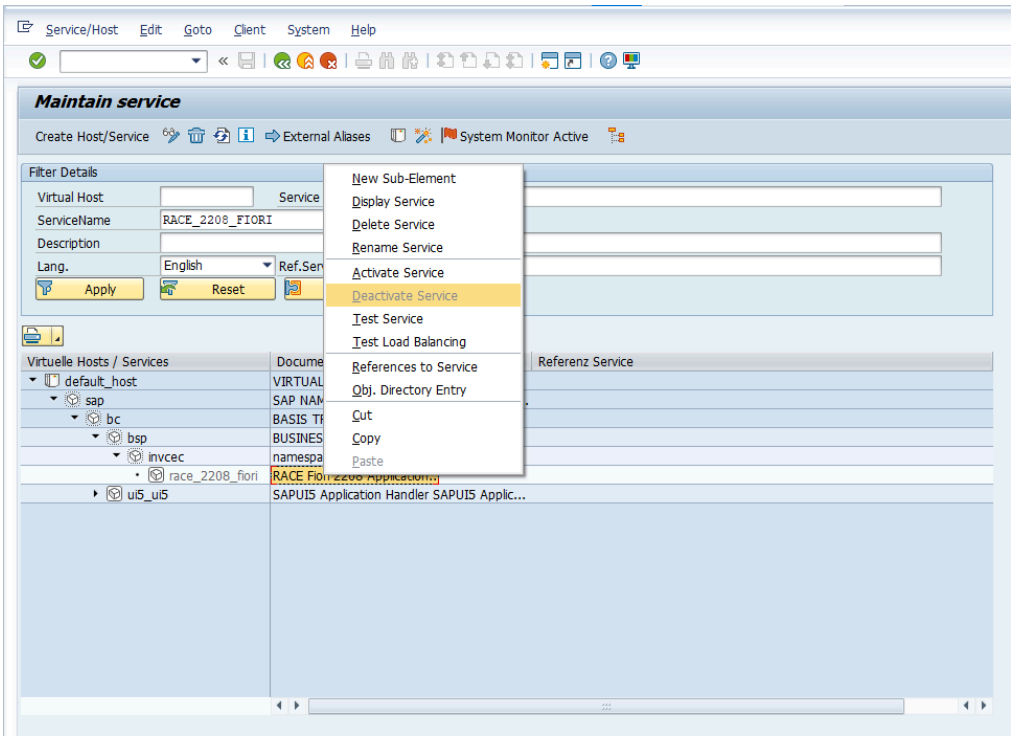
2.5. Activate FIORI Service

Activate FIORI service after you have activated UI5 service.

To activate FIORI Service:

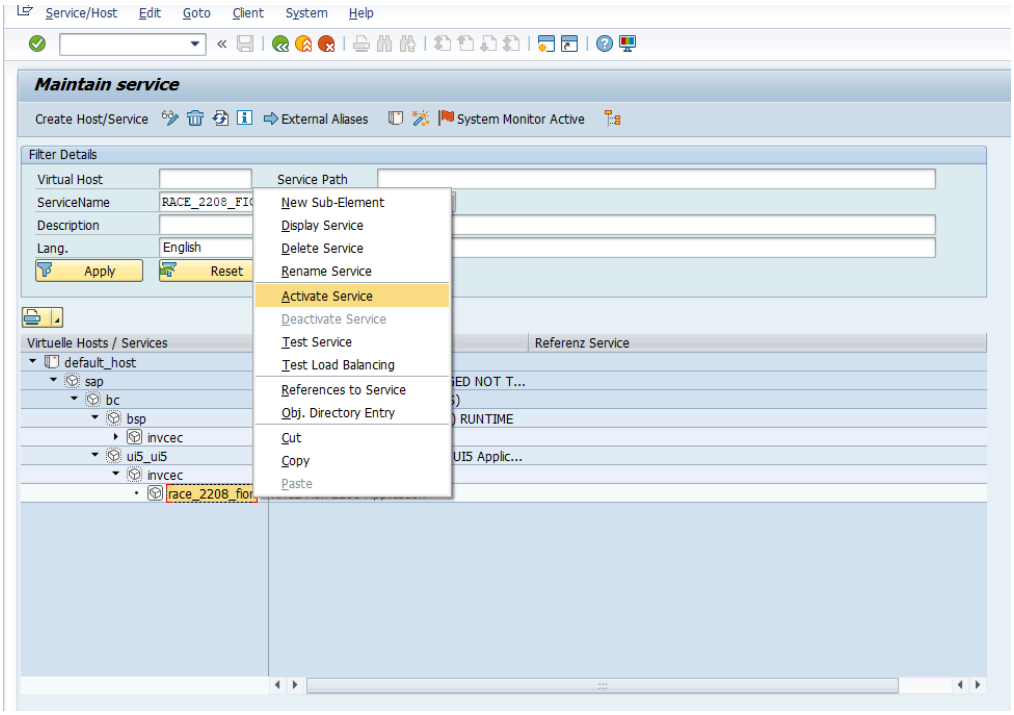
1. Go to the transaction code SICF and navigate to ***/default_host/sap/bc/bsp/invcec/race_2208_fiori***.
2. Right-click **RACE 2208 FIORI** and click **Activate Service**.

Figure 2-23 Activate RACE FIORI Service



3. Click **Yes**.
4. Go to ***/default_host/sap/bc/ui5_ui5/invcec/race_2208_fiori***.

Figure 2-24 Activate RACE FIORI service



5. Right-click **RACE 2208 FIORI** and click **Activate Service**.
6. Click **Yes**.

   Access the SAP Fiori web application by transaction code **/N/UI2/FLP**. You are redirected to the below template URLs to match your SAP NetWeaver Gateway instance:

   - http://**<hostname>**:**<port_number>**/sap/bc/ui5_ui5/invcec/race_2208_fiori/index.html?sap-client=**100**
   - http://**<hostname>**:**<port_number>**/sap/bc/ui5_ui5/invcec/race_2208_fiori/index.html?sap-client=**100**&sap-ui-language=EN&sap-ui-appcache=false.

2.6. Import RACE™ SAP® ECC and Gateway ABAP Transports

Innovapptive recommends that you install Add-ons instead of importing Transports for error free installation. However, if you prefer to import Transports, import them in the order listed in the table.

Note:
Ask your Innovapptive contact for the latest transports and these components will be provided in a compressed file format, such as .zip, .rar, and sent to you either through email or through FTP.

Table 2-3 RACE™ SAP® ECC Transports

Transport	Description	Dependency
ERDK912318	INNOV: RACE™:2208 ECC Objects	None

Table 2-4 RACE™ Gateway Transports

Transport	Description	Dependency
NG5K903276	INNOV RACE™ 2208 Gateway Objects	None
NG5K903271	INNOV RACE™ 2208 UI5 Application	Import NG5K903276 before importing NG5K903271
NG5K903241	INNOV RACE™ 2208 Fiori Application	Import NG5K903276 before importing NG5K903241
NG5K903267	INNOV RACE™ 2208 Fiori Launchpad Configurations	Import NG5K903241 before importing NG5K903267

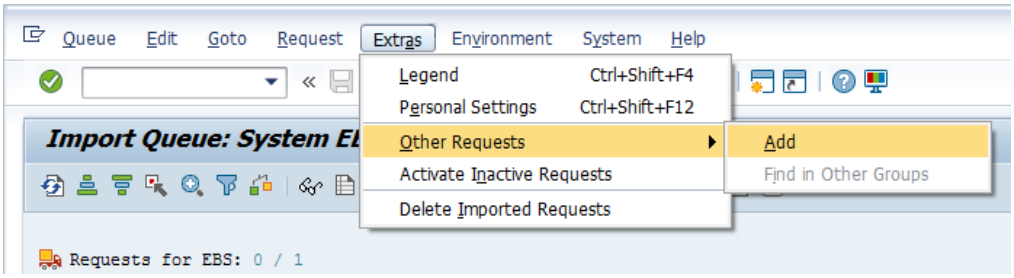
2.6.1. Import Transports

Import transports in the order of dependency.

To install Transports:

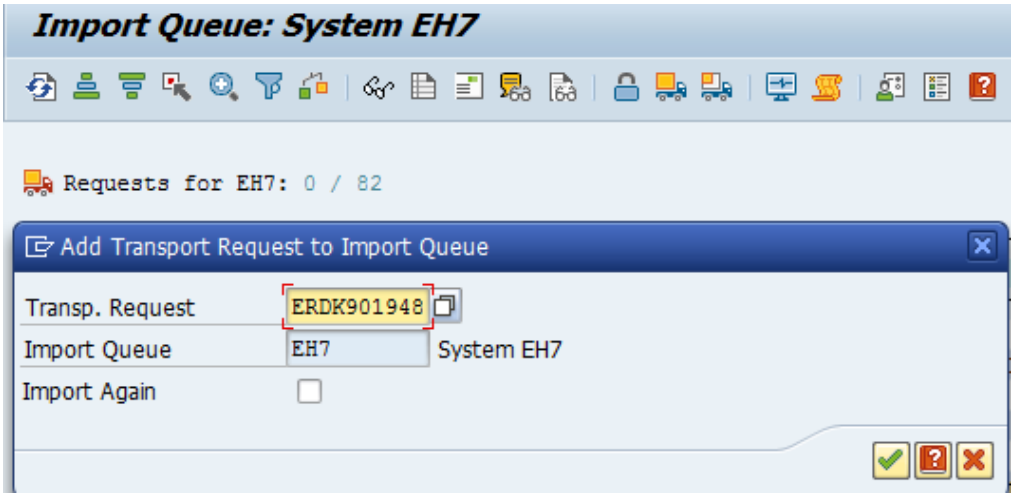
1. Extract the zip or .rar files that you received from Innovapptive representative and save the files to your local machine.
2. Extract and upload/copy the files to the SAP ECC & GW System Directories.
    a. Extract the zip files and copy all co-files (files starting with '**K90***') from software deployment package to the *USR/SAP/TRANS/COFILES* path on SAP ECC & GW system.
    b. Extract the zip files and copy all the data files **R90*** provided in the software deployment package to the specified path on the SAP ECC &GW system *USR/SAP/TRANS/DATA*.
3. Log in to the SAP GW or ECC System (based on the transport being imported).
4. Navigate to the transaction code **STMS_Import**.
5. Navigate to **Extras**, **Other Requests**, **Add**.

Figure 2-25 STMS_Import



6. Enter the transport number in the Transp. Request field and confirm by pressing the **ENTER** key (or click the green-colored icon) to attach transports to the import queue.

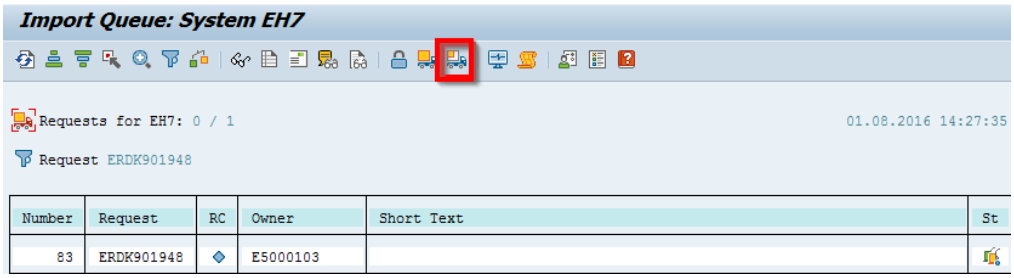
Figure 2-26 Add Transport Request to Queue



7. Click **Yes** to proceed to the next step.

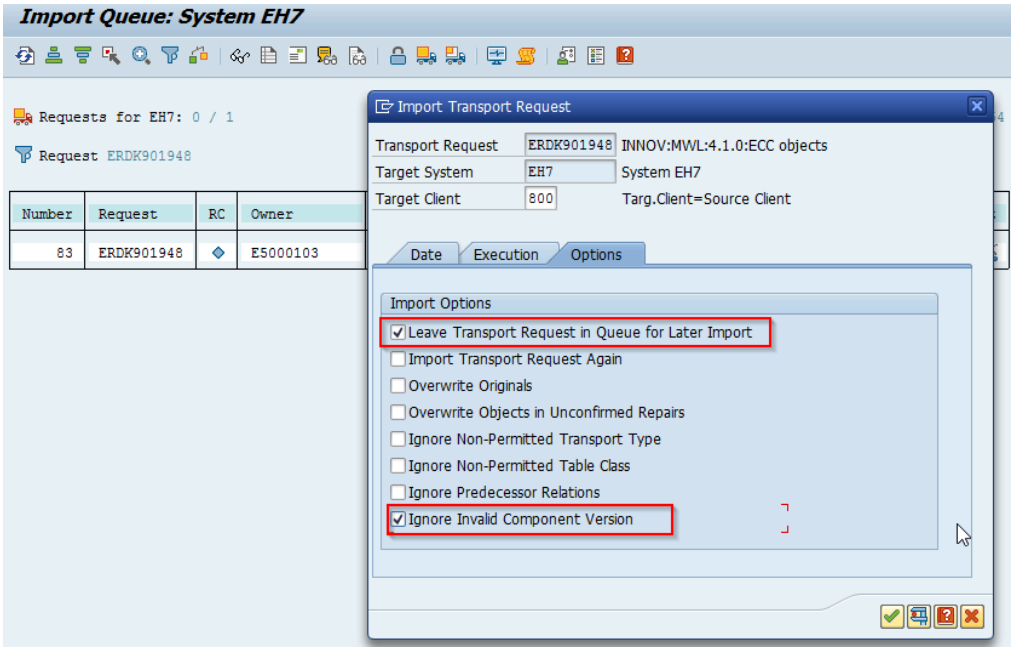
Select the transport request and click the **Transport** icon (highlighted by red in the screenshot).

Figure 2-27 Import Queue



8. Enter the target client number in **Target Client** field.
9. Select **Leave Transport Request in Queue for Later Import** and **Ignore Invalid Component Version**.
10. Click .

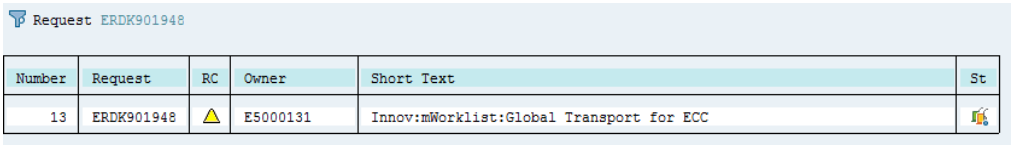
Figure 2-28 Import Transport Options



11. Click **Yes** in the confirmation screen.

12. Capture the screenshots of the imported transports.

Figure 2-29 Imported Transports


Request ERDK901948

Number	Request	RC	Owner	Short Text	St
13	ERDK901948	⚠	E5000131	Innov:mWorklist:Global Transport for ECC	

13. Add all transports in the order specified.

> **Note:**
> If you face any issues/errors while importing the Transports, send the log files with screenshots and details of the error to your **Innovapptive SAP Basis team** contact assigned to your project.

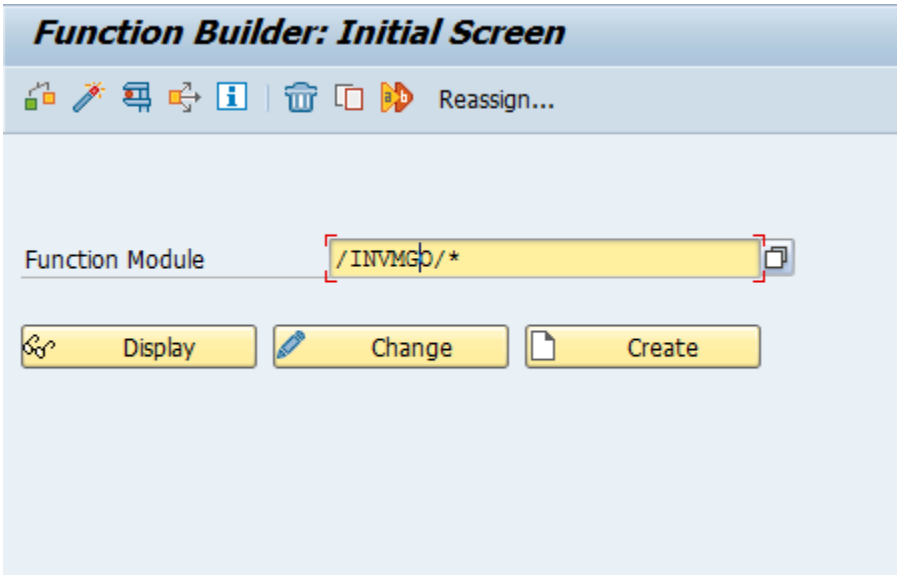
2.6.2. Verify SAP® ECC RACE™ Transport

If you have imported SAP® ECC RACE™ Transport, verify whether it was successful.

To verify the SAP® ECC Transport:

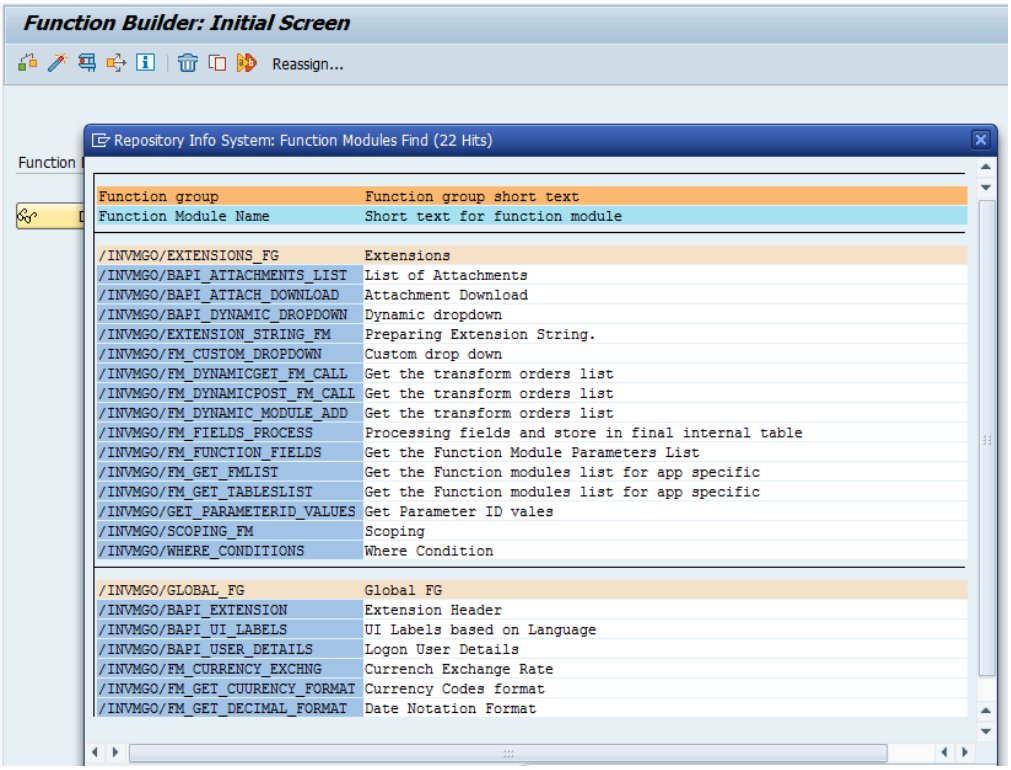
1. Run the transaction code **SE37**.
2. Enter **object type** to search for all objects **/INVMGO/***.

Figure 2-30 Function Builder Initial Screen



3. Press **<F4>** to view the list of classes and capture the screenshot(s).

Figure 2-31 Function Module Classes



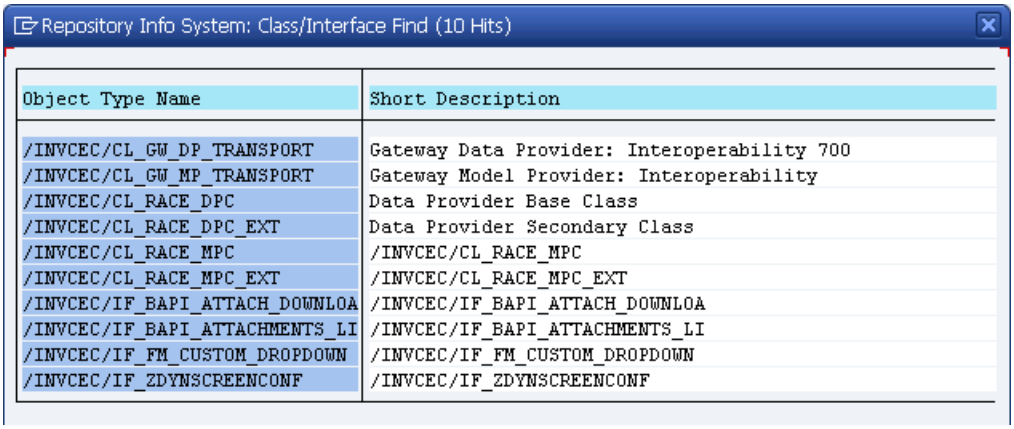
2.6.3. Verify SAP® GW RACE™ Transport

If you have imported SAP® GW RACE™ Transport, verify whether it was successful

To verify the SAP® GW Transport:

1. Navigate to the transaction code **SE24**.
2. Enter **object type** to search for all objects **/INVCEC/***.
3. Press **<F4>** to view the list of classes and capture the screenshot(s) to share the results.

Figure 2-32 Object Classes



2.6.4. Activate RACE™ OData Service

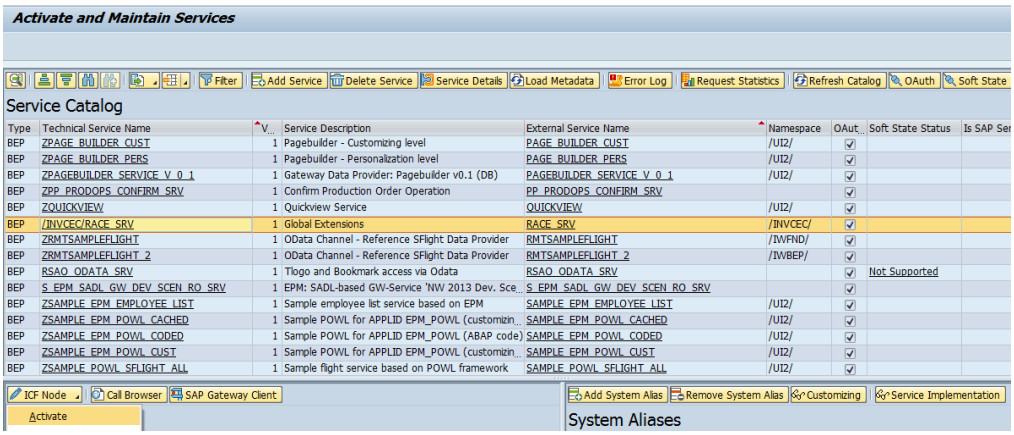
Once add-on and support packs are installed, activate RACE™ OData Service.

To activate the RACE™ OData:

1. Login to Gateway system.
2. Navigate to the transaction **/IWFND/MAINT_SERVICE**.
3. Select the service **/INVCEC/RACE_SRV**.
4. Click **Activate** from the drop-down list of **ICF Node** options.

   A message appears notifying the package selection appears.

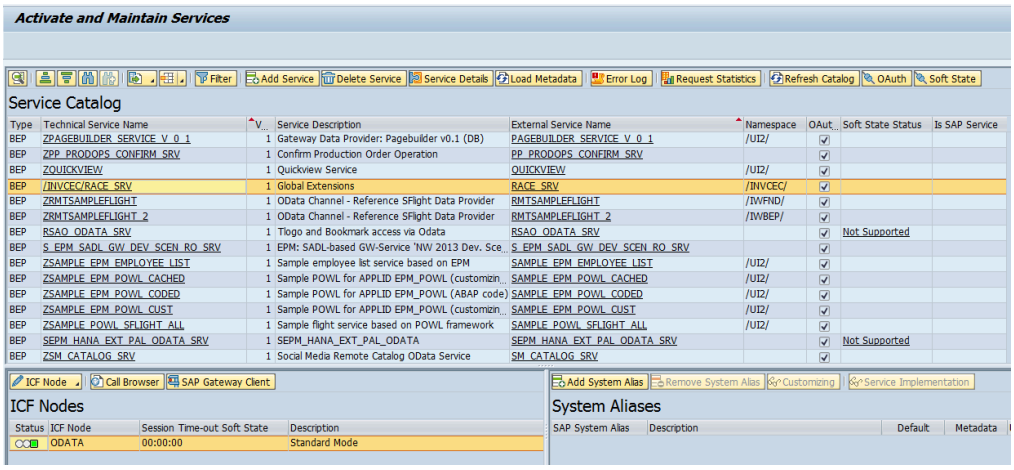
Figure 2-33 Activate and Maintain Services



5. Click the **Local Object** button and continue to activate the service.

   The OData service is activated and the status turns **green**.

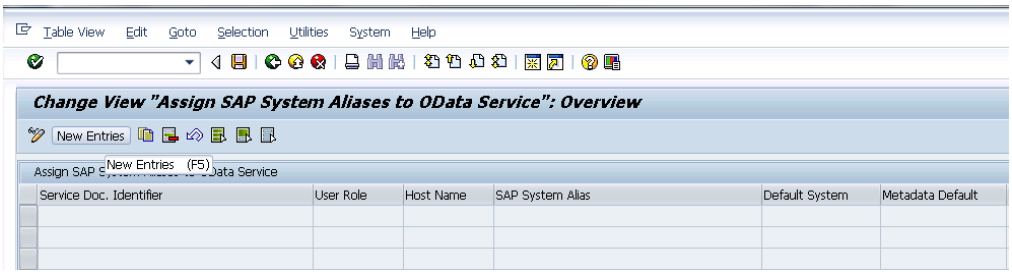
Figure 2-34 Service Status



6. Click **Add System Alias** above **System Aliases** on the right to add the SAP System alias for the selected service.

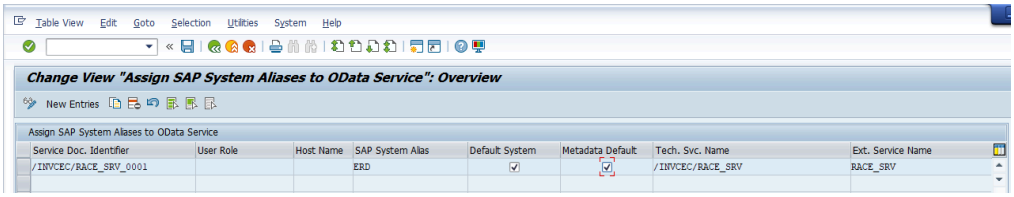
7. Click **New Entries**.

Figure 2-35 New Entries for System Alias



8. Assign the System Alias (ERD in this case) for the service and save changes.

Figure 2-36 Assign SAP System Alias to Service



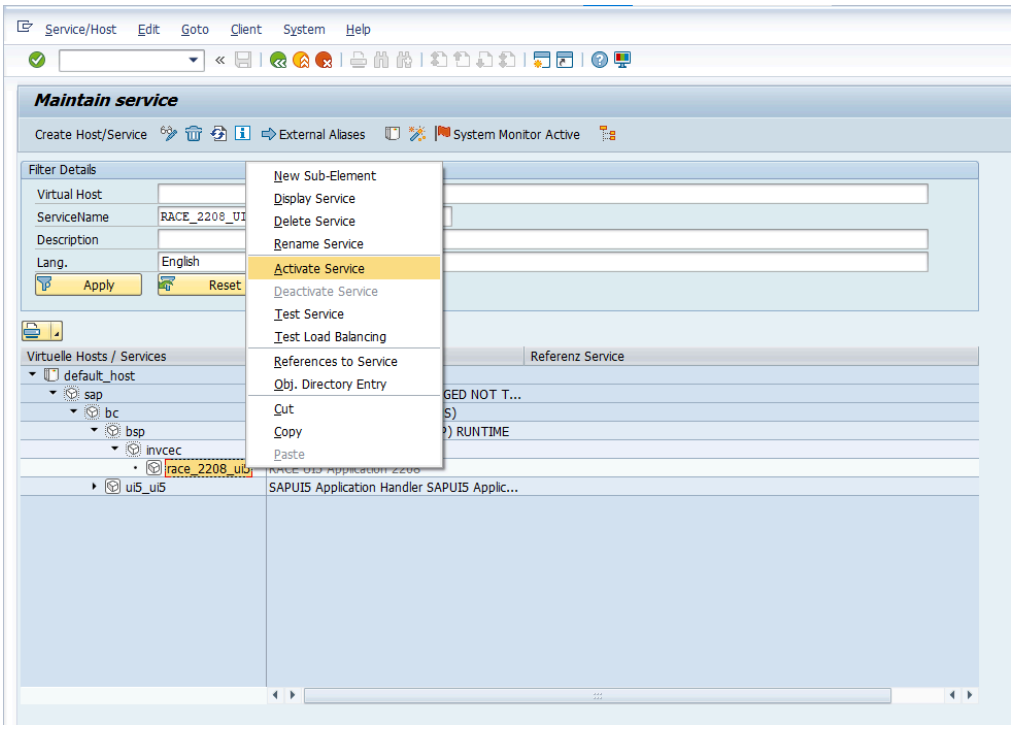
2.6.5. Activate UI5 Service

Activate UI5 Service once you have activated RACE™ OData Service.

To activate UI5 Service:

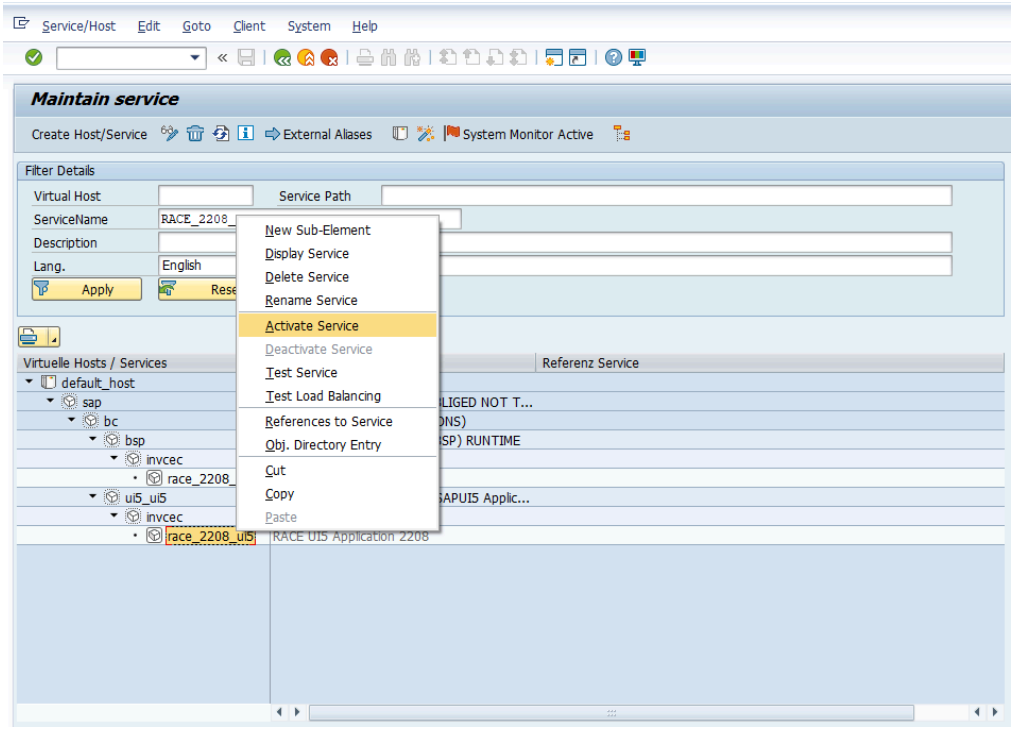
1. Go to the transaction code SICF and navigate to ***/default_host/sap/bc/bsp/invcec/race_2208_ui5***.
2. Right-click **RACE 2208 UI5** and click **Activate Service**.

Figure 2-37 Activate RACE BSP Service



3. Click **Yes**.
4. Go to ***/default_host/sap/bc/ui5_ui5/ invcec/race_2208_ui5***.

Figure 2-38 Activate RACE UI5 service



5. Right-click **RACE 2208 UI5** and click **Activate Service**.
6. Click **Yes**.

   Access the SAPUI5 web application by replacing the **host name, port number** and **client number** in the following template's URLs to match your SAP NetWeaver Gateway instance:

   - http://**<hostname>**:**<port_number>**/sap/bc/ui5_ui5/invcec/race_2208_ui5/index.html?sap-client=**100**
   - http://**<hostname>**:**<port_number>**/sap/bc/ui5_ui5/invcec/race_2208_ui5/index.html?sap-client=**100**&sap-ui-language=EN&sap-ui-appcache=false

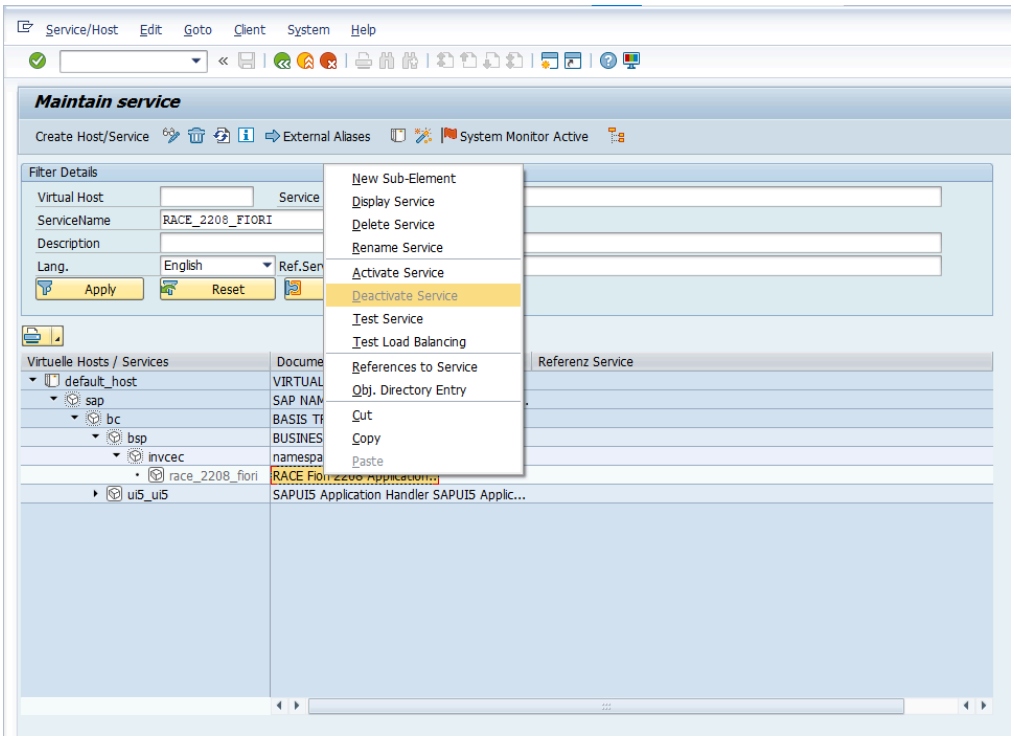
2.6.6. Activate FIORI Service

Activate FIORI service after you have activated UI5 service.

To activate FIORI Service:

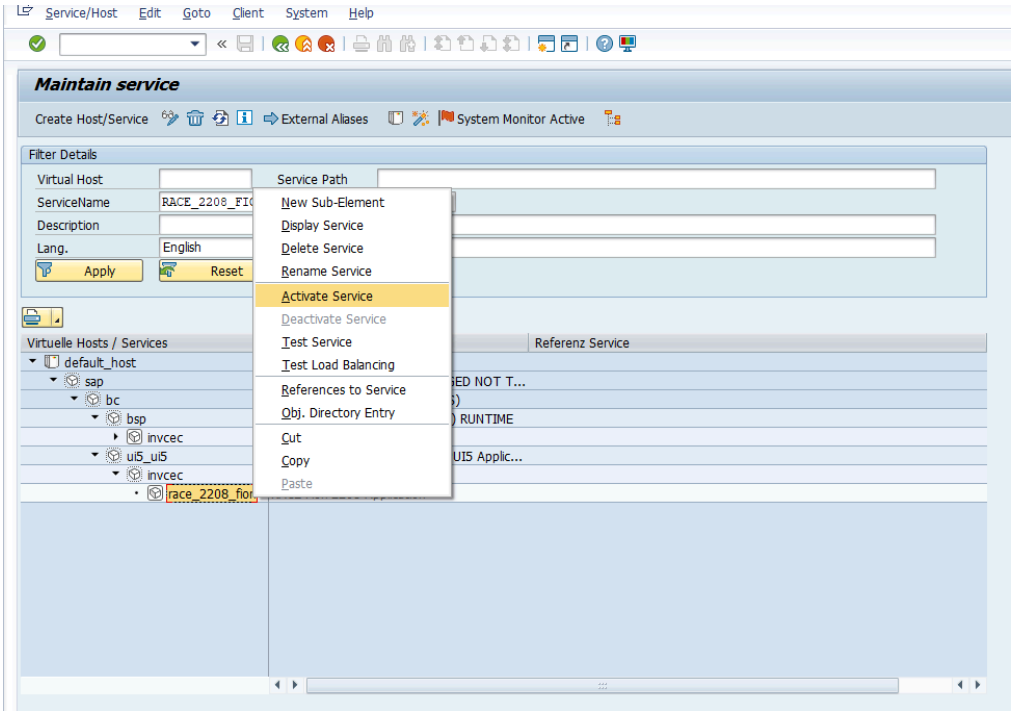
1. Go to the transaction code SICF and navigate to ***/default_host/sap/bc/bsp/invcec/race_2208_fiori***.
2. Right-click **RACE 2208 FIORI** and click **Activate Service**.

Figure 2-39 Activate RACE FIORI Service



3. Click **Yes**.
4. Go to ***/default_host/sap/bc/ui5_ui5/invcec/race_2208_fiori***.

Figure 2-40 Activate RACE FIORI service



5. Right-click **RACE 2208 FIORI** and click **Activate Service**.
6. Click **Yes**.

Access the SAP Fiori web application by transaction code **/N/UI2/FLP**. You are redirected to the below template URLs to match your SAP NetWeaver Gateway instance:

- http://**<hostname>**:**<port_number>**/sap/bc/ui5_ui5/invcec/race_2208_fiori/index.html?sap-client=**100**
- http://**<hostname>**:**<port_number>**/sap/bc/ui5_ui5/invcec/race_2208_fiori/index.html?sap-client=**100**&sap-ui-language=EN&sap-ui-appcache=false.

3. Install mWorkOrder SAP® ECC, Gateway, and UI5

Add-On: All the transports of previous releases and the transports of the current release are packaged into a single add-on for the main release. For example, 2003, 2006 and so on. Install the add-on for the current release that is provided by Innovapptive representative.

Transport: Only the changes for that HotFix are packaged into a transport. You MUST install all the transports till date and must install them in the order they are mentioned. Even a single misplaced installation of transport could result in installation errors.

Note:
Ask your Innovapptive contact for the latest add-ons and support-packs and these components will be provided in a compressed file format, such as .zip, .rar, and sent to you either through email or through FTP.

Table 3-1 MWO ECC Add-On and Support Packages

Type	Add-On	Description	Dependency
Add-On	EWY0090055494_-0000001.PAT	INNOV: MWO:2208 ECC Objects	Install RACE™ Add-On (EWY0090055494_-0000000.PAT) before installing the mWO Add-On (EWY0090055494_-0000001.PAT)

Table 3-2 MWO Gateway Add-On and Support Packages

Type	Add-On	Description	Dependency
Add-On	NWY0090055495_-0000001.PAT	INNOV MWO 2208 Gateway Objects	Install RACE™ Add-On (NWY0090055495_-000000.PAT) be-

Table 3-2 MWO Gateway Add-On and Support Packages (continued)

Type	Add-On	Description	Dependency
			fore installing the mWO Add-On (NWY0090055495_-0000001.PAT)
Support Pack - SP01	NWY0090055495_-0000003.PAT	INNOV MWO 2208 UI5 Application	Install mWO Add-on (NWY0090055495_-0000001.PAT) before importing the support pack SP01
Support Pack - SP02	NWY0090055495_-0000004.PAT	INNOV MWO 2208 FIORI Application	Install mWO Add-on (NWY0090055495_-0000001.PAT) before importing the support pack SP02

For steps to install Add-ons, see Install mWorkOrder SAP® ECC, Gateway and UI5 Add-ons and support packs *(on page 45)*.

3.1. Install mWorkOrder SAP® ECC, Gateway and UI5 Add-ons and support packs

Install the add-ons and support packs at one go using the steps given below. However, if you have already installed add-ons and now you want to install the support packs (hotfixes), follow the procedure detailed in Install mWorkOrder SAP® ECC, Gateway, and UI5 Support packs *(on page 52)*.

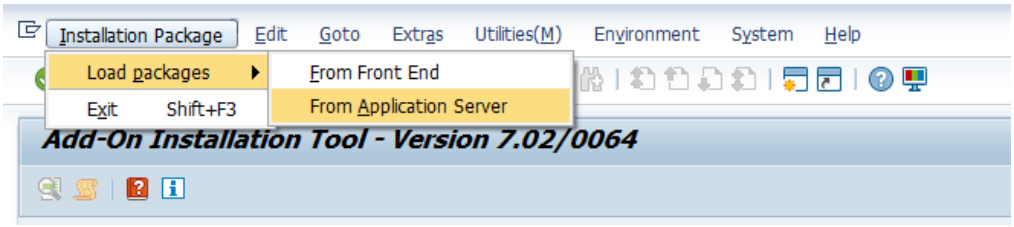
To install mWorkOrder SAP® ECC, Gateway, and UI5 add-ons:

1. Extract the zip or .rar files that you received from Innovapptive representative and save the files to your local machine.
2. Upload/copy the Add-On files and Support Packs from software deployment package to the USR/SAP/TRANS/EPS/in path on SAP ECC & GW systems.

> **Note:**
> Upload all the add-ons and support packs that are mentioned in the tables.

3. Log in to **000** clients of SAP GW / ECC System (based on the Add-On being imported).
4. Navigate to the transaction code **SAINT**.
5. Navigate to **Installation Package**, **Load Packages**, **From Application Server**.

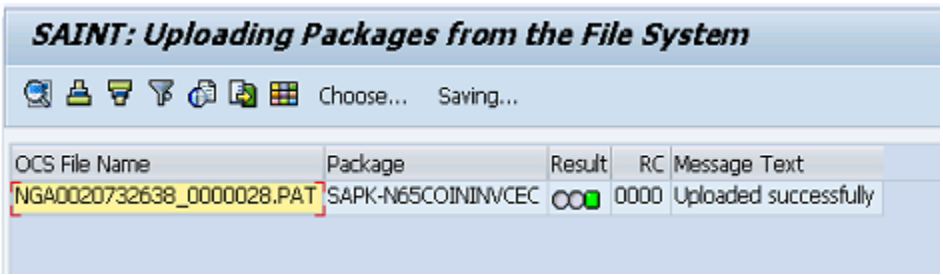
Figure 3-1 SAINT



6. Click **Yes** in the confirmation screen.

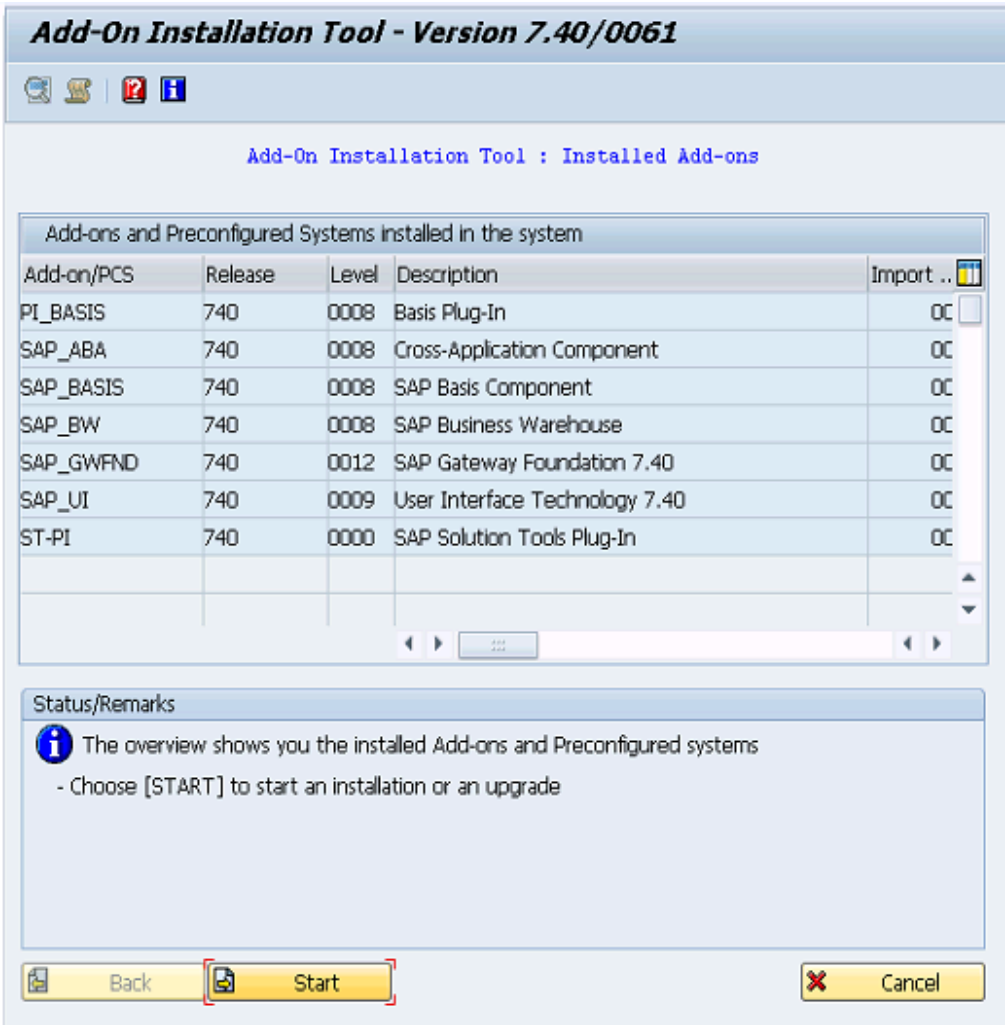
   Packages are loaded in the file system

Figure 3-2 SAINT: Upload Packages



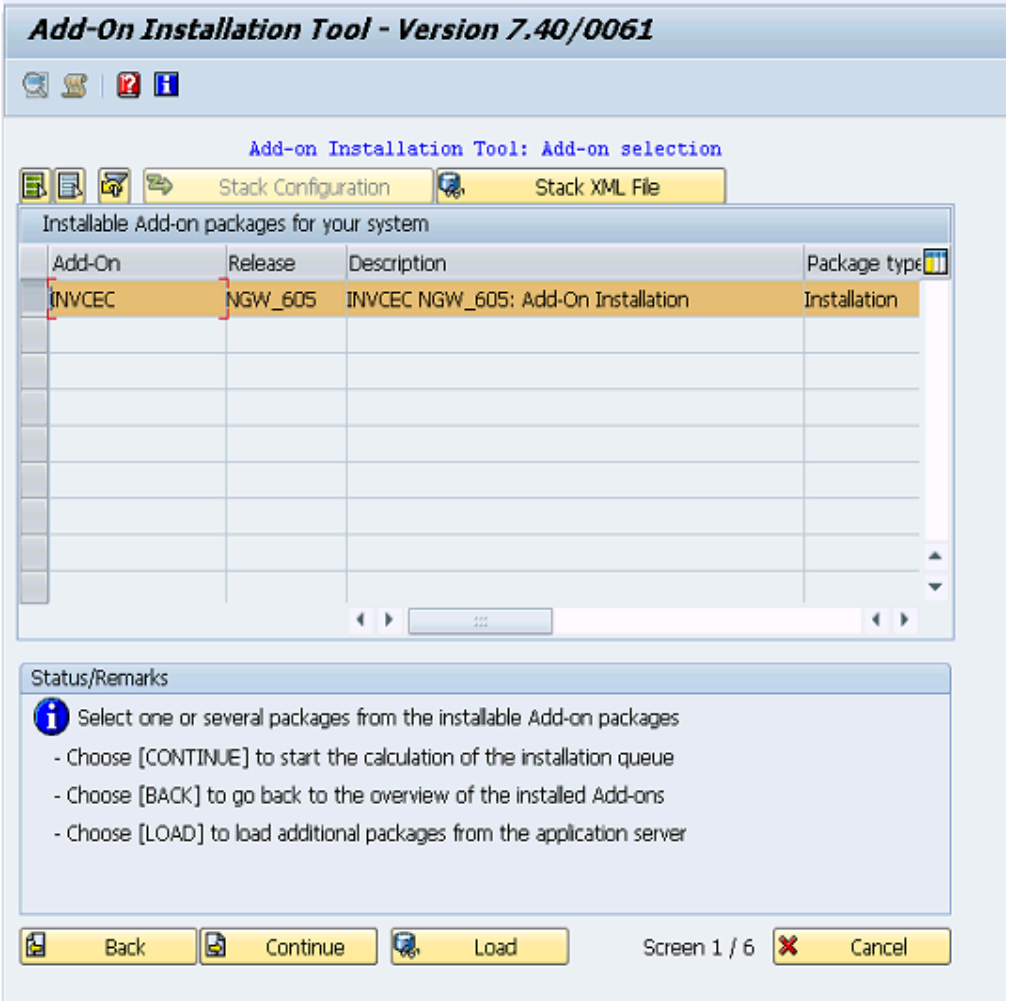
7. Once the packages are loaded, go back to the main screen, and click **Start**.

Figure 3-3 Installed Add-ons



8. Select the Add-On in the next screen and click **Continue**.

Figure 3-4 Select Add-on

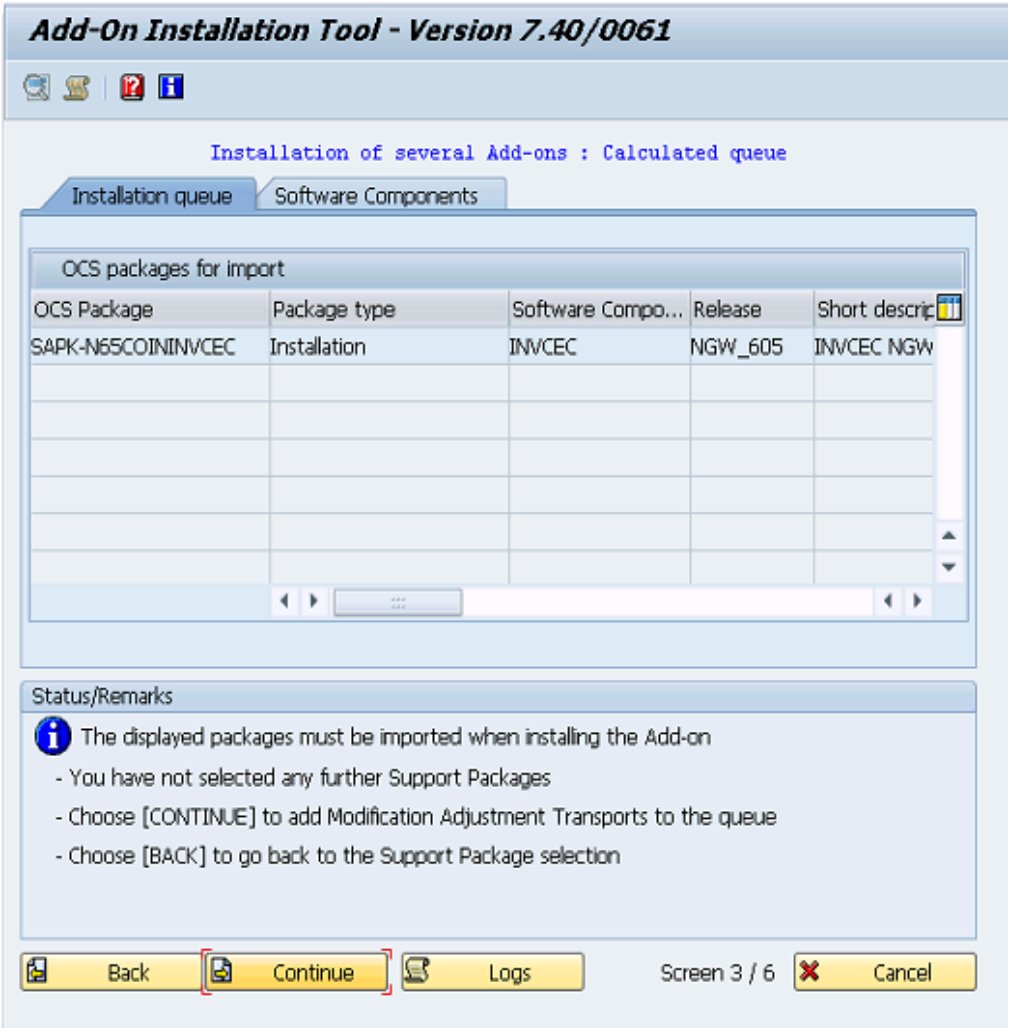


9. Click **Continue** in the next screen.

   The OCS packages that are going to be imported are displayed in the next screen.

10. Click **Continue** to proceed to the next step.

Figure 3-5 Add-on Queue



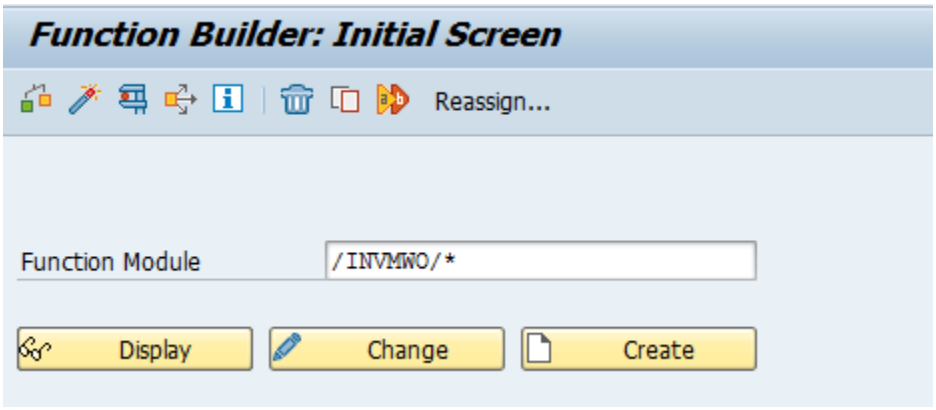
11. Click **No,** when asked to add Modification Adjustment Transports to the queue.
12. Click the **Import** icon.
13. Click **Finish**.

3.1.1. Verify SAP® ECC MWO Add-On

To verify the SAP® ECC MWO add-on:

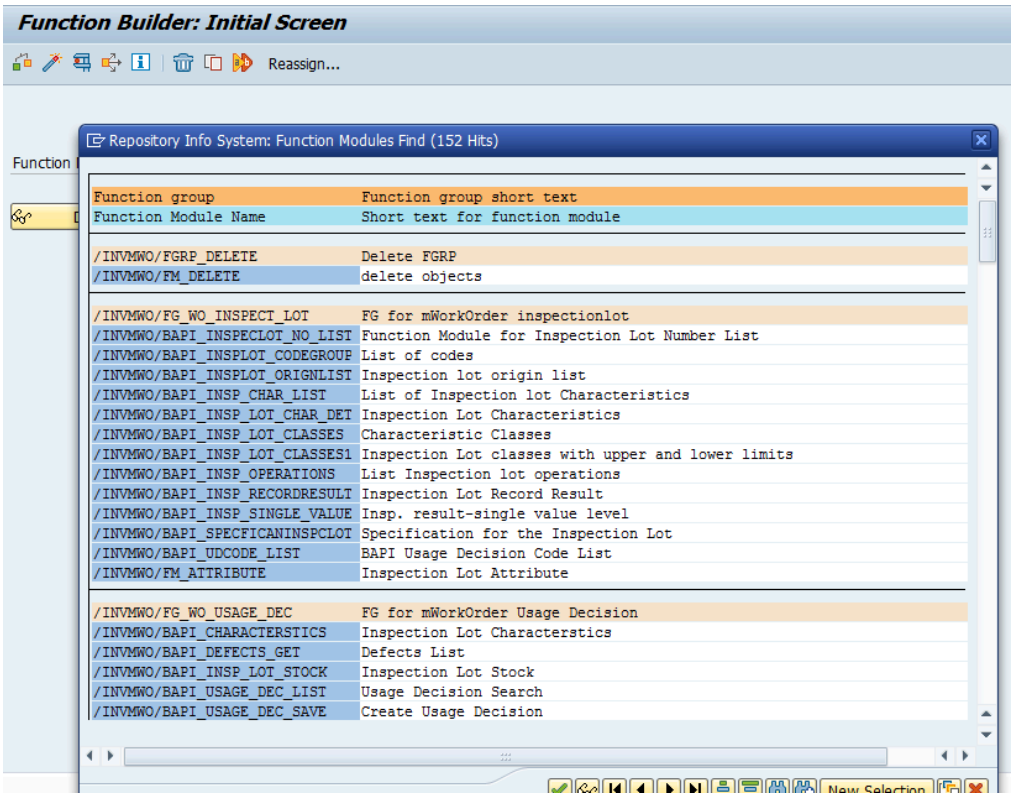
1. Run the transaction code **SE37**.
2. Enter the program name as **/INVMWO/*** in the **Function Module** field.

Figure 3-6 Function Builder Initial Screen



3. Press **<F4>** to view the list of functional modules and capture the screenshot(s) to share the results.

Figure 3-7 Function Modules

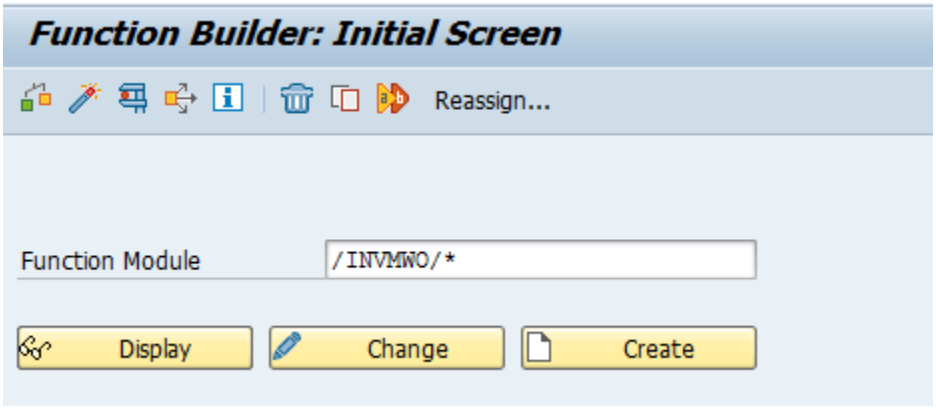


3.1.2. Verify SAP® GW MWO Add-On

To verify the SAP® GW MWO add-On:

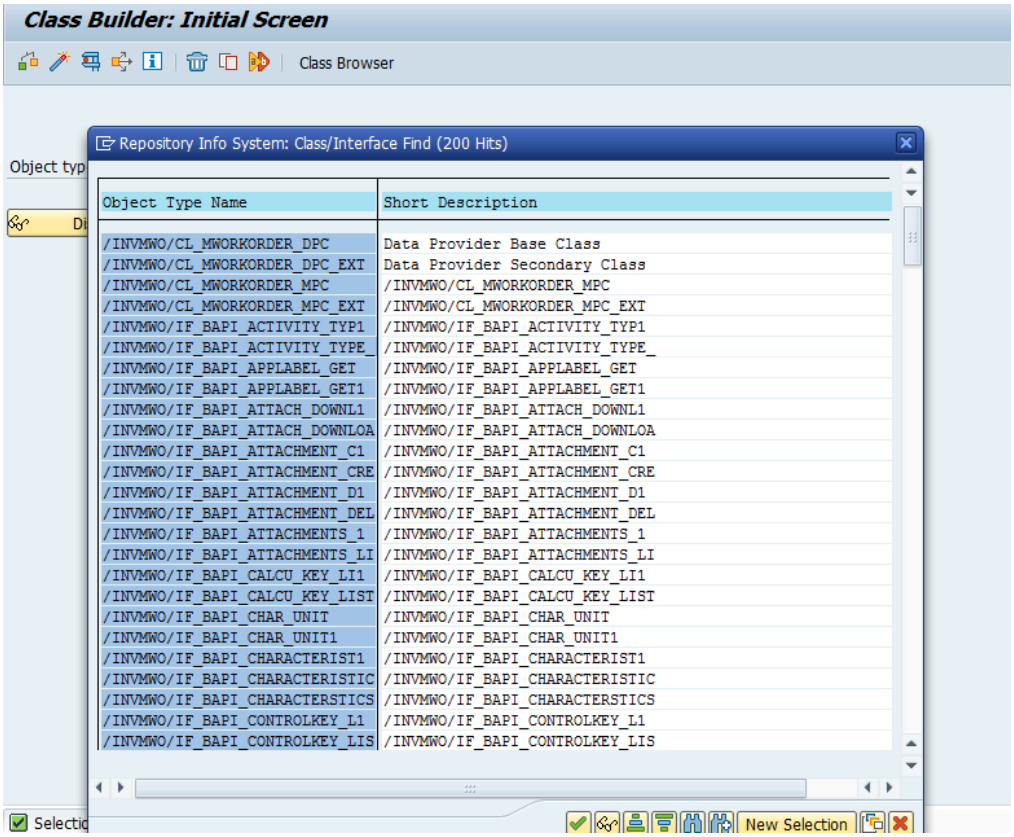
1. Navigate to the transaction code **SE24**.
2. Enter **object type** to search for all objects **/INVMWO/***.

Figure 3-8 Function Builder Initial Screen



3. Press **<F4>** to view the list of classes and capture the screenshot(s) to share the results.

Figure 3-9 Object Classes



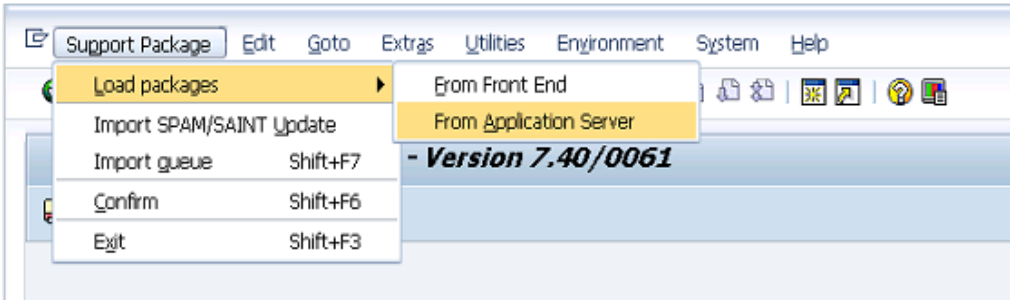
3.2. Install mWorkOrder SAP® ECC, Gateway, and UI5 Support packs

If you have installed the add-ons and are installing only the support pack (hotfixes), follow the steps described below.

To install the mWorkOrder SAP® ECC, Gateway and UI5 support pack:

1. Log in to **000** client of SAP GW & ECC System (based on the support pack being imported).
2. Navigate to the transaction code **SPAM**.
3. Navigate to **Support Package**, **Load Packages**, **From Application Server**.

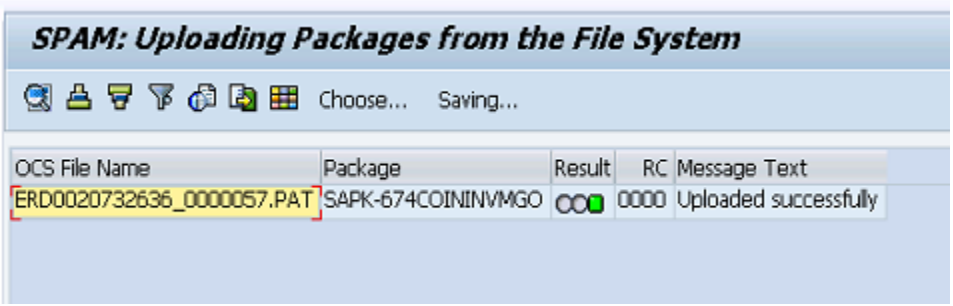
Figure 3-10 SAINT



4. Click **Yes** in the confirmation screen.

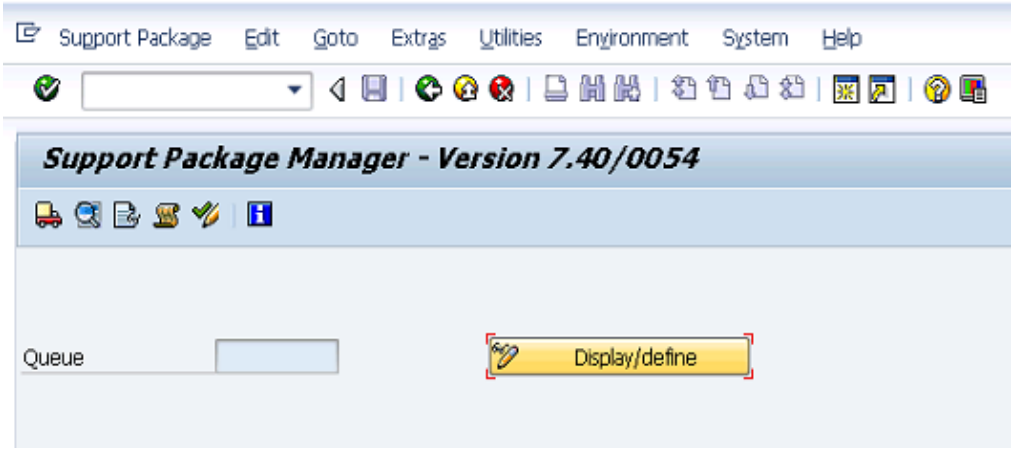
   Packages are loaded in the file system

Figure 3-11 SAINT: Upload Packages



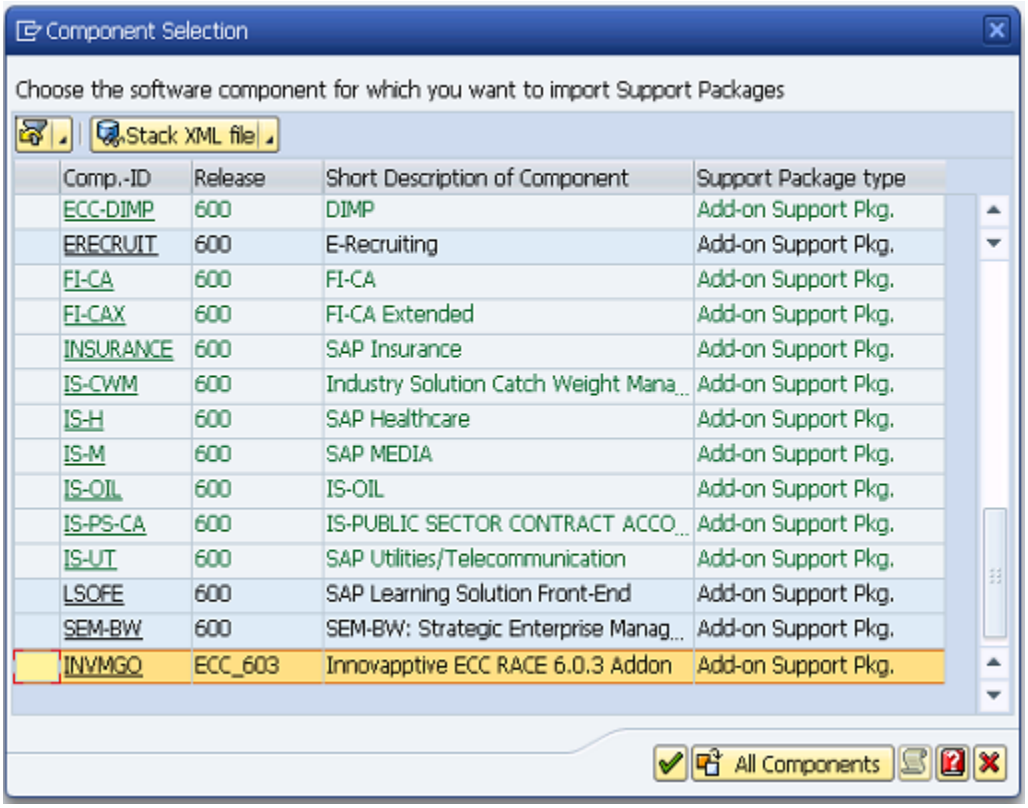
5. Once the packages are loaded, go back to the main screen, and click **Display/define**.

Figure 3-12 Support Package Manager



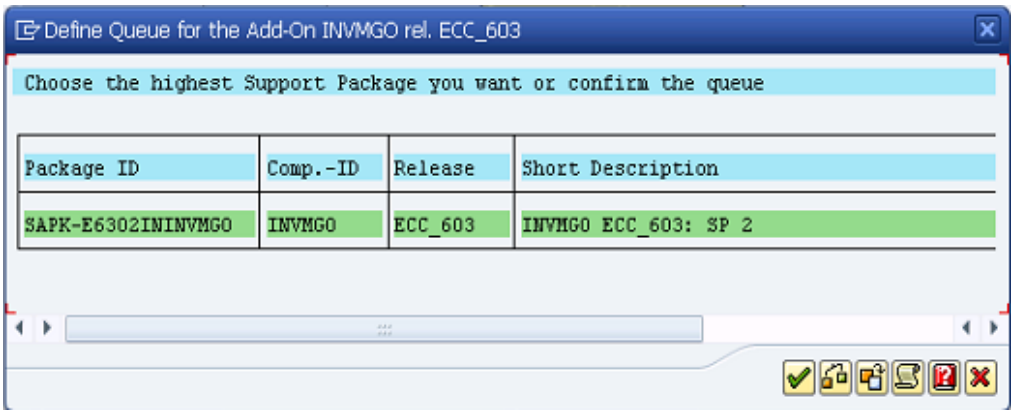
6. Choose the software component for which you want to import Support Packages and click .

Figure 3-13 Component Selection



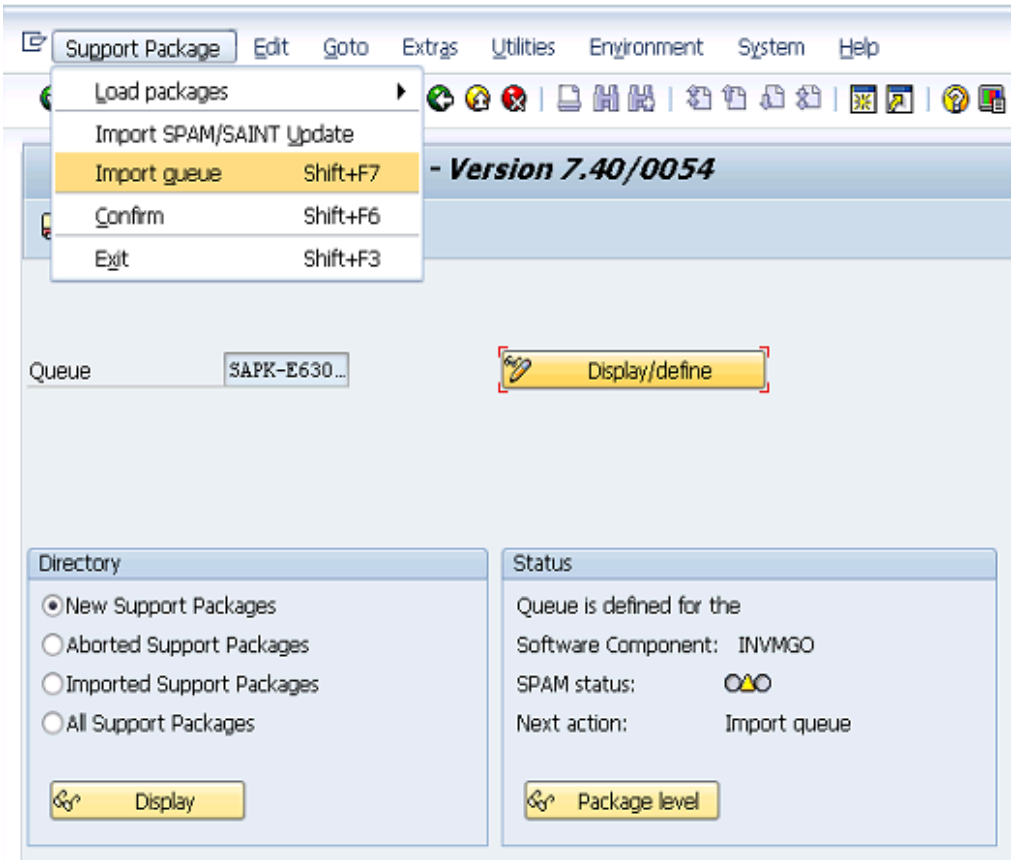
7. If all the conditions are met, and you get the package (**green**) click .

Figure 3-14 Confirm Queue



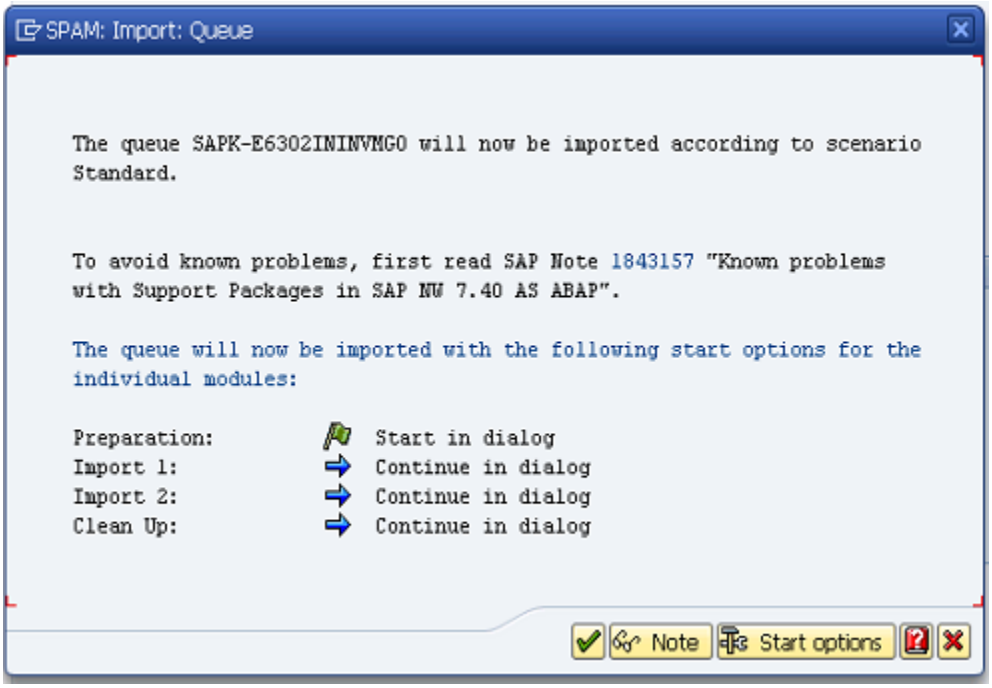
8. Click **No**, when asked to add Modification Adjustment Transports to the queue.
9. Go to **Support package** in the menu bar and click **Import Queue**.

Figure 3-15 Import Queue



10. Click to start the import process.

Figure 3-16 Import Queue Confirm



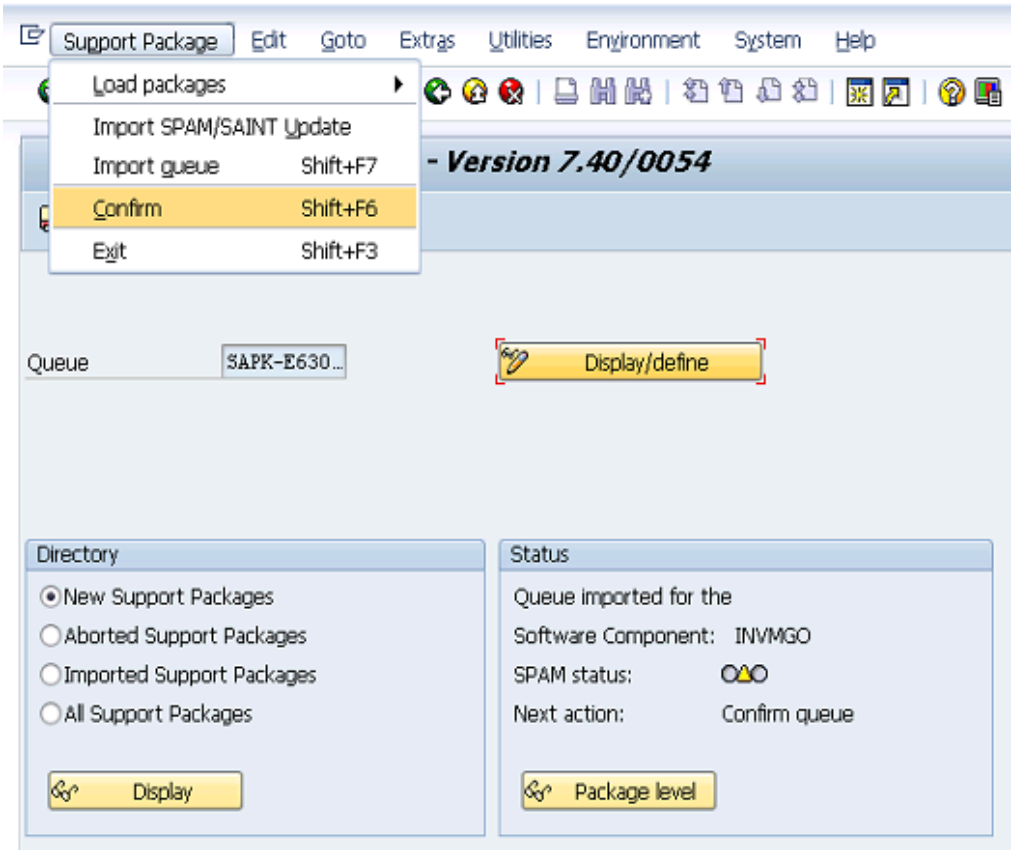
11. Once the package is imported, a confirmation screen appears. Click in the screen.

12. Go to **Support Package** in the menu bar and click **Confirm**.

    A confirmation message appears.

> **Note:**
> If you face any issues/errors while installing the Add-On/Support pack, send log files with screenshots and details of the error to your **Innovapptive SAP Basis team** contact assigned to your project.

Figure 3-17 Confirm Support Package



3.3. Activate mWorkOrder OData Service

Once add-on and support packs / transports are installed, activate OData services like Work Order, Equipment, Functional Location & Attachments in the SAP NetWeaver Gateway system.

To activate OData services for mWorkOrder:

1. Run transaction **/IWFND/MAINT_SERVICE**.
2. Select the service:

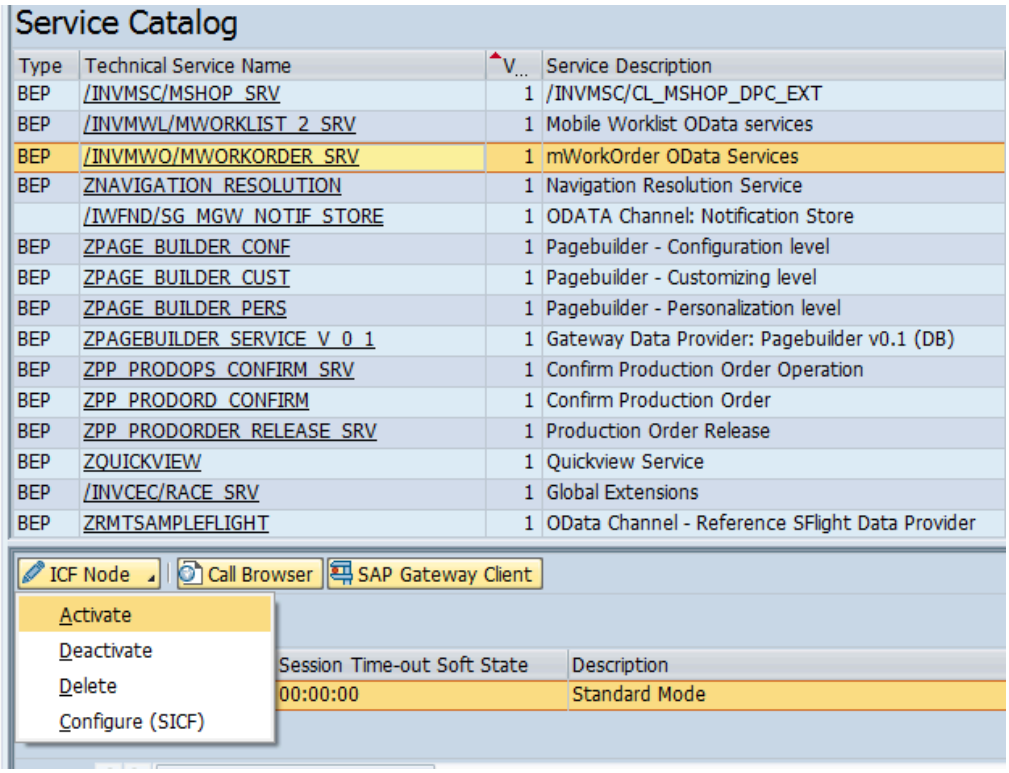
Table 3-3 oData Services

Service	Technical Service Name
Work Order	/INVMWO/MWORKORDER_SRV
Equipment	/INVMWO/MWOEQUIPMENT_SRV
Functional Location	/INVMWO/MWOFUNLOCATION_SRV
Attachments	/INVMWO/MWOATTACHMENTS_SRV
mWorkOrder Operator Round	/INVMWO/MWOOPERATORROUND_SRV

3. Click **Activate** from the drop-down list of **ICF Node** options.

   A message appears notifying the package selection.

Figure 3-18 Activate and Maintain Services



4. Click the **Local Object** button and continue to activate the service.

The OData service is activated and the status turns **green**.

5. Click **Add System Alias** above **System Aliases** on the right to add the SAP System alias for the selected service.
6. Click **New Entries**.
7. Assign the System Alias for the service and save changes.

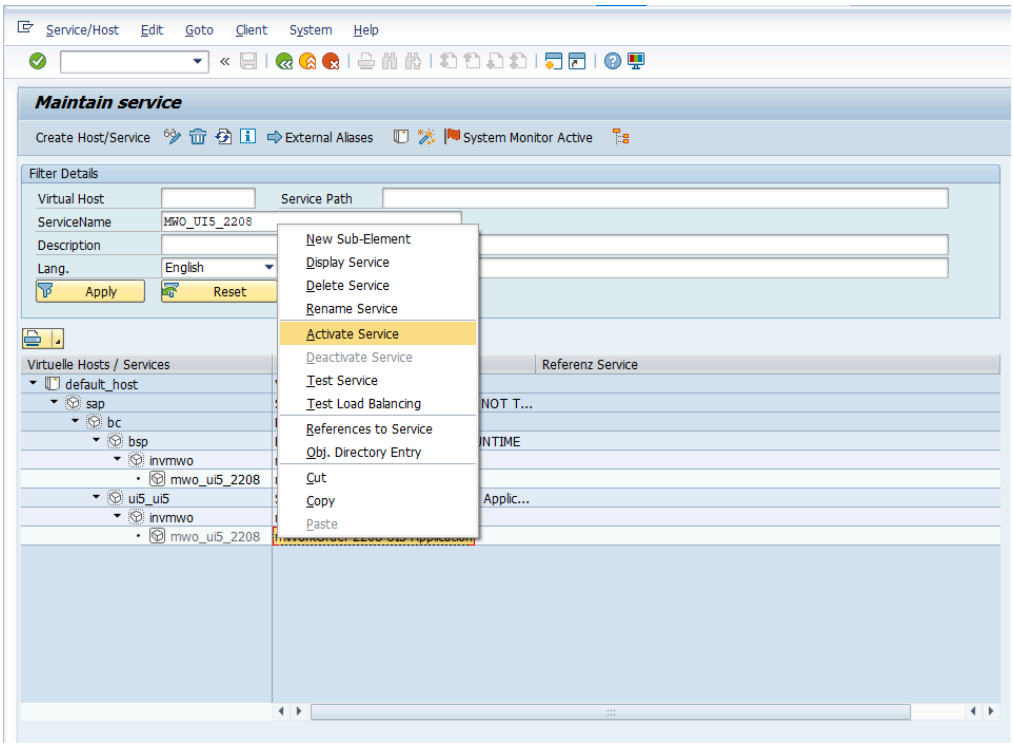
3.4. Activate Gateway UI5 Service

Activate gateway UI5 service, once mWorkOrder OData services are activated.

To activate Gateway UI5 Service:

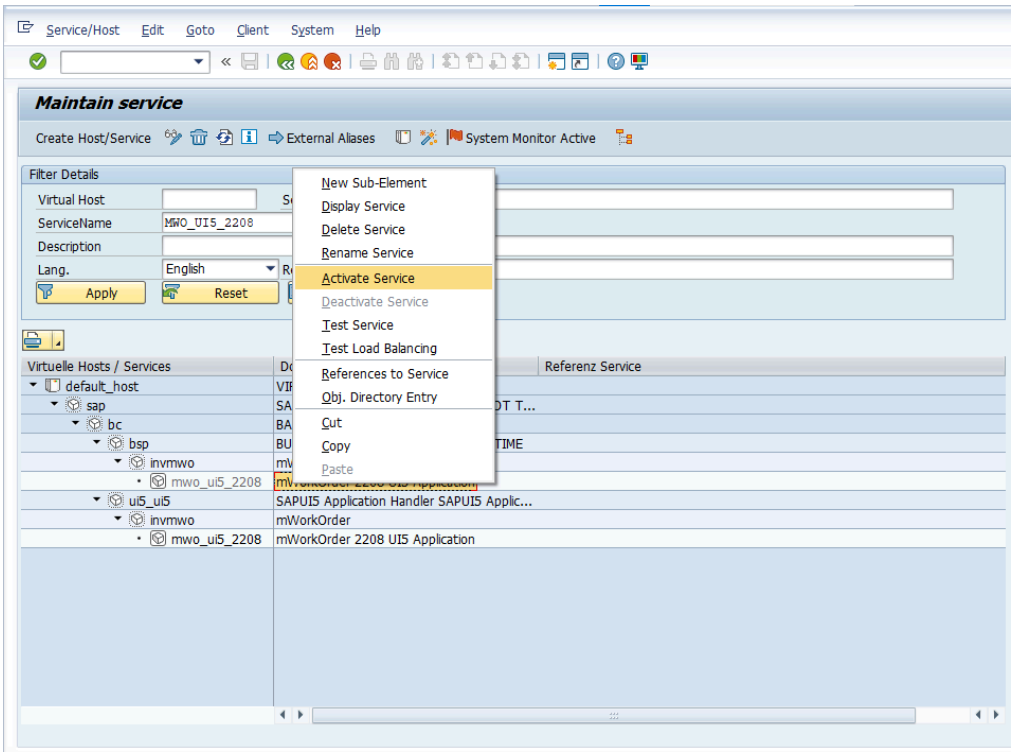
1. Go to transaction code SICF and search for the service **MWO_UI5_2208**.
2. Right-click the **mWorkOrder 2208 UI5** service under ***default_host > sap > bc > ui5_ui5 > invmwo > mwo_ui5_2208*** and click **Activate Service**.

Figure 3-19 Activate MWO UI5 Service



3. Right-click the **mWorkOrder 2208 UI5** service under ***default_host > sap > bc > bsp > invmo > mwo_ui5_2208*** and click **Activate Service**.

Figure 3-20 Activate MWO UI5 Service



4. Click **Yes**.

   Access the SAPUI5 web application by replacing the **host name**, **port number** and **client number** in the following template URLs to match your SAP NetWeaver Gateway instance:

   - http://**<hostname>**:**<port_number>**/sap/bc/ui5_ui5/invmwo/mwo_ui5_2208/index.html?sap-client=**100**.
   - http://**<hostname>**:**<port_number>**/sap/bc/ui5_ui5/invmwo/mwo_ui5_2208/index.html?sap-client=**100**&sap-ui-language=EN&sap-ui-appcache=false

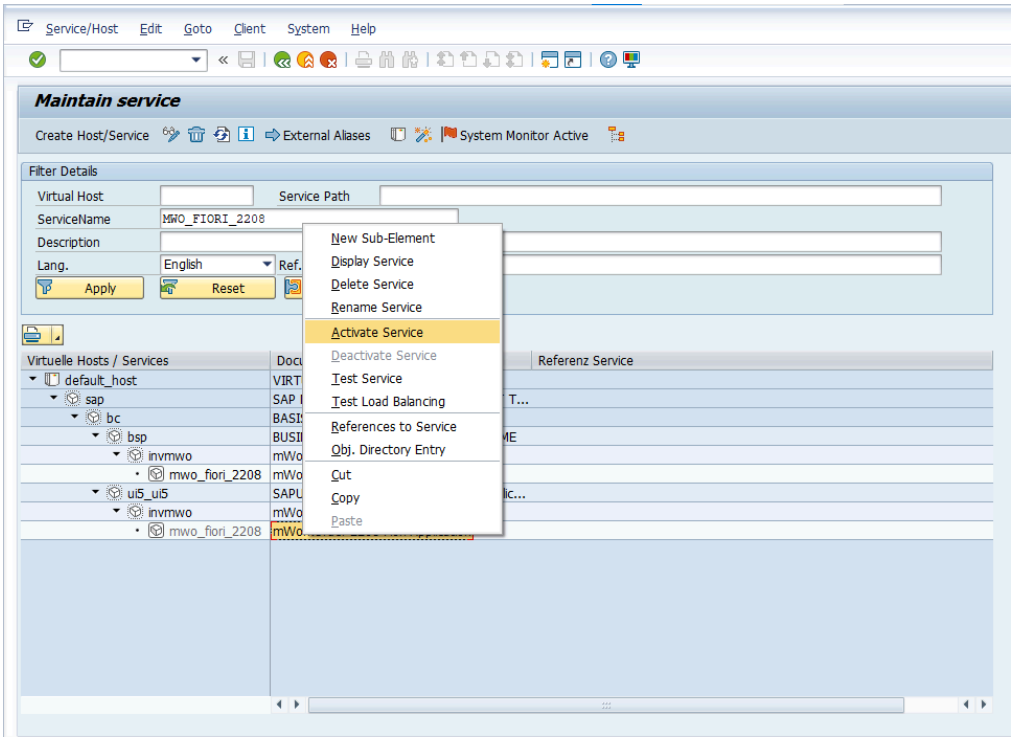
3.5. Activate Gateway FIORI Service

Activate gateway FIORI service, once gateway UI5 service is activated.

To activate the Gateway FIORI Service:

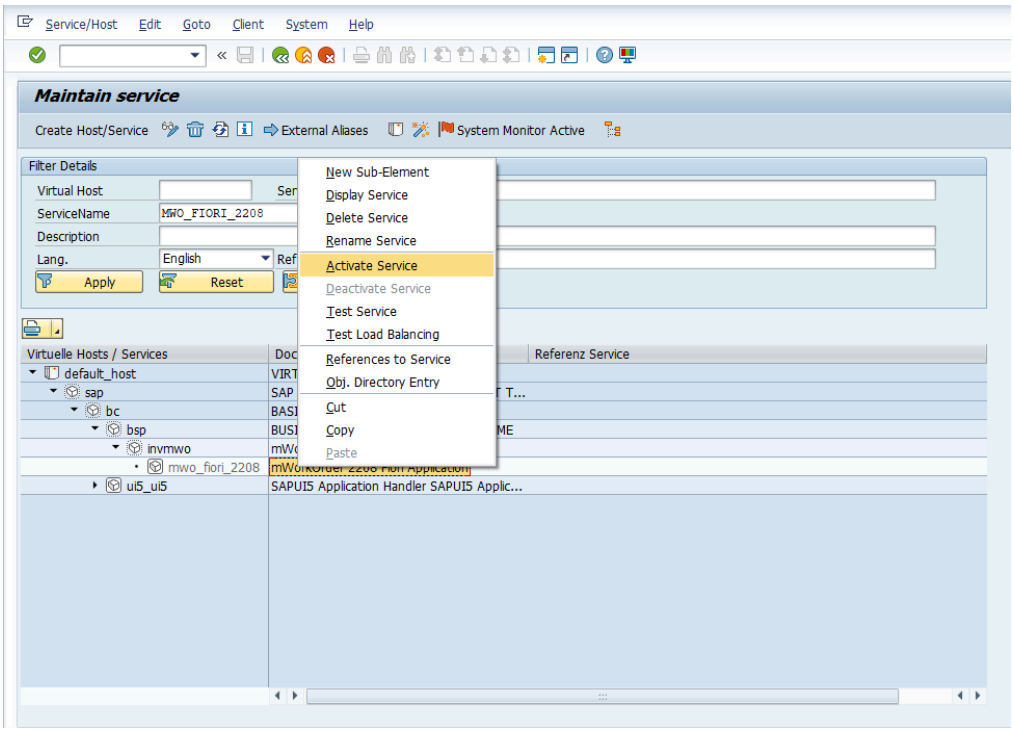
1. Go to transaction code SICF and search for the service **MWO_FIORI_2208**.
2. Right-click the **mWorkOrder 2208 FIORI** service under ***default_host > sap >bc > ui5_ui5 > invmwo > mwo_fiori_2208*** and click **Activate Service**.

Figure 3-21 Activate MWO FIORI Service



3. Right-click the **mWorkOrder 2208 FIORI** service under ***default_host > sap > bc > bsp > invmwo > mwo_fiori_2208*** and click **Activate Service**.

Figure 3-22 Activate MWO FIORI Service



4. Click **Yes**.

   Access the SAPUI5 web application by replacing the **host name**, **port number** and **client number** in the following template URLs to match your SAP NetWeaver Gateway instance:

   - http://**<hostname>**:**<port_number>**/sap/bc/ui5_ui5/invmwo/mwo_fiori_2208/index.html?sap-client=**100**.
   - http://**<hostname>**:**<port_number>**/sap/bc/ui5_ui5/invmwo/mwo_fiori_2208/index.html?sap-client=**100**&sap-ui-language=EN&sap-ui-appcache=false.

3.6. Import mWorkOrder SAP® ECC, Gateway and UI5 Transports

Innovapptive recommends installing Add-ons instead of importing Transports for a smooth installation experience. However, if you prefer to import Transports, import them in the order listed in the table.

Note:
Ask your Innovapptive contact for the latest transports and these components will be provided in a compressed file format, such as .zip, .rar, and sent to you either through email or through FTP.

Table 3-4 MWO SAP® ECC Transports

Transport	Description	Dependency
ERDK912337	Innov MWO 2208 ECC Objects	Import ERDK912318 before importing ERDK912337

Table 3-5 MWO SAP® Gateway Transports

Transport	Description	Dependency
NGTK909741	Innov MWO 2208 Gateway Objects	Import NG5K903276 before importing NGTK909741

Table 3-6 MWO UI5 Application Transports

Transport	Description	Dependency
NGTK909743	Innov MWO 2208 UI5 Application	Import TR Number NGTK909741 before importing NGTK909743
NGTK909746	Innov MWO 2208 FIORI Application	Import TR Number: NGTK909741 before importing NGTK909746
NGTK909688	Innov mWO 2208 Fiori launchpad Configuration	Import TR Number NGTK909746 before importing NGTK909688

For steps to import Transports, see Import Transports *(on page 32)*.

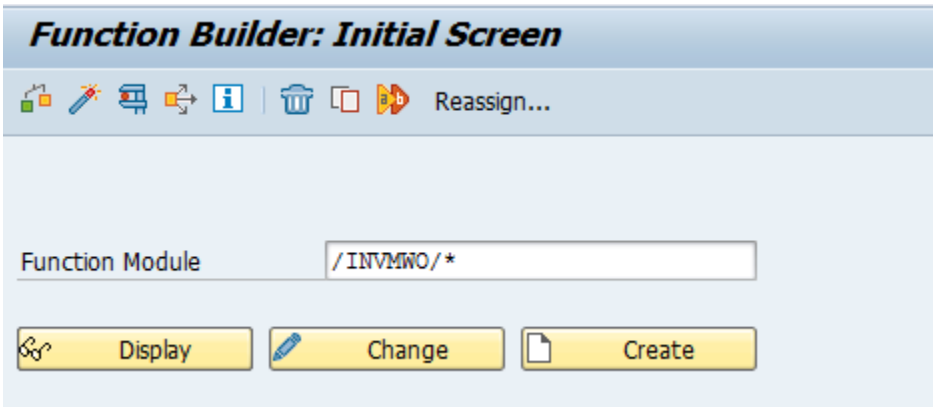
3.6.1. Verify SAP® ECC MWO Transport

If you have imported SAP® ECC MWO Transport, verify whether it was successful.

To verify the SAP® ECC Transport:

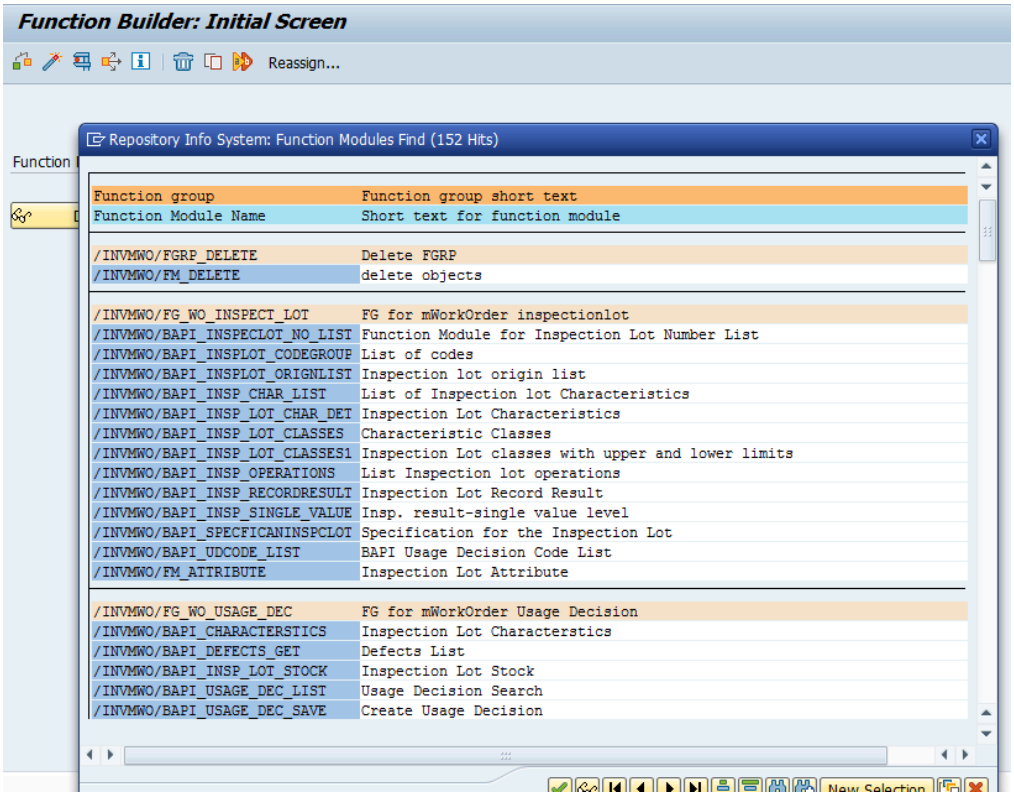
1. Run the transaction code **SE37**.
2. Enter the program name as **/INVMWO/*** in the **Function Module** field.

Figure 3-23 Function Builder Initial Screen



3. Press **<F4>** to view the list of functional modules and capture the screenshot(s).

Figure 3-24 Function Module Classes



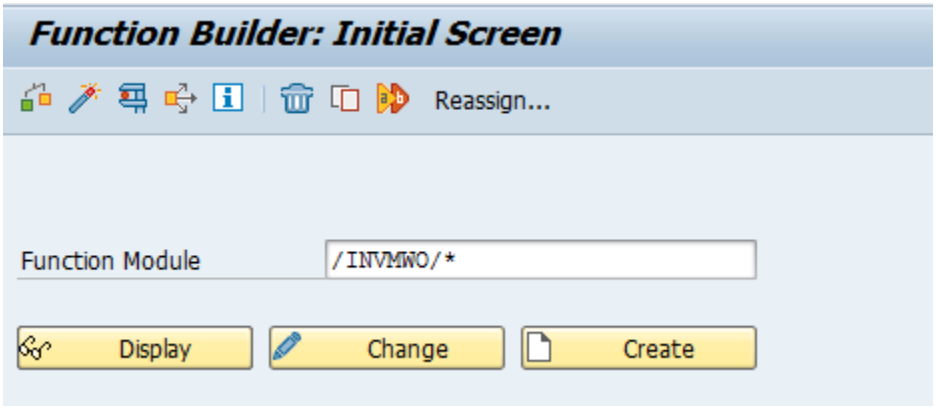
3.6.2. Verify SAP® GW MWO Transport

If you have imported SAP® GW MWO Transport, verify whether it was successful.

To verify the SAP® GW Transport:

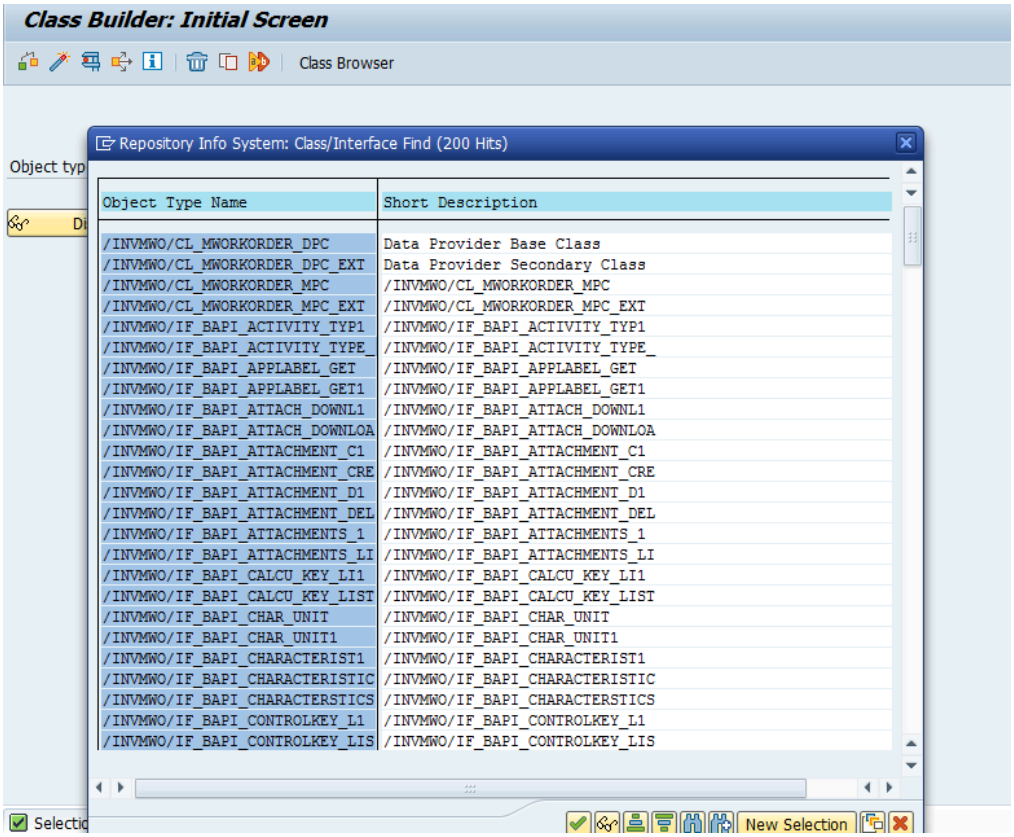
1. Navigate to the transaction code **SE24**.
2. Enter **object type** to search for all objects **/INVMWO/***.

Figure 3-25 Function Builder Initial Screen



3. Press **<F4>** to view the list of classes and capture the screenshot(s) to share the results.

Figure 3-26 Object Classes



3.6.3. Activate mWorkOrder OData Service

Once add-on and support packs / transports are installed, activate OData services like Work Order, Equipment, Functional Location & Attachments in the SAP NetWeaver Gateway system.

To activate OData services for mWorkOrder:

1. Run transaction **/IWFND/MAINT_SERVICE**.
2. Select the service:

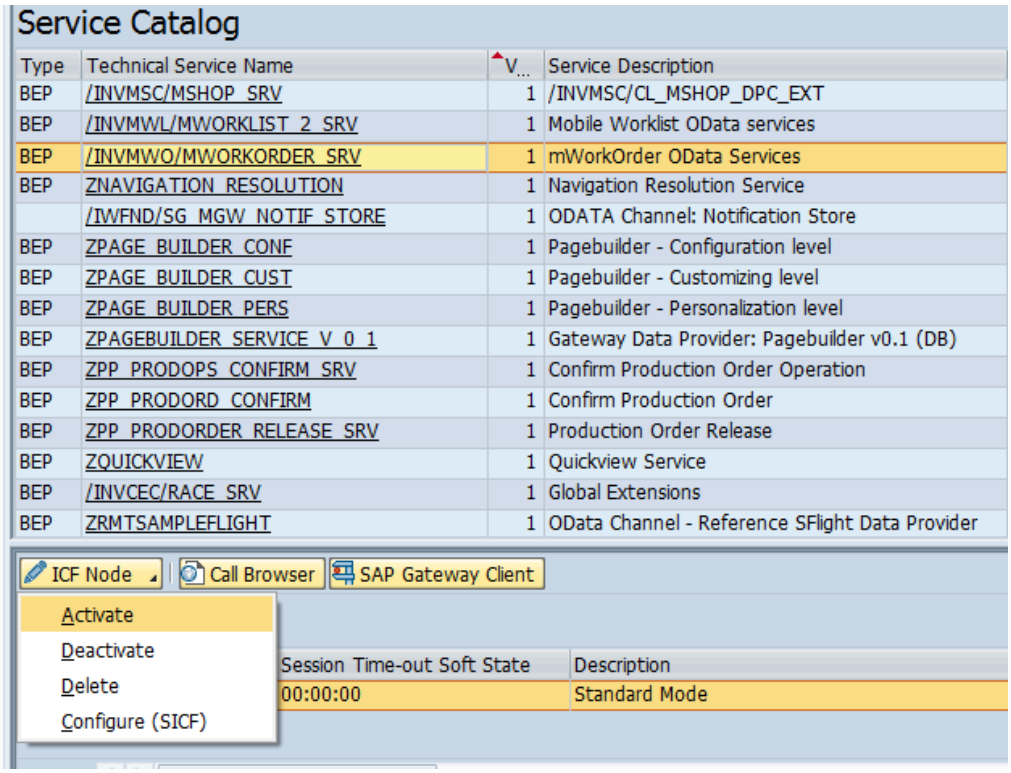
Table 3-7 oData Services

Service	Technical Service Name
Work Order	/INVMWO/MWORKORDER_SRV
Equipment	/INVMWO/MWOEQUIPMENT_SRV
Functional Location	/INVMWO/MWOFUNLOCATION_SRV
Attachments	/INVMWO/MWOATTACHMENTS_SRV
mWorkOrder Operator Round	/INVMWO/MWOOPERATORROUND_SRV

3. Click **Activate** from the drop-down list of **ICF Node** options.

   A message appears notifying the package selection.

Figure 3-27 Activate and Maintain Services



4. Click the **Local Object** button and continue to activate the service.

   The OData service is activated and the status turns **green**.
5. Click **Add System Alias** above **System Aliases** on the right to add the SAP System alias for the selected service.
6. Click **New Entries**.
7. Assign the System Alias for the service and save changes.

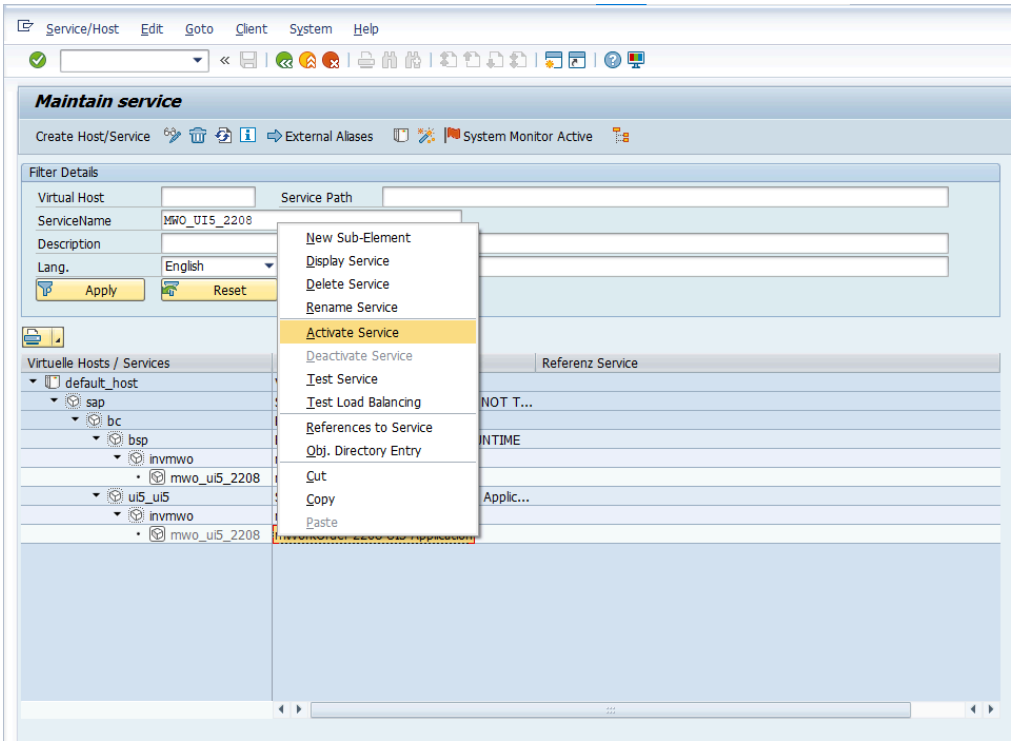
3.6.4. Activate Gateway UI5 Service

Activate gateway UI5 service, once mWorkOrder OData services are activated.

To activate Gateway UI5 Service:

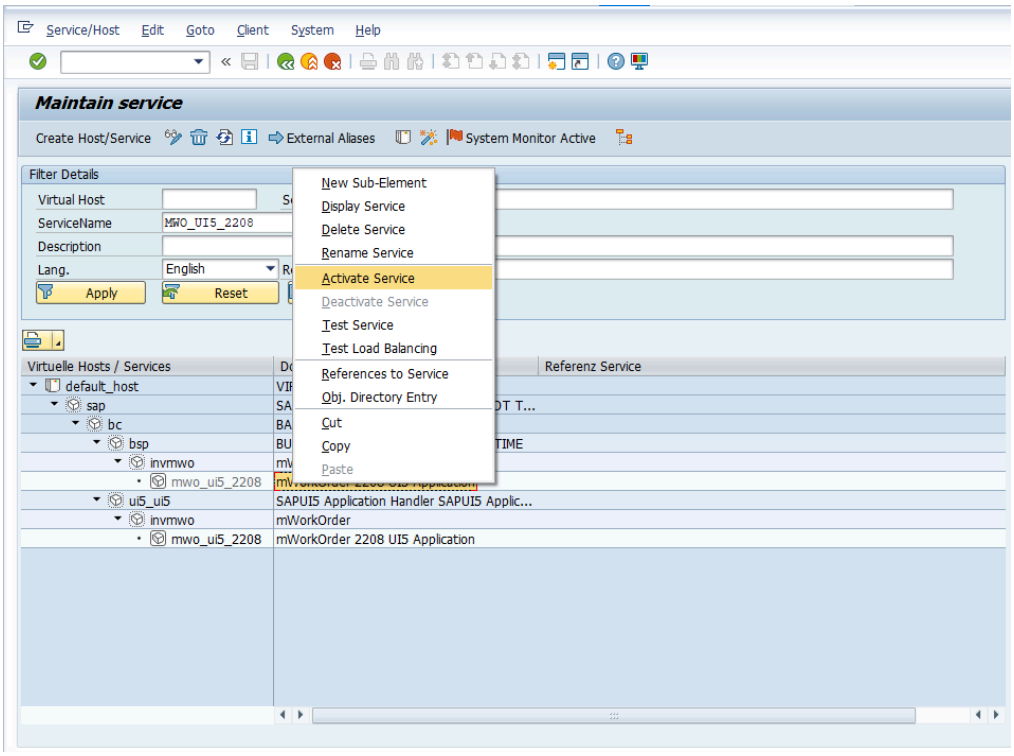
1. Go to transaction code SICF and search for the service **MWO_UI5_2208**.
2. Right-click the **mWorkOrder 2208 UI5** service under ***default_host > sap > bc > ui5_ui5 > invmwo > mwo_ui5_2208*** and click **Activate Service**.

Figure 3-28 Activate MWO UI5 Service



3. Right-click the **mWorkOrder 2208 UI5** service under ***default_host > sap > bc > bsp > invmo > mwo_ui5_2208*** and click **Activate Service**.

Figure 3-29 Activate MWO UI5 Service



4. Click **Yes**.

   Access the SAPUI5 web application by replacing the **host name**, **port number** and **client number** in the following template URLs to match your SAP NetWeaver Gateway instance:

   - http://**<hostname>**:**<port_number>**/sap/bc/ui5_ui5/invmwo/mwo_ui5_2208/index.html?sap-client=**100**.
   - http://**<hostname>**:**<port_number>**/sap/bc/ui5_ui5/invmwo/mwo_ui5_2208/index.html?sap-client=**100**&sap-ui-language=EN&sap-ui-appcache=false

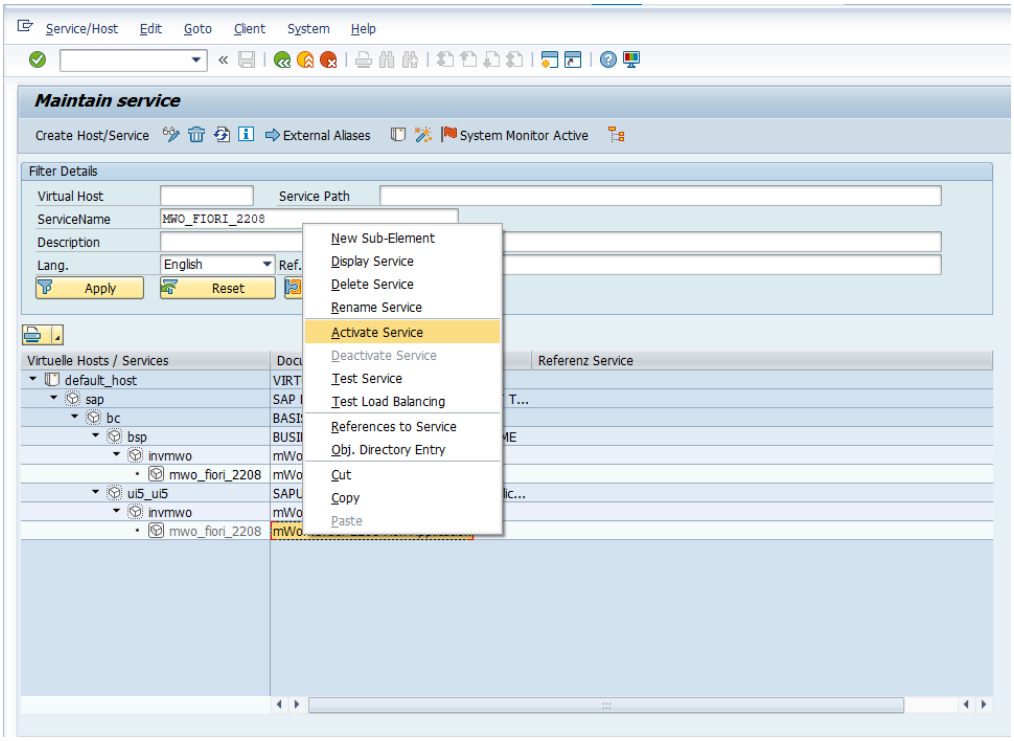
3.6.5. Activate Gateway FIORI Service

Activate gateway FIORI service, once gateway UI5 service is activated.

To activate the Gateway FIORI Service:

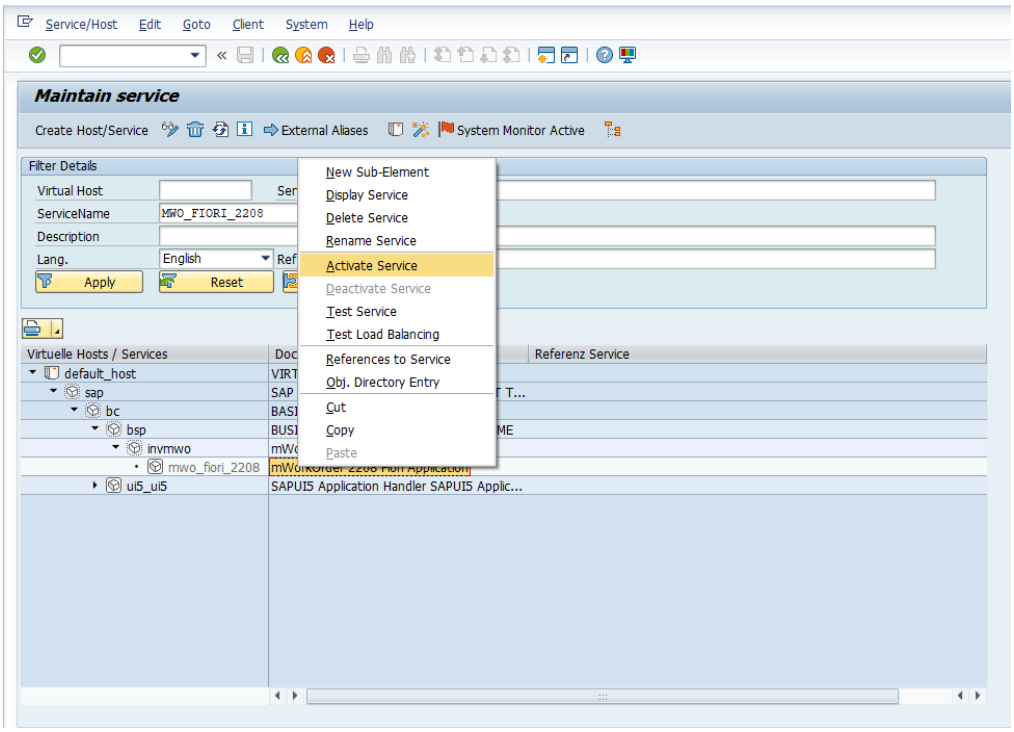
1. Go to transaction code SICF and search for the service **MWO_FIORI_2208**.
2. Right-click the **mWorkOrder 2208 FIORI** service under ***default_host > sap >bc > ui5_ui5 > invmwo > mwo_fiori_2208*** and click **Activate Service**.

Figure 3-30 Activate MWO FIORI Service



3. Right-click the **mWorkOrder 2208 FIORI** service under ***default_host > sap > bc > bsp > invmwo > mwo_fiori_2208*** and click **Activate Service**.

Figure 3-31 Activate MWO FIORI Service



4. Click **Yes**.

   Access the SAPUI5 web application by replacing the **host name**, **port number** and **client number** in the following template URLs to match your SAP NetWeaver Gateway instance:

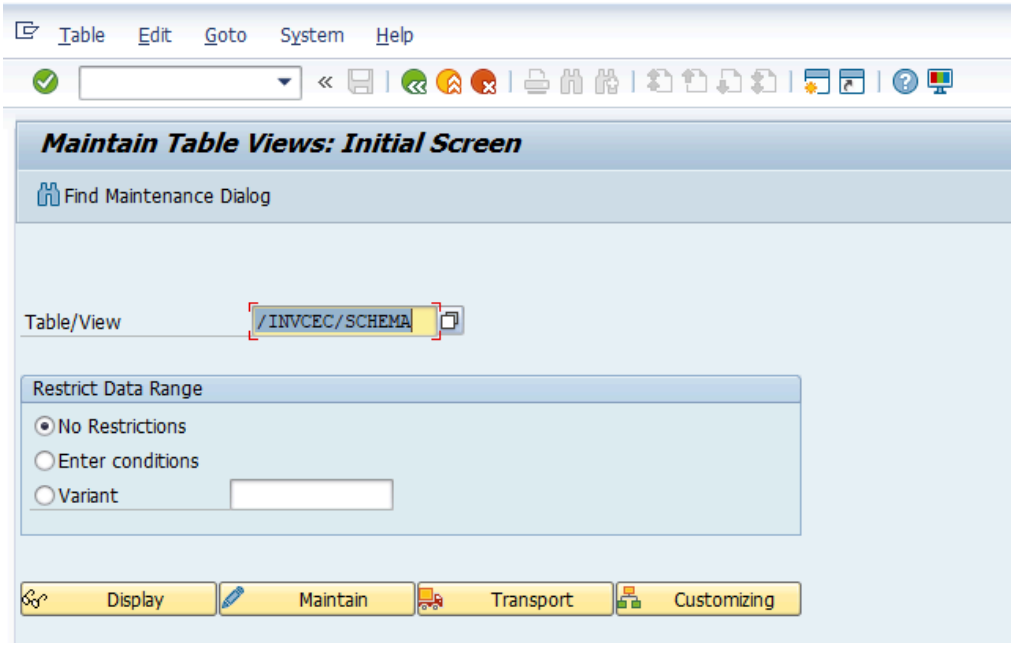
   - http://**<hostname>**:**<port_number>**/sap/bc/ui5_ui5/invmwo/mwo_fiori_2208/index.html?sap-client=**100**.
   - http://**<hostname>**:**<port_number>**/sap/bc/ui5_ui5/invmwo/mwo_fiori_2208/index.html?sap-client=**100**&sap-ui-language=EN&sap-ui-appcache=false.

4. Check Schema Change Indicator

After importing support packs into the systems, perform the following steps to check the Schema Change Indicator.

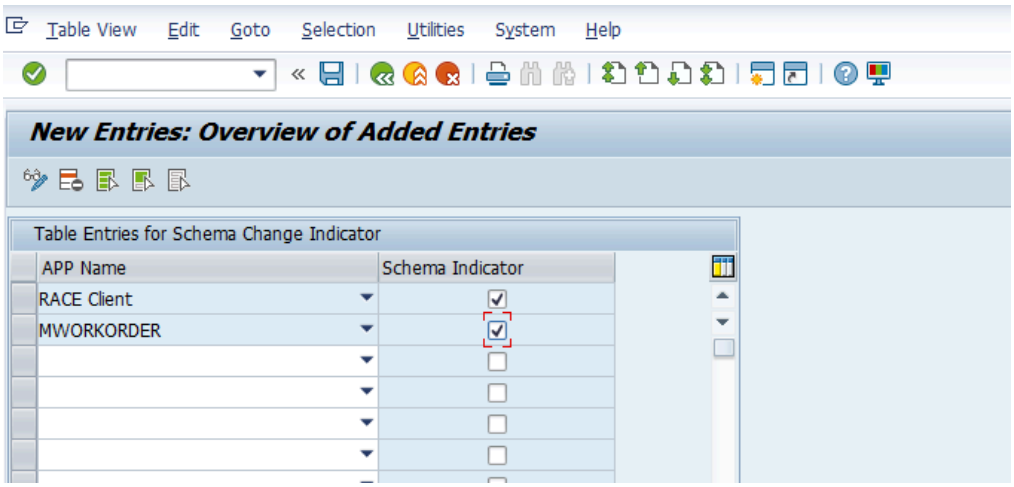
1. Login to SAP Gateway system.
2. Go to **tcode – SM30**.

Figure 4-1 SM30



3. Click **Maintain**.
4. Click **New Entries**.

Figure 4-2 Table Entries for Schema Change Indicator



5. Select RACE™ Client and mWorkOrder from App Name drop-down and select **Schema Indicator** checkbox.
6. Save the changes in Transport Request to move the changes to Quality and Production environment.

Table 4-1 Schema Details

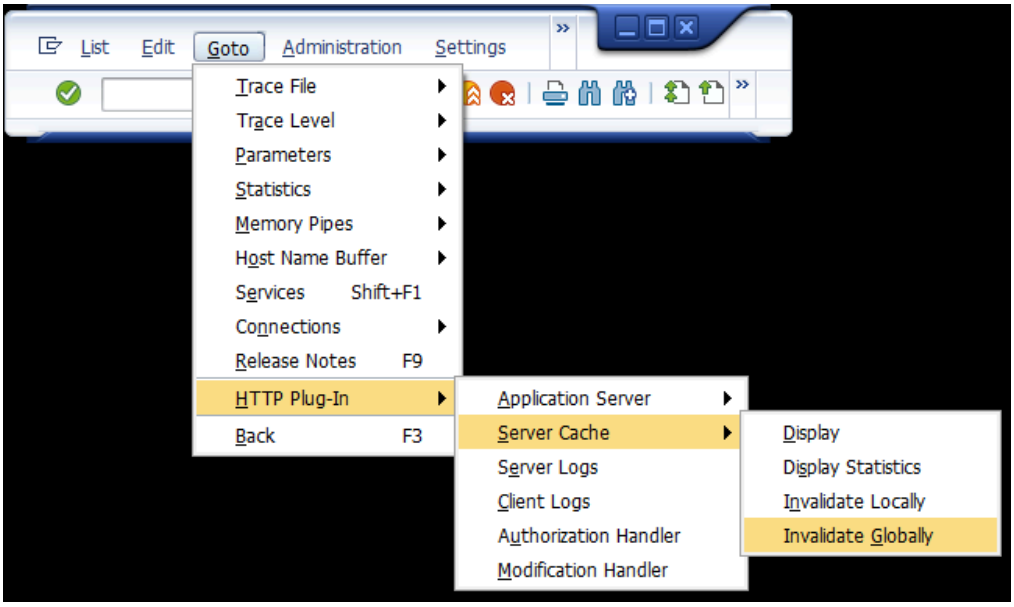
Base URL	Old Schema	New Schema
/INVCEC/RACE_SRV	/INVCEC/RACE_SRV	RACECLIENT
/INVMWO/MWORKO-RDER_SRV	/INVMWO/MWORKO-RDER_SRV	MWORKORDER
/INVMWO/MWOEQUIP-MENT_SRV	/INVMWO/MWOEQUIP-MENT_SRV	MWOEQUIPMENT
/INVMWO/MWOFUNLO-CATION_SRV	/INVMWO/MWOFUNLO-CATION_SRV	MWOFUNLOCATION
/INVMWO/WOATTACH-MENTS_SRV	/INVMWO/WOATTACH-MENTS_SRV	MWOATTACHMENTS
/INVMWO/MWOOPERA-TORROUND_SRV	/INVMWO/MWOOPERA-TORROUND_SRV	MWOOPERATORROUND

5. Clean SAP Gateway Cache

Clean up the SAP Gateway Cache after importing support packs into the systems.

1. Login to SAP Gateway system.
2. Go to transaction /n/iwfnd/cache_cleanup in the gateway system.
3. Select the **Cleanup Cache for all Models** checkbox and click **Execute**.
4. Go to transaction */n/iwbep/cache_cleanup* in the gateway system.
5. Select the **Cleanup Cache for all Models** checkbox and click **Execute**.
6. Go to transaction *smicm* in the gateway system.
7. Navigate to **Goto**, **HTTP Plugin**, **Server Cache** and **Invalidate Globally** option.

Figure 5-1 smicm transaction



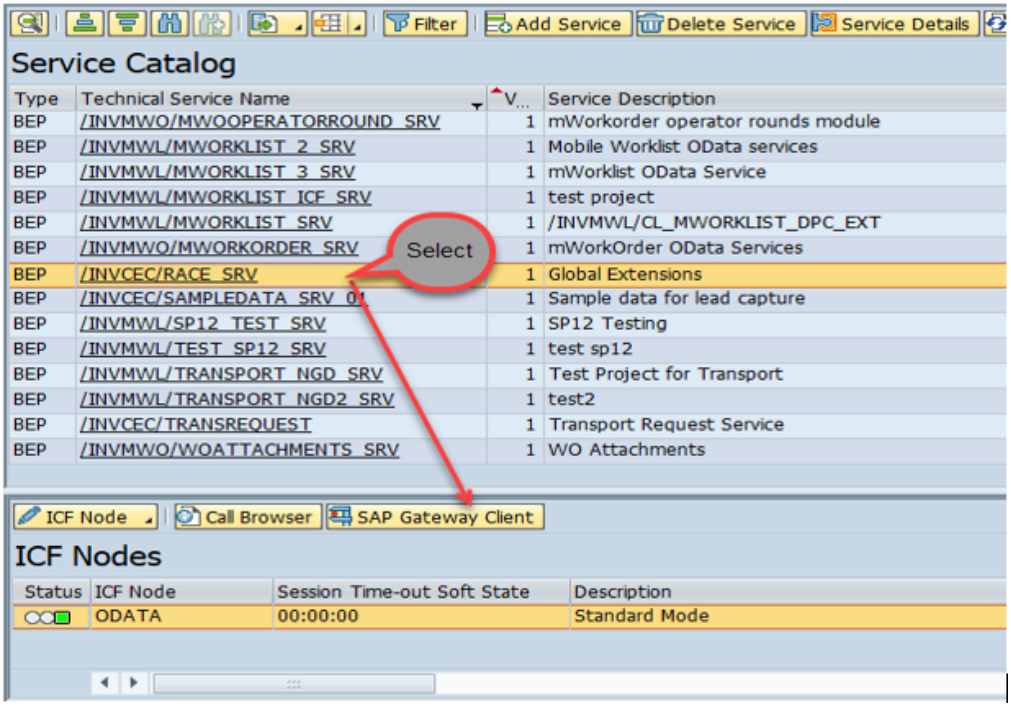
8. Click **Yes**.

Validate SAP Gateway Cache Cleanup

1. Navigate to t-code: **/n/iwfnd/maint_service**

   In HUB systems this step should be done in Gateway system
2. Filter **Technical Service Name** with **/INV*** to view the Innovapptive specific services.
3. Click each service & click **SAP Gateway Client**.

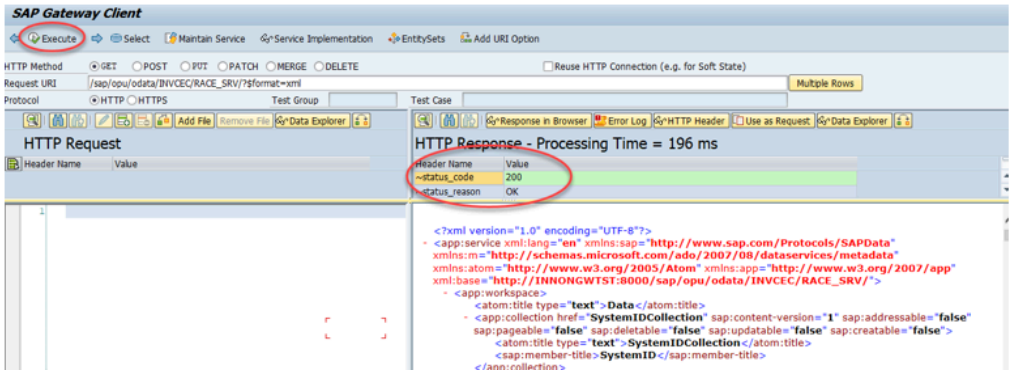
Figure 5-2 Validate Clean up of each service



4. Click **Execute** in the next screen.

   You should see the value 200 in green.

Figure 5-3 Validate Clean up

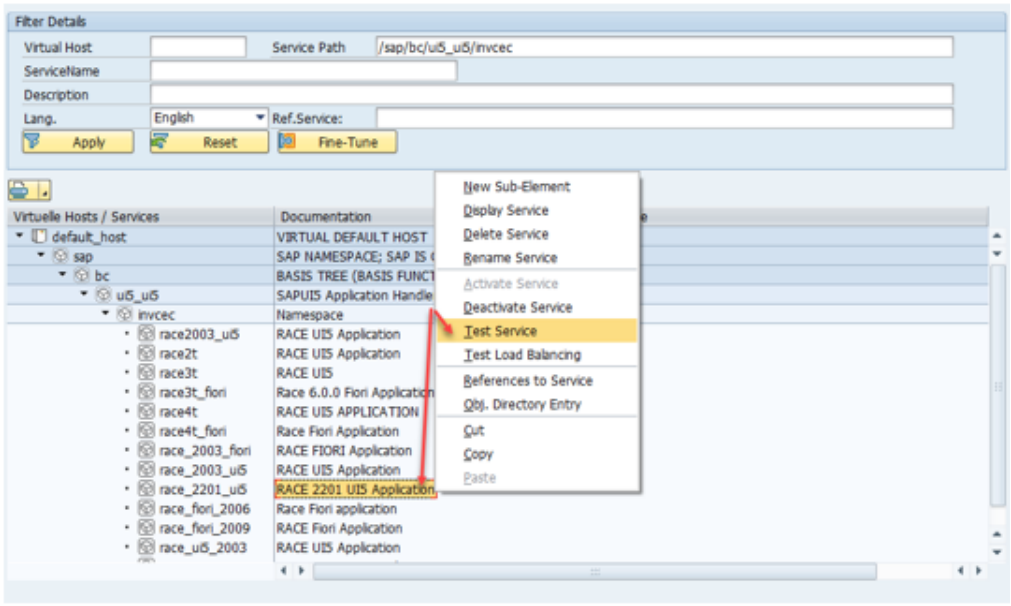


5. Navigate to t-code SICF: **/sap/bc/ui5_ui5/invcec/**

   In the following steps you will validate RACE UI5 Application

6. Click **Test Service**.

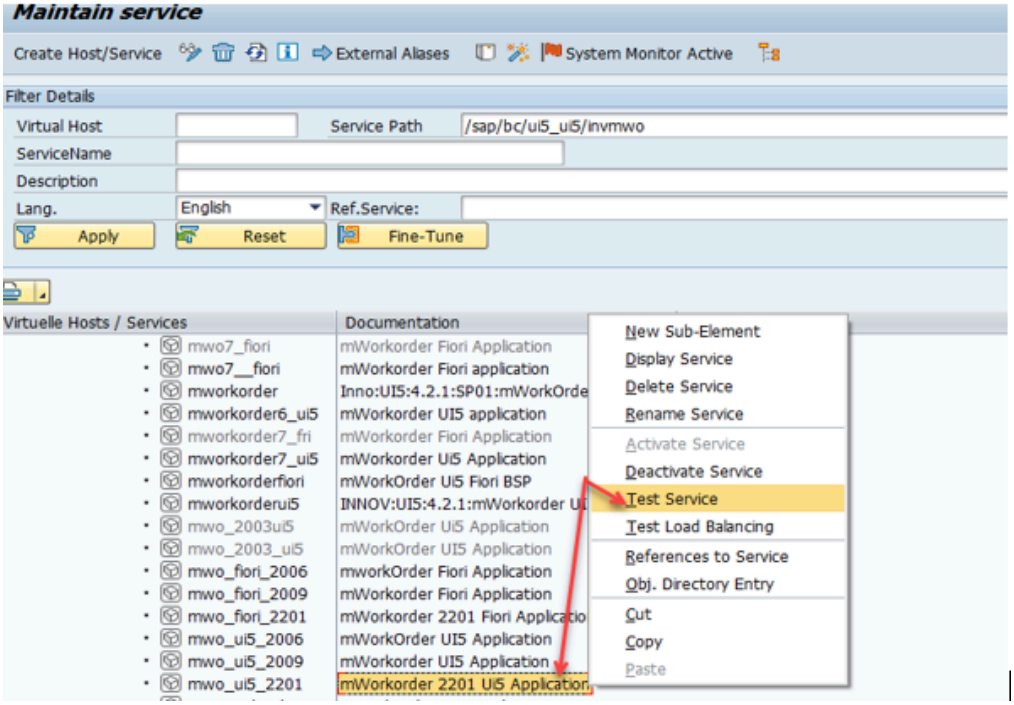
Figure 5-4 Validate Clean up



7. Enter user credentials in the RACE Screen (Gateway for HUB Systems) and authenticate.

8. Share the URL with the Innovapptive team. If there is web dispatcher, prefix the host and port to the path. For example, *https://instst.testing.com:44100/sap/bc/ui5_ui5/incec/race_2203_ui5*
9. Test **UI 5 application**.

Figure 5-5 Validate Clean up



10. Share the URL with the Innovapptive team. If there is web dispatcher, prefix the host and port to the path. For example, *https://instst.testing.com:44100/sap/bc/ui5_ui5/invmwo/mwo_ui5_2203*

6. Configure SAP Gateway for mWorkOrder

Plant maintenance workers can use mWorkOrder solution to do the following:

- Download work orders to mobile devices, view workorder history and assigned activities,
- Access asset information to facilitate diagnosis and repair, and issue and return parts
- Log timesheets, view documents, add images and attachments.
- Create personalized to-do lists that include the specific details for a task.
- Capture labor information accurately using start, stop, and pause controls.
- Print workorder reports with an ease.

6.1. Prerequisites for SAP Gateway Configuration

Ensure these components are installed and configured:

- Dependency
    - Innovapptive Add-Ons and Support Packs are installed successfully.
- Assumptions
    - The backend processes required for the app are enabled and related data is set up.
    - The Innovapptive mWorkOrder mobile solution Add-on for SAP ECC and SAP NetWeaver Gateway are installed and validated.
    - Mobile platform (SAP Mobile Platform or SAP Cloud Platform mobile services) is configured with the mobile application.

The mWorkOrder mobile solution helps you do the following with SAP Plant Maintenance (PM) module.

- Work Orders
    - Create Work Order
    - Create Emergency Work Order
    - Change Work Order
    - Release and Complete Work Order
    - Time Confirmation of Work Order Operation
    - Overall Completion Confirmation
    - Component Issue
    - Component Issue Reversal
    - Configurable Dashboard—Work Orders

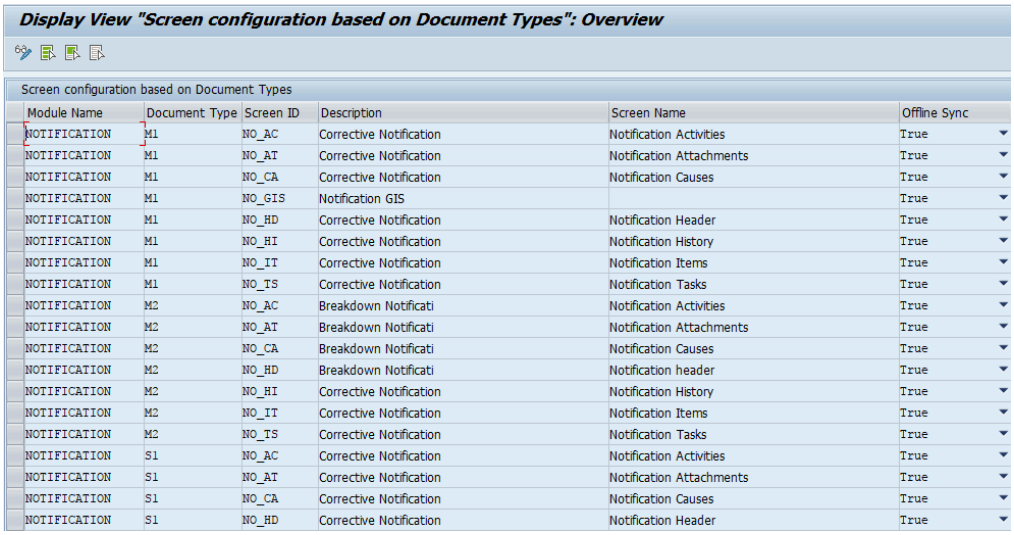
- Notifications
    - Create Notification
    - Create Follow-up Notification
    - Change Notification
    - Complete Tasks and Activities
    - Complete Notification
    - Configurable Dashboard—Notifications
- Equipment
    - Create Equipment
    - Modify Equipment
    - Display Equipment
    - Create a Notification
    - Create a Work Order
    - Equipment Dashboard
- Functional Locations
    - Create Functional Location
    - Modify Functional Location
    - Display Functional Location
    - Create a Notification
    - Create a Work Order
- Time Sheets
    - Create Time Sheet
    - Change Time Sheet
    - Display Time Sheet
- Measuring Points
    - Rounds processing
    - Measurement Readings
    - Measurement Document creation
- Inspection Lots
    - Inspection Lot display and Characteristics overview
    - Results Recording
- Usage Decisions
    - View Results
    - Usage Decisions

6.2. Configure screens based on Order Types and Notification Types

Configure screens or tabs based on Plant Maintenance Work Order Types or Notification Types.

1. In SAP NetWeaver Gateway, run T-Code **/n/INVMWO/SCRCONFI**. Table is **/INVMWO/SCRCONFI**.
2. Add the following entries:

Figure 6-1 Screens based on Document Type - Notifications



Display View "Screen configuration based on Document Types": Overview

Screen configuration based on Document Types

Module Name	Document Type	Screen ID	Description	Screen Name	Offline Sync
NOTIFICATION	M1	NO_AC	Corrective Notification	Notification Activities	True
NOTIFICATION	M1	NO_AT	Corrective Notification	Notification Attachments	True
NOTIFICATION	M1	NO_CA	Corrective Notification	Notification Causes	True
NOTIFICATION	M1	NO_GIS	Notification GIS		True
NOTIFICATION	M1	NO_HD	Corrective Notification	Notification Header	True
NOTIFICATION	M1	NO_HI	Corrective Notification	Notification History	True
NOTIFICATION	M1	NO_IT	Corrective Notification	Notification Items	True
NOTIFICATION	M1	NO_TS	Corrective Notification	Notification Tasks	True
NOTIFICATION	M2	NO_AC	Breakdown Notificati	Notification Activities	True
NOTIFICATION	M2	NO_AT	Breakdown Notificati	Notification Attachments	True
NOTIFICATION	M2	NO_CA	Breakdown Notificati	Notification Causes	True
NOTIFICATION	M2	NO_HD	Breakdown Notificati	Notification header	True
NOTIFICATION	M2	NO_HI	Corrective Notification	Notification History	True
NOTIFICATION	M2	NO_IT	Corrective Notification	Notification Items	True
NOTIFICATION	M2	NO_TS	Corrective Notification	Notification Tasks	True
NOTIFICATION	S1	NO_AC	Corrective Notification	Notification Activities	True
NOTIFICATION	S1	NO_AT	Corrective Notification	Notification Attachments	True
NOTIFICATION	S1	NO_CA	Corrective Notification	Notification Causes	True
NOTIFICATION	S1	NO_HD	Corrective Notification	Notification Header	True

Figure 6-2 Screens based on Document Type - Work Orders

Display View "Screen configuration based on Document Types": Overview

Screen configuration based on Document Types

Module Name	Document Type	Screen ID	Description	Screen Name	Offline Sync
WORKORDER	PM01	WOHIER	Hierarchy	Hierarchy	True
WORKORDER	PM01	WO_AT	Maintenance Order	Work Order Attachments	True
WORKORDER	PM01	WO_CO	Maintenance Order	Work Order Components	True
WORKORDER	PM01	WO_GIS	Work Order GIS		True
WORKORDER	PM01	WO_HD	Maintenance Order	Work Order Header	True
WORKORDER	PM01	WO_HI	Maintenance Order	Work Order History	True
WORKORDER	PM01	WO_OP	Maintenance Order	Work Order Operations	True
WORKORDER	PM01	WO_PL	Maintenance Order	Work Order Planning view	True
WORKORDER	PM01	WO_SG	Work Order Form	Work Order Form	True
WORKORDER	PM02	WOHIER	Hierarchy	Hierarchy	True
WORKORDER	PM02	WO_AT	Maintenance Order	Work Order Attachments	True
WORKORDER	PM02	WO_CO	Maintenance Order	Work Order Components	True
WORKORDER	PM02	WO_HD	Maintenance Order	Work Order Header	True
WORKORDER	PM02	WO_HI	Maintenance Order	Work Order History	True
WORKORDER	PM02	WO_OP	Maintenance Order	Work Order Operations	True
WORKORDER	PM02	WO_PL	Maintenance Order	Work Order Planning View	True
WORKORDER	PM06	WOHIER	Hierarchy	Hierarchy	True
WORKORDER	PM06	WO_AT	Maintenance Order	Work Order Attachments	True
WORKORDER	PM06	WO_CO	Maintenance Order	Work Order Components	True
WORKORDER	PM06	WO_HD	Maintenance Order	Work Order Header	True

Table 6-1 Screen attributes

Field	Description
Module Name	Module in the mobile app like Notification or Work Order for which the Document Type is configured.
Document Type	Document Type (Work Order Type/Notification Type) for use on the mWorkOrder Mobile App.
Screen ID	Unique ID of the screen for the **Document Type**.
Description	Description of the **Document Type**.
Screen Name	Description to identify the Screen.
Offline Sync	To show/hide screen on the mobile application.

6.3. Configure Plant Maintenance Emergency Order Types

To configure plant maintenance emergency work order types:

1. In SAP ECC, run T-Code **/n/INVMWO/EMGDOC**. Table is **/INVMWO/EMGDOC**.
2. Add the following entries:

Figure 6-3 Emergency Document Type

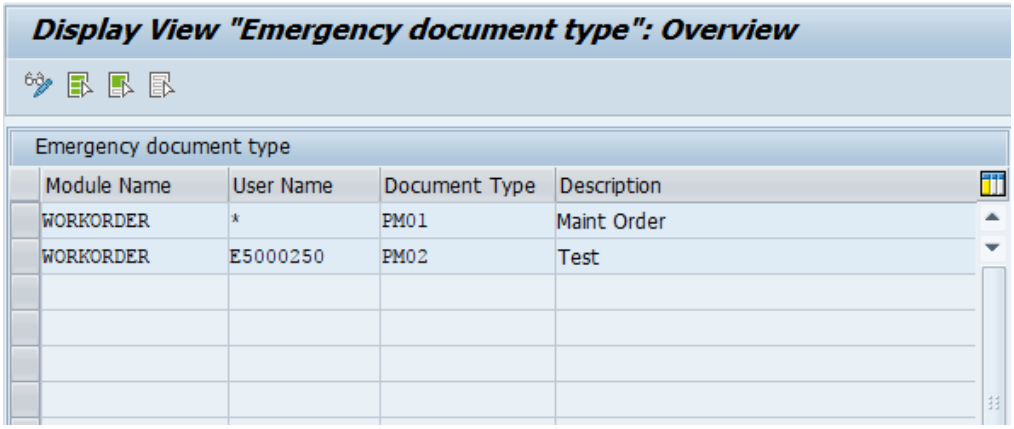


Table 6-2 Emergency Order Document Type Attributes

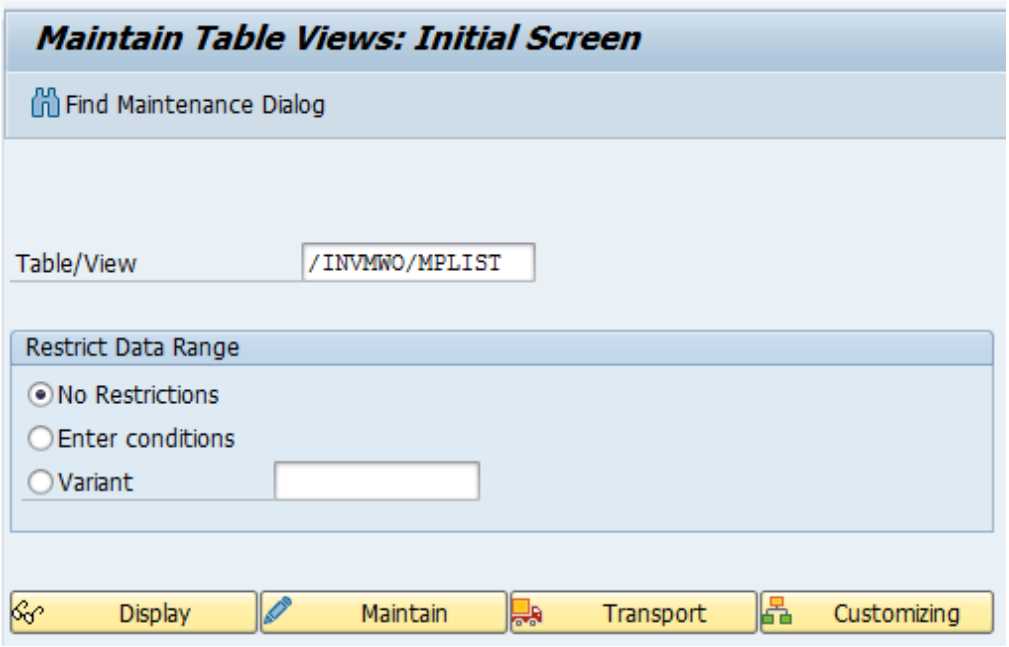
Field	Description
Module Name	Name of the module where the Document Type is configured.
User Name	User to whom the Document Type is available in the application. **Note:** It is recommended to configure this field as '*' so that the Document Type is available to all the users.
Document Type	Indicates the Document Type like Work Order Type.
Description	Description of the Document Type.

6.4. Map Measuring Entry List to Mobile User

To map measuring entry list to users:

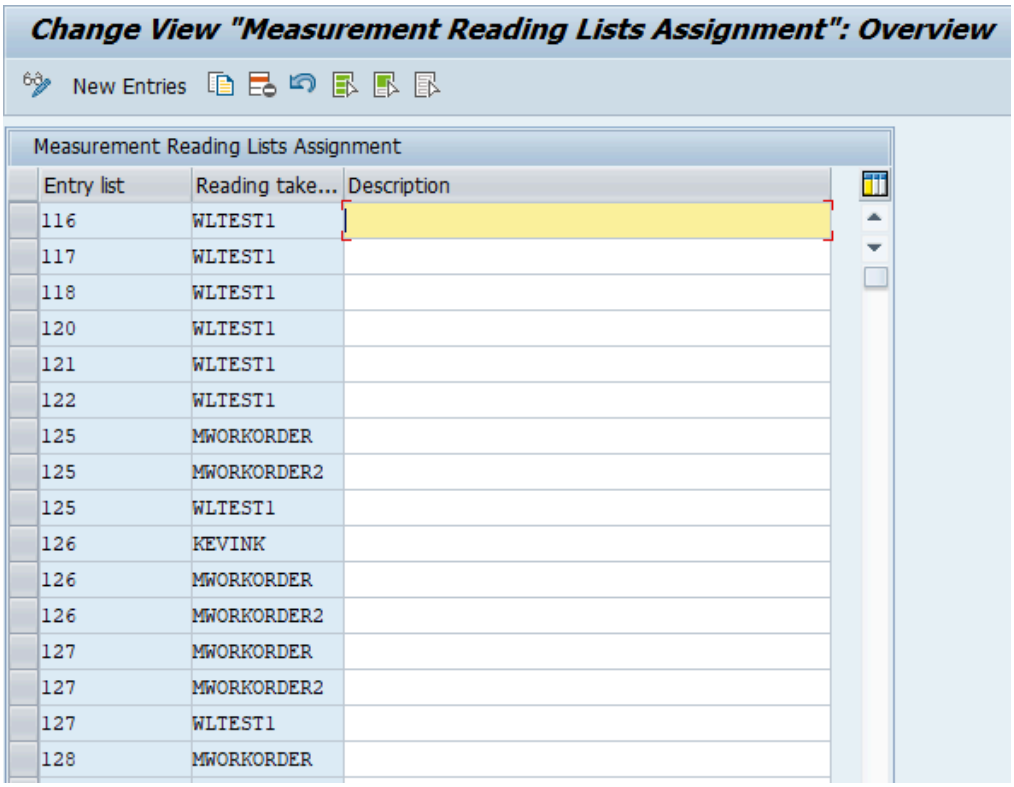
1. In SAP ECC, run SM30. Give the Table Name as /INVMWO/MPLIST.
2. Click **Maintain**.

Figure 6-4 SM30



3. Click **New Entries** and maintain new entries. Entry List is the Readings Task List and Reading Taken by is the Mobile user to whom the Task List will be assigned and sent to capture Readings.

Figure 6-5 Measurement Reading Lists Assignment



6.5. Configure Priority and System Status Color Coding

To configure priority and system status in Work Order and Notification Modules:

1. In SAP ECC, run T-Code SM30. Table is /INVMWO/PRICOLOU.
2. Add the following entries:

Figure 6-6 Priority Color

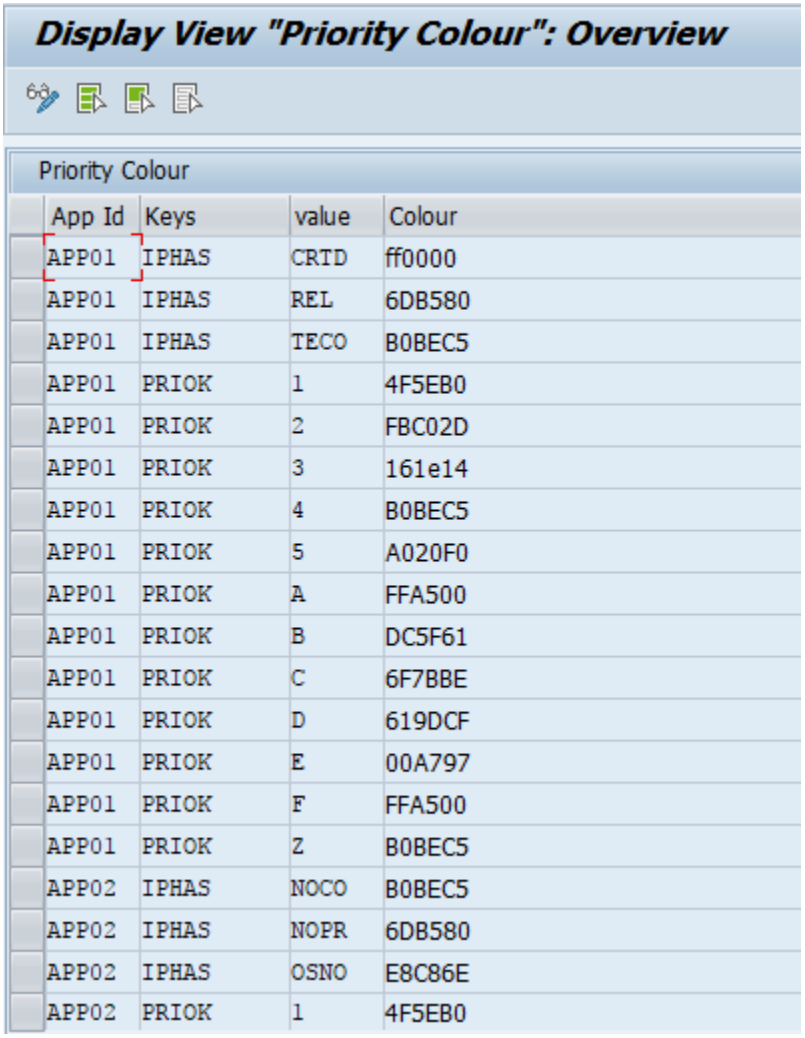


Table 6-3 Priority and System Status configuration attributes

Field	Description
App ID	Unique application ID to identify the module where the priority color coding is configured.
Key	Standard SAP field (Priority/Status) key to configure color coding.

Field	Description
Value	SAP field (Priority/Status) value to configure color coding.
Colour	Indicates the hexa decimal code of the color for Priority/Status.

6.6. Configure Work Order Numbers Color Coding

To configure work order numbers color coding in work order module:

1. In SAP ECC, run T-Code **SM30**. Table is **/INVMWO/WO_CLRCD**.
2. Add the following entries:

Figure 6-7 Work Order Color Coding

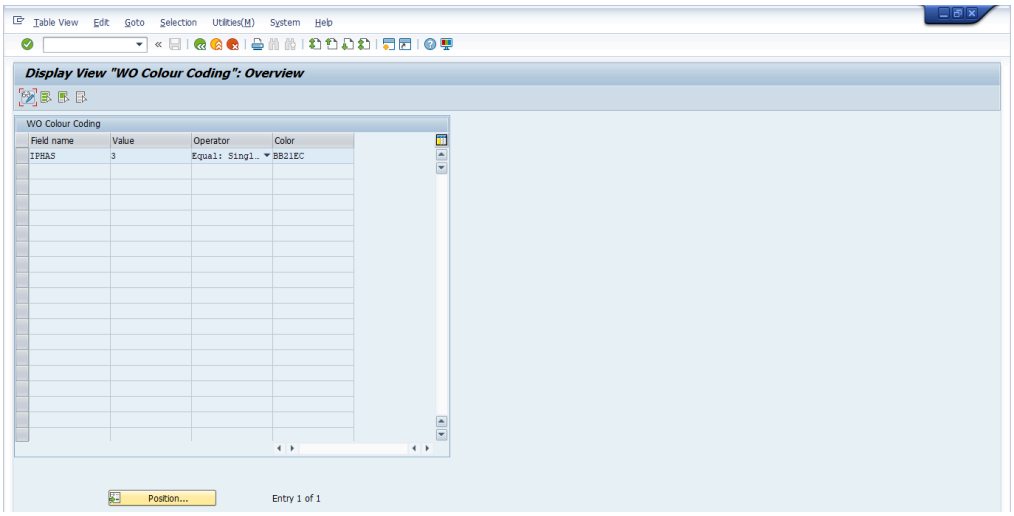


Table 6-4 Work Order Color Coding configuration attributes

Field	Description
Field Name	Work Order field key.

Field	Description
Value	Value of the field to be compared.
Operator	Formula (<, >, =, ≥, ≤)
Color	This field allows you to enter desired color coding for Work Order Numbers. Use the HTML color codes to define the Work Order Number colors.

6.7. Configure DMS Document Object Links

To configure DMS document object links:

1. In SAP ECC, run T-Code /n/INVMWO/OBJLINK. Table is /INVMWO/OBJLINK.
2. Add the following entries:

Figure 6-8 DMS Document Object Links

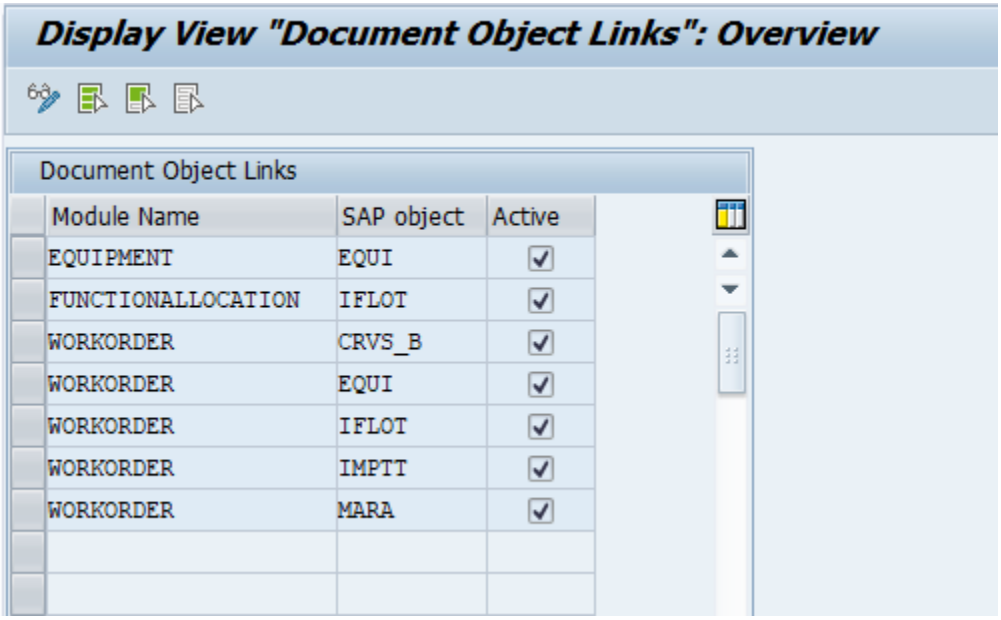


Table 6-5 DMS Document Object Links attributes

Field	Description
Module Name	Name of the module where the object link is configured.
SAP Object	Source field to configure DMS document object link.
ACTIVE	To enable/disable the object link.

6.8. Configure staging table for Equipment and Functional Location master

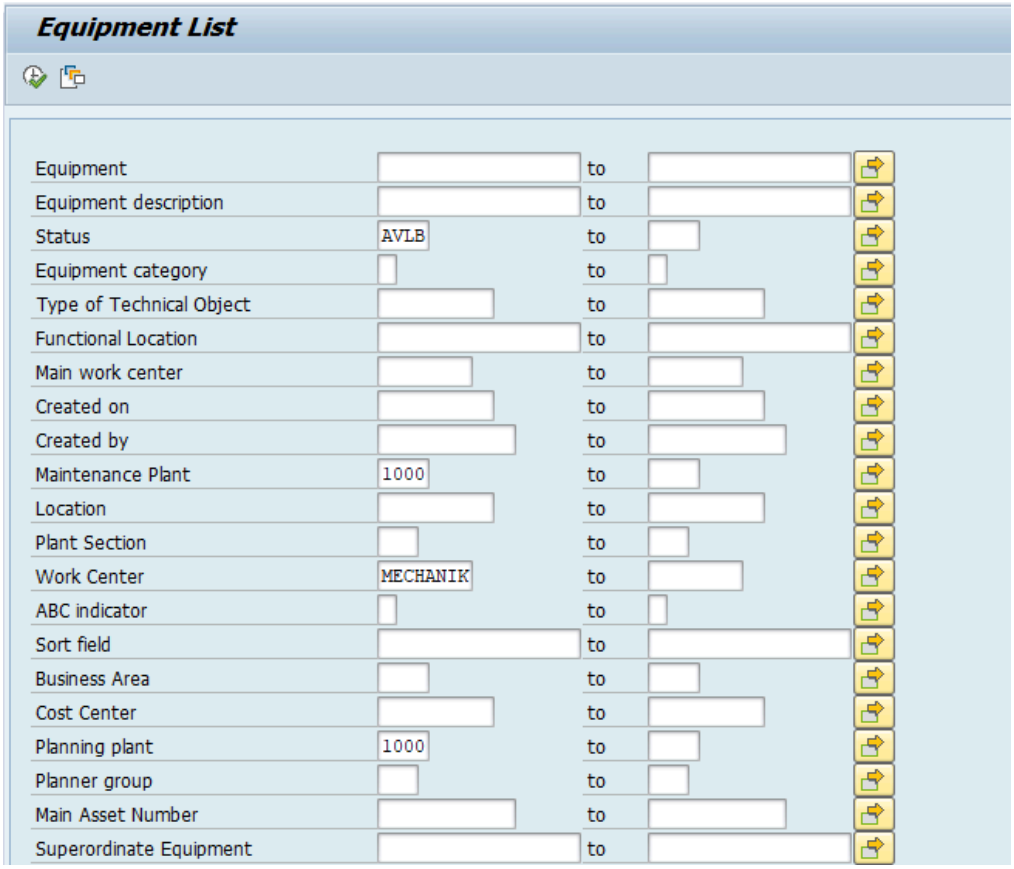
Learn how to configure staging table for standard tables of Equipment and Functional Location master.

This process is applicable only if the Scoping ID **APPSTG** is enabled in RACE™.

To configure staging table:

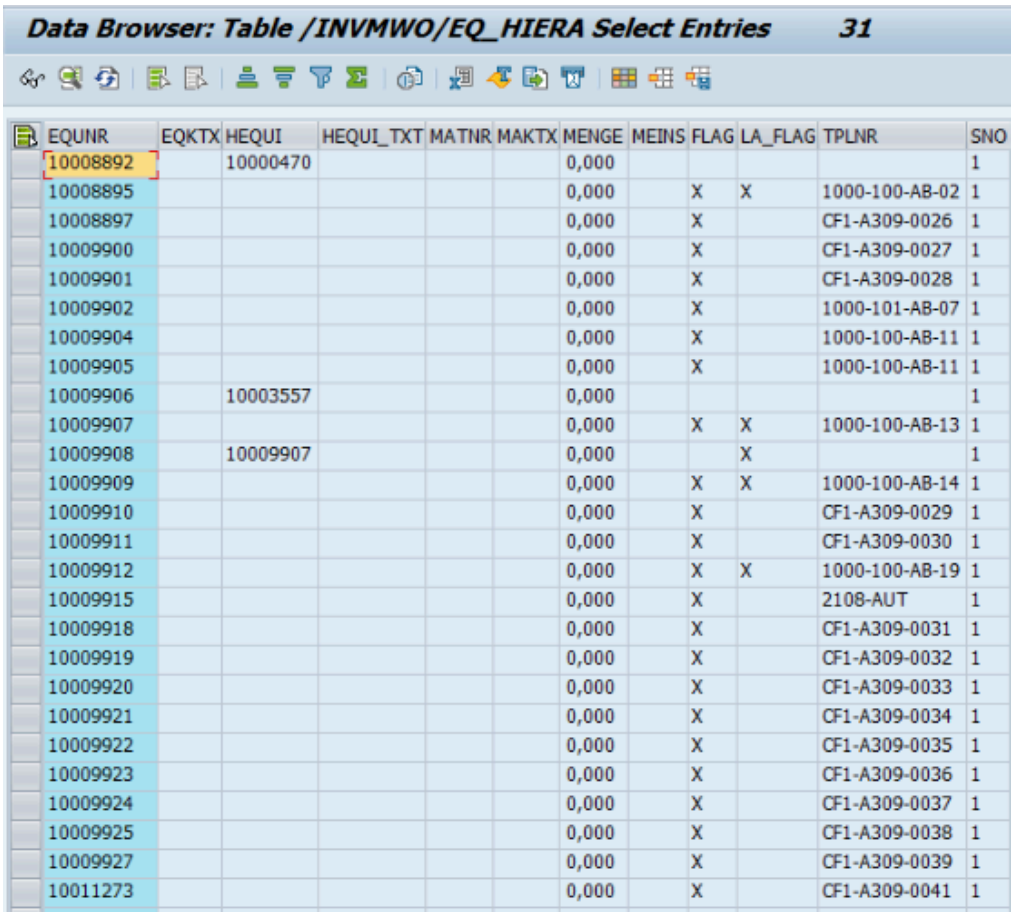
1. In SAP ECC, run T-Code **/n/INVMWO/EQ_STG**.
2. Enter selection criteria and execute.

Figure 6-9 Equipment Selection Criteria



3. Entries are shown in these tables:
    a. /INVMWO/EQ_HIERA
    b. /INVMWO/EQ_MEASU
    c. /INVMWO/EQ_H_SUB
    d. /INVMWO/EQ_LIST
    e. /INVMWO/EQ_HEADR
    f. /INVMWO/EQ_GEOLC
    g. /INVMWO/EQ_CLSIT
    h. /INVMWO/EQ_CLSHD
    i. /INVMWO/EQ_PRTNR

Figure 6-10 Equipment Hierarchy table

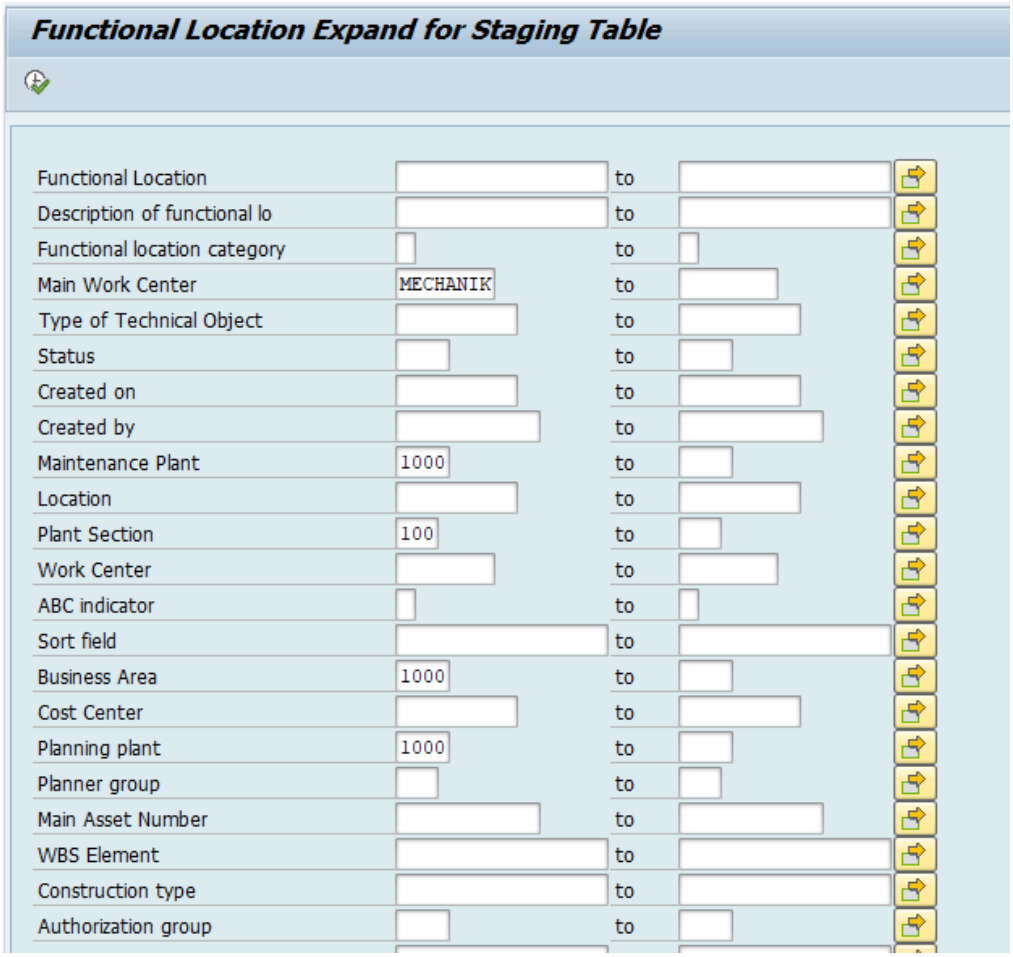


Data Browser: Table /INVMWO/EQ_HIERA Select Entries 31

EQUNR	EQKTX	HEQUI	HEQUI_TXT	MATNR	MAKTX	MENGE	MEINS	FLAG	LA_FLAG	TPLNR	SNO
10008892		10000470				0,000					1
10008895						0,000		X	X	1000-100-AB-02	1
10008897						0,000		X		CF1-A309-0026	1
10009900						0,000		X		CF1-A309-0027	1
10009901						0,000		X		CF1-A309-0028	1
10009902						0,000		X		1000-101-AB-07	1
10009904						0,000		X		1000-100-AB-11	1
10009905						0,000		X		1000-100-AB-11	1
10009906		10003557				0,000					1
10009907						0,000		X	X	1000-100-AB-13	1
10009908		10009907				0,000			X		1
10009909						0,000		X	X	1000-100-AB-14	1
10009910						0,000		X		CF1-A309-0029	1
10009911						0,000		X		CF1-A309-0030	1
10009912						0,000		X	X	1000-100-AB-19	1
10009915						0,000		X		2108-AUT	1
10009918						0,000		X		CF1-A309-0031	1
10009919						0,000		X		CF1-A309-0032	1
10009920						0,000		X		CF1-A309-0033	1
10009921						0,000		X		CF1-A309-0034	1
10009922						0,000		X		CF1-A309-0035	1
10009923						0,000		X		CF1-A309-0036	1
10009924						0,000		X		CF1-A309-0037	1
10009925						0,000		X		CF1-A309-0038	1
10009927						0,000		X		CF1-A309-0039	1
10011273						0,000		X		CF1-A309-0041	1

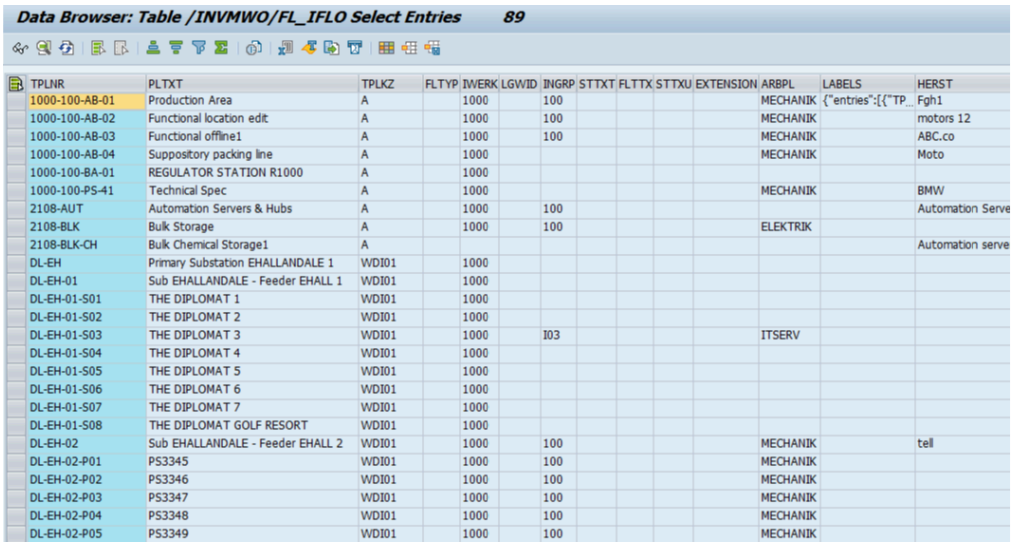
4. In SAP ECC, run T-Code **/n/INVMWO/FL_STG**.
5. Enter selection criteria and execute.

Figure 6-11 Functional Location Selection Criteria



6. Entries are shown in these tables:
    a. /INVMWO/FL_IFLO
    b. /INVMWO/FL_HI_DE
    c. /INVMWO/FCHEADER
    d. /INVMWO/FL_HIER
    e. /INVMWO/FL_MEAS
    f. /INVMWO/NOTF_GEO

Figure 6-12 Functional Location table



Data Browser: Table /INVMWO/FL_IFLO Select Entries 89

TPLNR	PLTXT	TPLKZ	FLTYP	IWERK	LGWID	INGRP	STTXT	FLTTX	STTXU	EXTENSION	ARBPL	LABELS	HERST
1000-100-AB-01	Production Area	A		1000		100					MECHANIK	{"entries":[{"TP...	Fgh1
1000-100-AB-02	Functional location edit	A		1000		100					MECHANIK		motors 12
1000-100-AB-03	Functional offline1	A		1000		100					MECHANIK		ABC.co
1000-100-AB-04	Suppository packing line	A		1000							MECHANIK		Moto
1000-100-BA-01	REGULATOR STATION R1000	A		1000									
1000-100-PS-41	Technical Spec	A		1000							MECHANIK		BMW
2108-AUT	Automation Servers & Hubs	A		1000		100							Automation Serve
2108-BLK	Bulk Storage	A		1000		100					ELEKTRIK		
2108-BLK-CH	Bulk Chemical Storage1	A											Automation serve
DL-EH	Primary Substation EHALLANDALE 1	WDI01		1000									
DL-EH-01	Sub EHALLANDALE - Feeder EHALL 1	WDI01		1000									
DL-EH-01-S01	THE DIPLOMAT 1	WDI01		1000									
DL-EH-01-S02	THE DIPLOMAT 2	WDI01		1000									
DL-EH-01-S03	THE DIPLOMAT 3	WDI01		1000		I03					ITSERV		
DL-EH-01-S04	THE DIPLOMAT 4	WDI01		1000									
DL-EH-01-S05	THE DIPLOMAT 5	WDI01		1000									
DL-EH-01-S06	THE DIPLOMAT 6	WDI01		1000									
DL-EH-01-S07	THE DIPLOMAT 7	WDI01		1000									
DL-EH-01-S08	THE DIPLOMAT GOLF RESORT	WDI01		1000									
DL-EH-02	Sub EHALLANDALE - Feeder EHALL 2	WDI01		1000		100					MECHANIK		tell
DL-EH-02-P01	PS3345	WDI01		1000		100					MECHANIK		
DL-EH-02-P02	PS3346	WDI01		1000		100					MECHANIK		
DL-EH-02-P03	PS3347	WDI01		1000		100					MECHANIK		
DL-EH-02-P04	PS3348	WDI01		1000		100					MECHANIK		
DL-EH-02-P05	PS3349	WDI01		1000		100					MECHANIK		

Note:
Update the tables with background scheduled jobs regularly.

- Configure these filters in RACE™, to filter and populate data in the staging table when no value is entered for a field in the selection screen (/INVMWO/FM_EQ_EXPAND_STG).

Master	Filter
Equipment	EQSTG_FILTERs
Functional Location	FLSTG_FILTERs

- Configure these when using Staging process:

Table 6-7 Staging Configuration

Master	Filter	Table Name
Equipment	EQSTG_FILTER	/INVMWO/EQ_LIST
Functional Location	FLSTG_FILTER	/INVMWO/FCHEADER

Note:
Data is filtered only for the fields in tables /INVMWO/FCHEADER and /INVMWO/EQ_LIST.

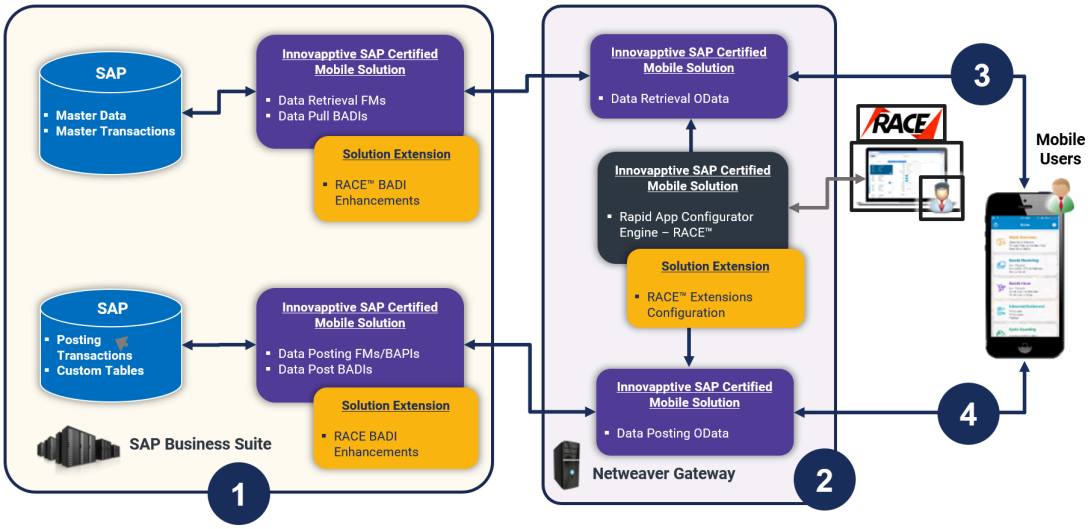
7. Configure RACE™ for mWorkOrder

Innovapptive's Connected Workforce Platform™ uses built-in integrations to connect your SAP®, IBM Maximo, and other back-office systems with mobile applications. This helps organizations bridge communication and information gaps between executive teams, field technicians, plant operators, warehouse operators, maintenance engineers, and back-office staff. Connect data points across cloud and on-premise networks to quickly and easily.

- Draw powerful insights
- Identify cost-savings opportunities
- Make calculated business decisions
- Respond quickly to trends or problems

To align our solutions with your operations, we built a Rapid App Configuration Engine (RACE™) directly into our mobile Connected Workforce Platform. This sophisticated configuration toolkit gives developers and non-developers complete freedom to customize mobile environments without any coding experience.

Figure 7-1 RACE™ Architecture



Deployment ecosystem consists of the following:

1. **SAP ECC Integration Component (SAP Certified Add-On in Innovapptive Namespace)**: This SAP-certified add-on is developed on ABAP. You can deploy this add-on on SAP ECC through an Add-On Package. You can make enhancements to this through BADI by developing those enhancements in ABAP. This add-on helps you manage Data retrieval and do posting to BAPI's or Function Modules.
2. **SAP NetWeaver Integration Component with OData Web Services**: Developed on ABAP and OData and offered as an SAP Certified Add-On. This add-on is deployed through an Add-On Package on SAP NetWeaver. You can make enhancements through RACE Configurations. This add-on helps manage the OData integration components (i.e. OData Web Services) to interface with the mobile app. The RACE™ Add-On has both the front-end components and the back-end data tables for the RACE™ Lite Configuration tool.
3. **Native App Client + Desktop Web App**: Application front-end solutions are offered on all three major mobile OS as a native application that can run on tablets and smartphones.
    - iOS - Developed using native iOS (Swift SDK)
    - Android - Developed using Android SDK on JAVA
    - Windows OS - Developed using Windows development kits.
    - Browser based App for desktop - Developed using SAPUI5 technology.

    Changes on the application user interface is managed through the RACE™ Lite Admin tool.
4. **Interface between Mobile App and NetWeaver Gateway**: OData Web Services
5. **Interface between NetWeaver Gateway and SAP ECC**: RFC Connection

7.1. Features of RACE™

You can do the following with RACE™ in your mobile application:

- **Enable and Disable features**: Enable or disable modules on the fly; no additional development or deployments efforts.
- **Define Defaults**: Define default device and application values that you use every day at work like Default Plant or the type of peripherals that you use. When you do this, the fields for specifying those values are automatically populated.
- **Manage Filters**: Create, edit, or delete filters to define the transaction records that you want to view across the modules. For example, you can add a date filter for Purchase Orders to restrict a list of Purchase Orders displayed in a list screen.
- **Add/Modify fields**: Add new fields and modify existing field parameters, such as Field Types, UI Label, UI Positions and visibility. Define mandatory, optional or display/hidden fields.
- **Add and customize search criteria**: Add/modify search fields to filter records based on your work requirements.
- **Create modules and screens**: Create new modules and screens to address your specific business requirements.
- **Optimize Performance**: Enable or disable a collection for Offline storage and configure the page size on the list screen using Skip Token.
- **Localization**: Configure the UI labels in the language of your choice to cater to regional language requirements.
- Apply security access capabilities to modules and features.
- Configure security for newly added fields.
- Map newly added fields with SAP fields.

7.2. How to Configure RACE™ for mWorkOrder

RACE™ configurations are provided in spreadsheets. Upload these spreadsheets to your RACE application instance to enable the latest RACE™ features that are developed for mWorkOrder. Contact your Innovapptive representative for the RACE configuration spreadsheets for your release.

When you use the RACE™ preset configuration spreadsheets, you enable all the recommended features / configurations automatically.

Some non-standard features are developed for a few customers. These features are not enabled by default when you import the spreadsheets with configurations. You can enable these features if required by your business.

For detailed information on RACE configurations, see the *Upload Application Configurations Using RACE™* section in the *Configure mWorkOrder using RACE™* document.

8. SAP transactions and tables for mWorkOrder

The following table provides the list of key SAP transactions and tables that are relevant to the mWorkOrder mobile solution.

Table 8-1 SAP Transactions and Tables

Module Name	Applicable Table	Transaction Code
Work Orders	AUFK, AFIH, AFKO, RESB, MARD, MARA	IW31, IW32, IW33, IW34, IW39, IW41, IW42, IW43, IW45, MI-GO, MMBE
	VIAUFKST	
Notifications	QMEL, QMIH	IW21, IW22, IW23, IW29
	QMSM, QMUR	
	QMFE, QPCT	
Equipment	EQUI, EQUZ	IE01, IE02, IE03, IH08
	EQKT	
Functional Locations	IFLO, IFLOT	IL01, IL02, IL03, IH06
	ILOA	
Measuring Points	IMPTT	IK01, IK02, IK03, IK11, IK13, IK34
	IMRG	
Time Sheets	CATSDB	CAT2
Usage Decisions	QALS	QA03
	QAMV	
Inspection Lots	QALS	QA13
	QMFEL	

9. Create User Groups

Perform the following steps to create user groups (for user persona) in the client box and assign them to respective users.

1. Login to the ECC system.
2. Go to **tcode – SUGR**.
3. Create the following user groups:
    - Planner - /INVMWO/PLAN
    - Supervisor - /INVMWO/SUPR
    - Technician - /INVMWO/TECH
    - Operator - /INVMWO/OPER

    Note:
    You can create user groups as you require.
4. User groups have to be set up in each box Dev, Quality and Production environment.
5. Map the created user groups with Innovapptive user groups using the table maintenance (Tcode-SM30) /INVMGO/UGRP_MAP in the ECC system.

    Note:
    You can do only 1:1 mapping. For example, INVMWO/TECH with <Customer/TECH>.

10. View Technician Dashboard

For specific user to view Technician dashboard view, need to maintain below in ECC system:

1. In the **Scoping** section, activate App id **TECH_V**.
2. Maintain user parameter '/INVMWO/TECH_V' with value 'X' in SU01.

> **Note:**
> When the above both settings are active then the user is able to view the Technician dashboard. It's just a view and does not impact any data.

11. Maintenance Tables for mWorkOrder

List of tables available for mWorkOrder.

Environment	Table Name	Usage
Gateway	/INVMWO/SCRCONFI	To maintain Screens/Tabs to display in Work Order and Notifications details.
ECC	/INVMWO/DOCTYPES	To maintain Document types for Work Order and Notifications.
ECC	/INVMWO/EMGDOC	To maintain Document types for Emergency Work Order creation.
Gateway	/INVCEC/SOURCETYP	To maintain Source types for getting drop down values in RACE extension source type field.
Gateway	/INVCEC/STORETYP	To maintain store types to display DBs progressing bars, while syncing data to application. **Note**: Without maintaining these store types configuration, sync cannot be processed.
Gateway	/INVCEC/SYSTEMS	To maintain system destinations for connection between Gateway and ECC.
Gateway	/INVCEC/SCHEMA	To maintain Schema to overcome backward slash issue with SMP 3.0 SDK library. **Note**: To Maintain Schema configuration, application names should be defined in the RACE at prior.
ECC	/INVMWO/FCHEADER	To maintain Functional Location data staging table to fetch data into application. **Note**: To fill data into Functional Location Staging tables, please use program '/INVMWO/FM_FL_EXPAND_STG'.

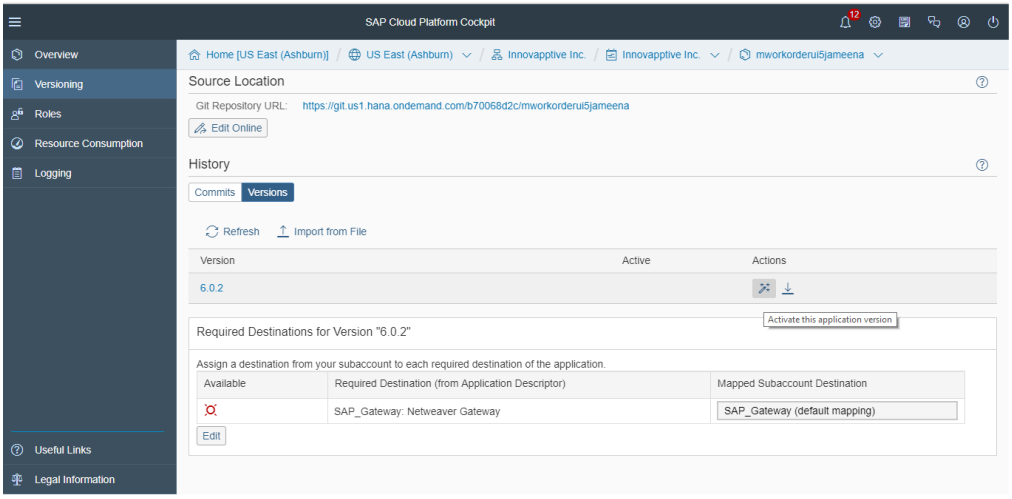
ECC	/INVM-WO/EQ_-HEADR	To maintain Equipment data staging table to fetch data into application. **Note**: To fill data into Equipment Staging tables, please use program '/INVMWO/FM_EQ_EXPAND_STG'.
Gateway	/INVCEC/FILTERS	To configure IDs, to get dropdown values for static filters (Like to Configure WOOPRA to apply filter for operation requirement assignment tab).
ECC	/INVM-WO/TASK_RCS	To maintain Task Skip Reason codes while executing rounds. -
ECC	/INVM-WO/SCAN_RCS	To maintain Asset scan skip Reason codes while executing rounds. -
ECC	/INVM-WO/PRICOLOU	To maintain color codes for objects based on Priority value.
ECC	/INVM-WO/OBJ_STAT	To maintain Filters for WOs and NOs based on System Status and User Status combination.
Gateway	/INVCEC/CTRLTYPK	-

12. Deploy MWO UI5 package to SAP Cloud platform (SCP)

To deploy MWO UI5 package to SCP:

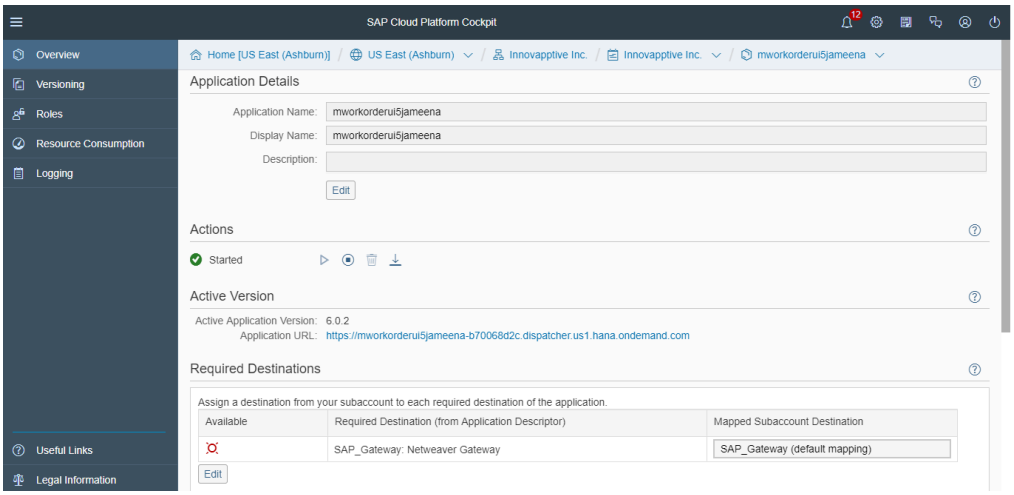
1. Login to SCP Cockpit.
2. Navigate to Applications, HTML5 Applications.
3. Click **Import From File**.
4. Browse and select the application (mWorkOrder) zip file.
5. Enter Version number.
6. Click on the deployed application and go to Versioning from the menu.
7. Click on Versions on the detail page.
8. Click on Activate.

Figure 12-1 Application Details - Versions



9. Click **Yes** on the Activate Version confirmation pop-up.
10. Application URL is displayed in the Active Version section.

Figure 12-2 Application Details - Active Version - URL



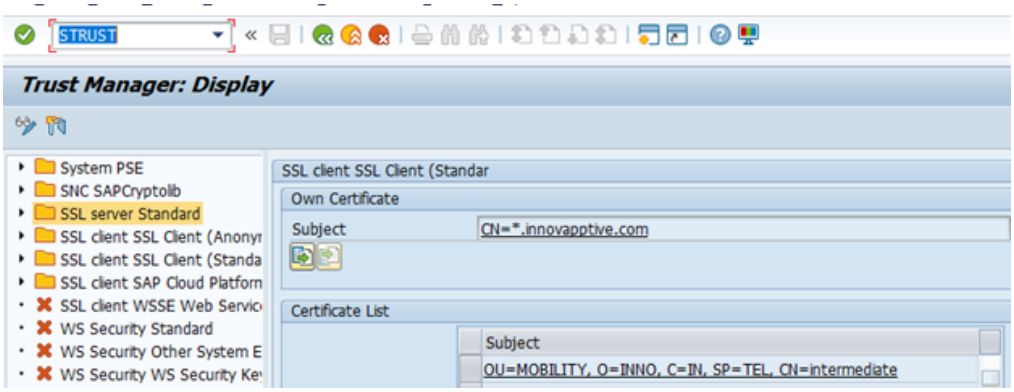
13. Configure Google Maps

Upload the Google certificates to Server and Client standards to access the Maps in the mobile application.

To upload google maps:

1. Login to SAP client.
2. Execute the transaction STRUST.

Figure 13-1 Upload Certificates to Server Standard



3. Upload the following Google certificates to SSL Server Standard:

Figure 13-2 GTS CA 1C3

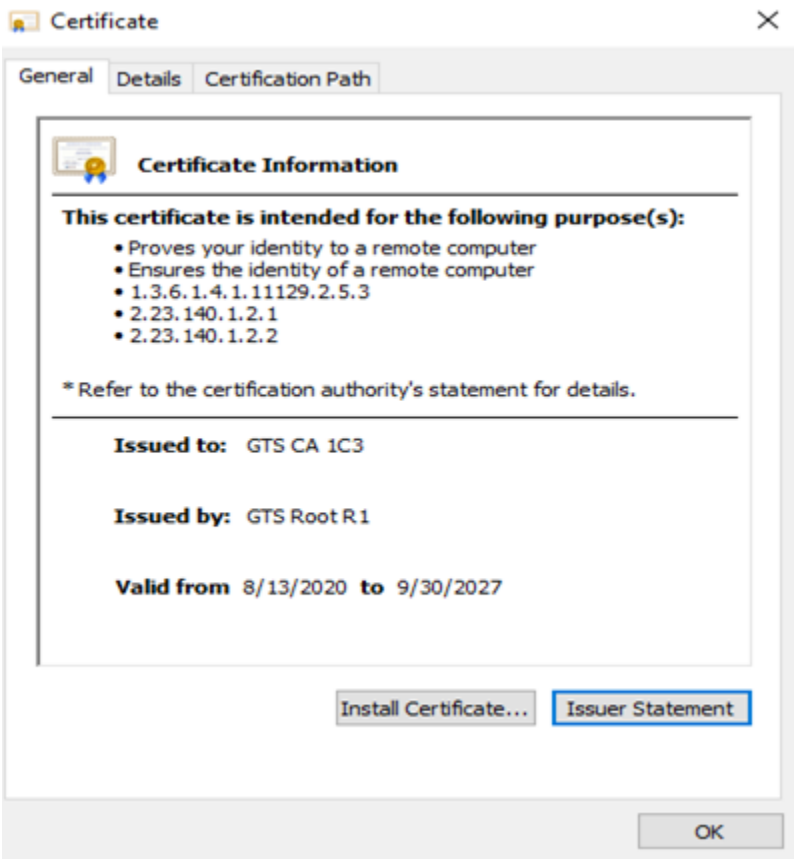
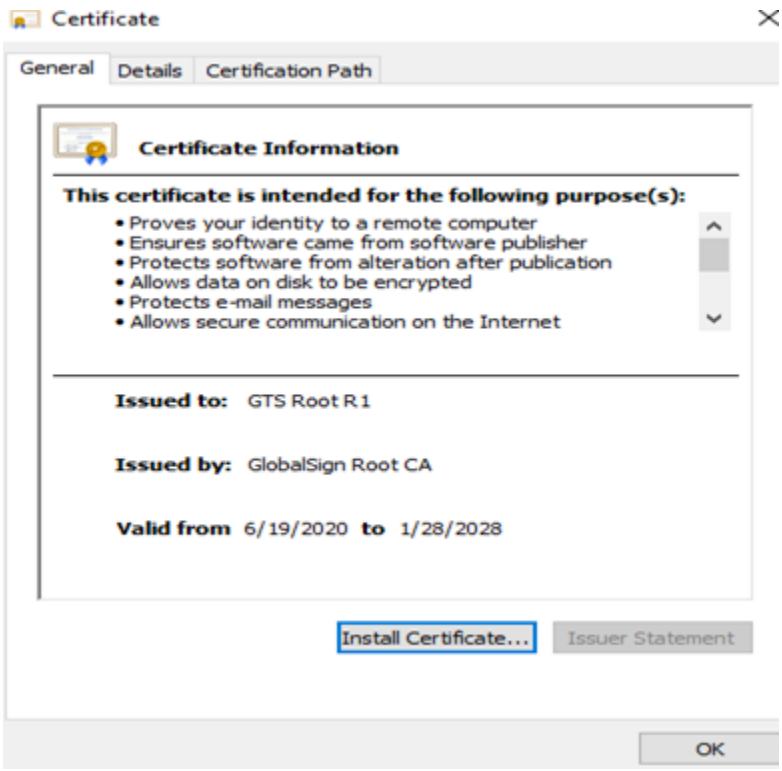
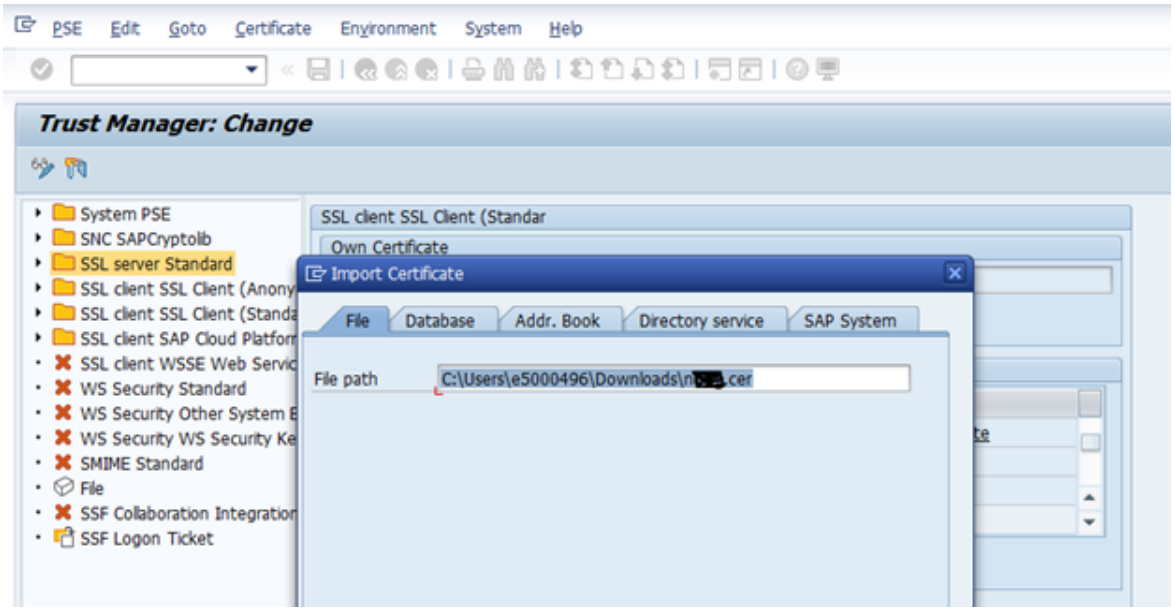


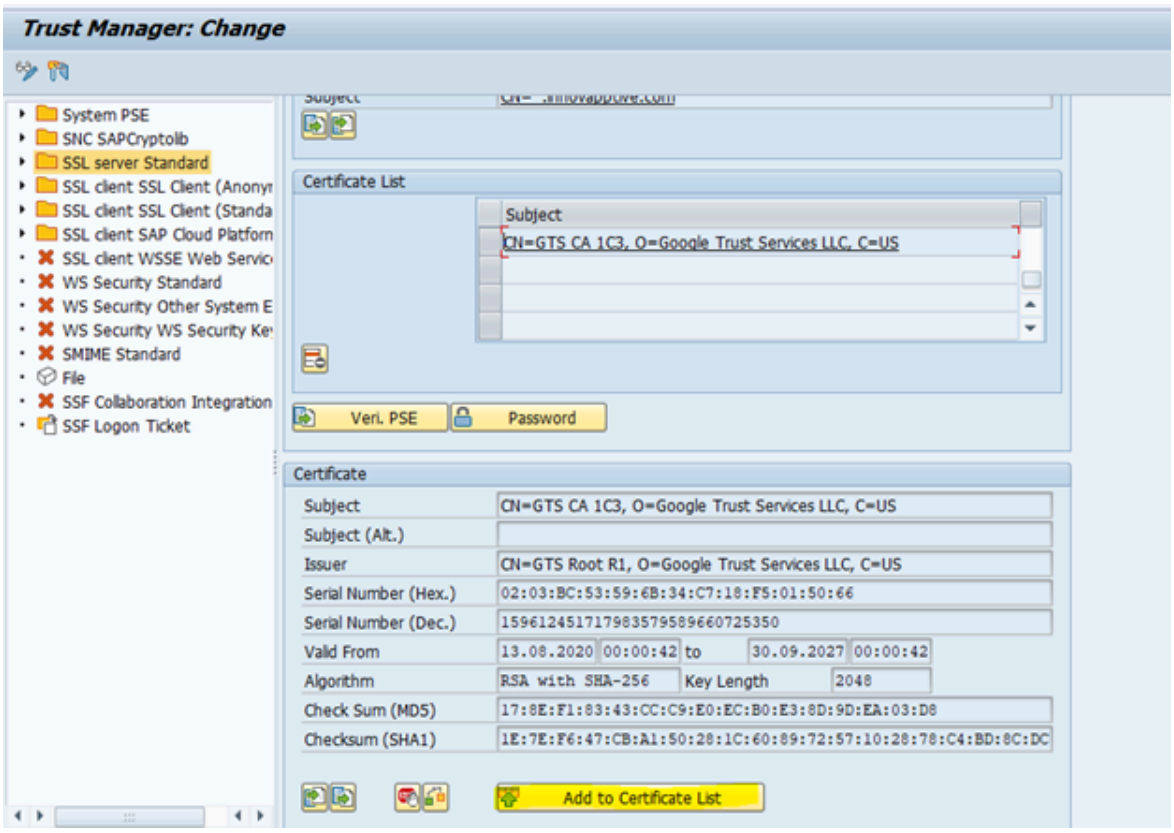
Figure 13-3 GTS Root R1



- Select the **SSL Server Standard** folder on the left side pane.
- Click the **Certificate** button.
- Click the **Import** button and select the above certificates.

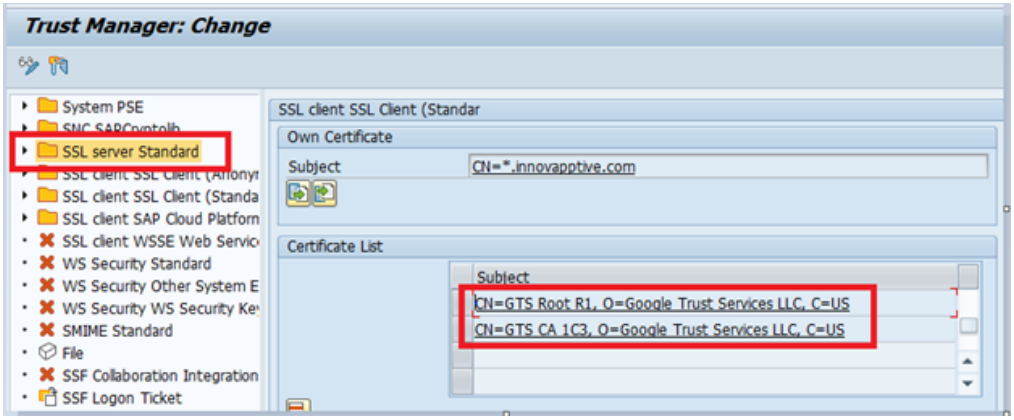


- Click the **Add to Certificate List** button.



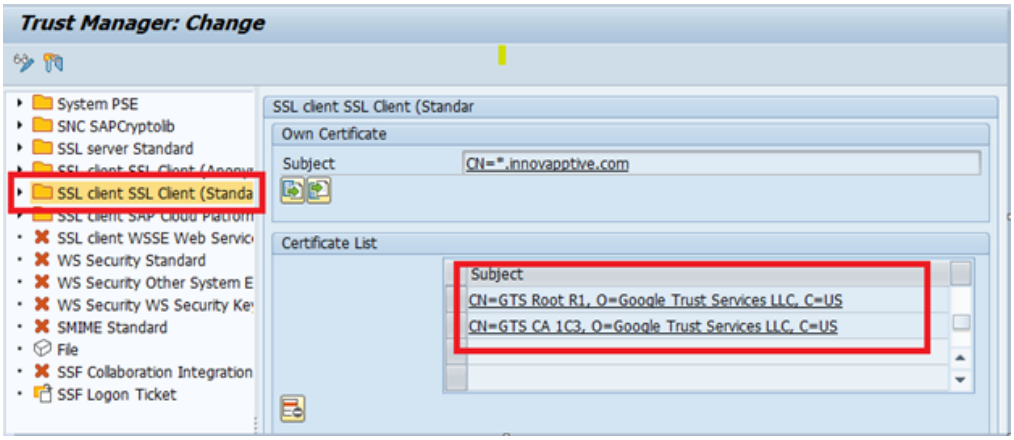
The GTS CA 1C3 and GTS Root R1 certificates are successfully added to SSL Server Standard.

Figure 13-4 Certificates are Added to SSL Server Standard



4. Upload the same certificates into **SSL Client SSL Client (Standard)**.

Figure 13-5 Upload Certificates to Client Standard

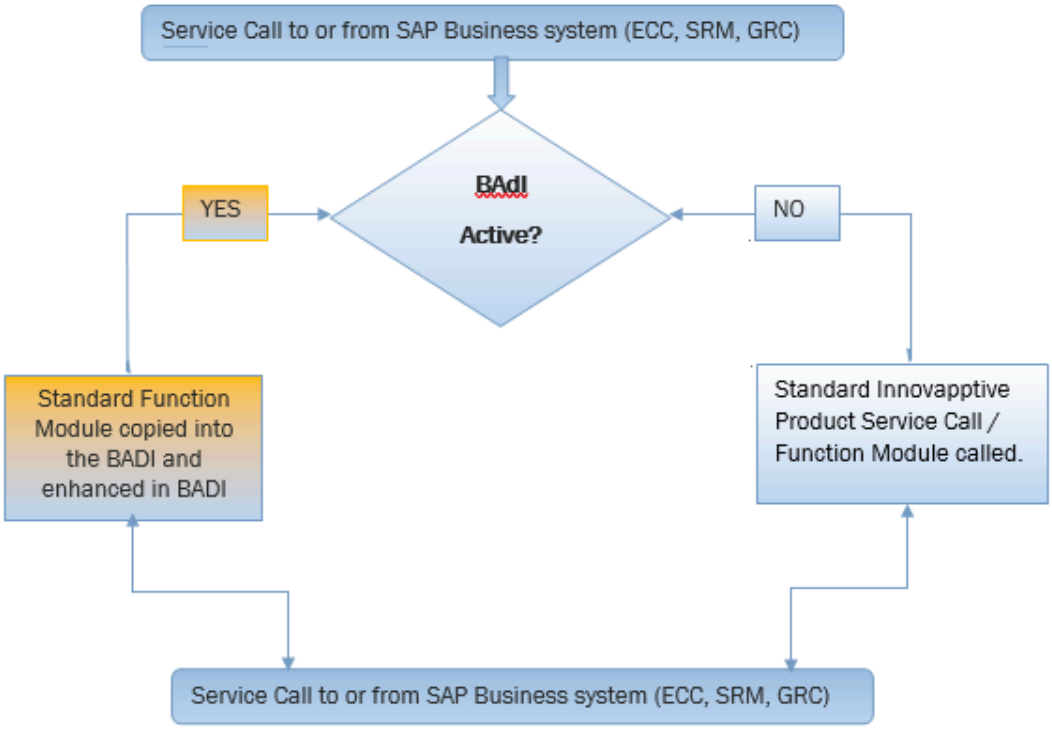


14. Implement BADIs

mWorkOrder uses SAP oDATA based on RESTful design. mWorkOrder performs service calls to read and post data from the SAP Business backend system. These service calls invoke remote enabled function modules in the backend systems to either get or post data depending on the direction of the call. Like Standard SAP code, Innovapptive Add-On code objects cannot be modified in customer systems.

Innovapptive's solution provides the ability for customers to avail additional functionality through BADIs. The enhanced / modified service calls/function modules that are designed to meet special / additional requirements of customers are replaced in the customer environment BADI.

Figure 14-1 BADI Implementation



14.1. Prerequisites for BADI Implementation

Ensure you have the following:

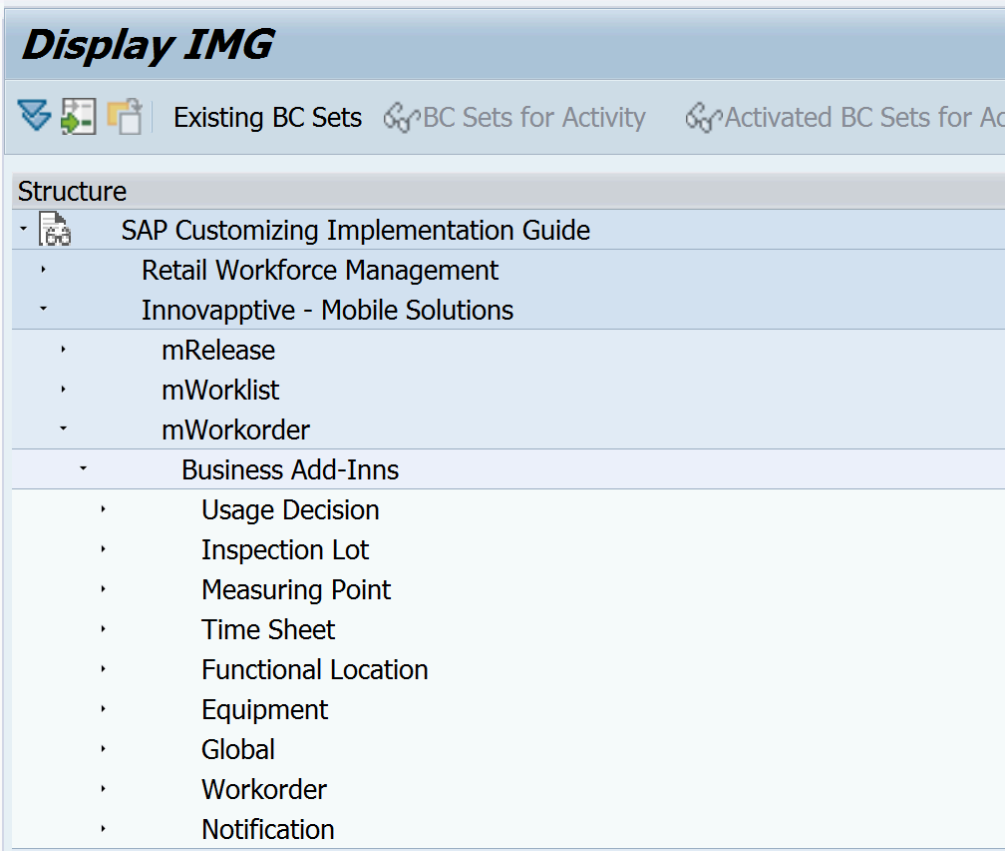
- **Access**
  - Access to the ECC system as ABAP Developer.
- **Dependency**
  - Installation of ECC and Gateway Add-ons.
  - BRD and Fit-GAP analysis has been performed. Gap resolution requires custom enhancement to be performed on the customer SAP system.
- **Assumptions**
  - Person who performs the actions outlined has full knowledge and understanding of ABAP Development and has BADIs implementation experience.
  - Standard SAP best practices are followed, and the business requirements are documented, the Fit-Gap analysis is performed, FS and TS are documented to ensure that the changes to the standard functionality are done using the SDLC process.
  - All changes done in the BADI are owned by the customer and changes and support (during upgrades) are fully owned by the customer as these are enhancements to the Product and thus no longer part of the standard Innovapptive product Add-On code. This is in line with SAP standard methodology, all enhancements/BADIs are fully owned by the customer and need to evaluate during upgrades for impact or adjustments.

14.2. Activate and Implement BADI

To activate and implement BADI:

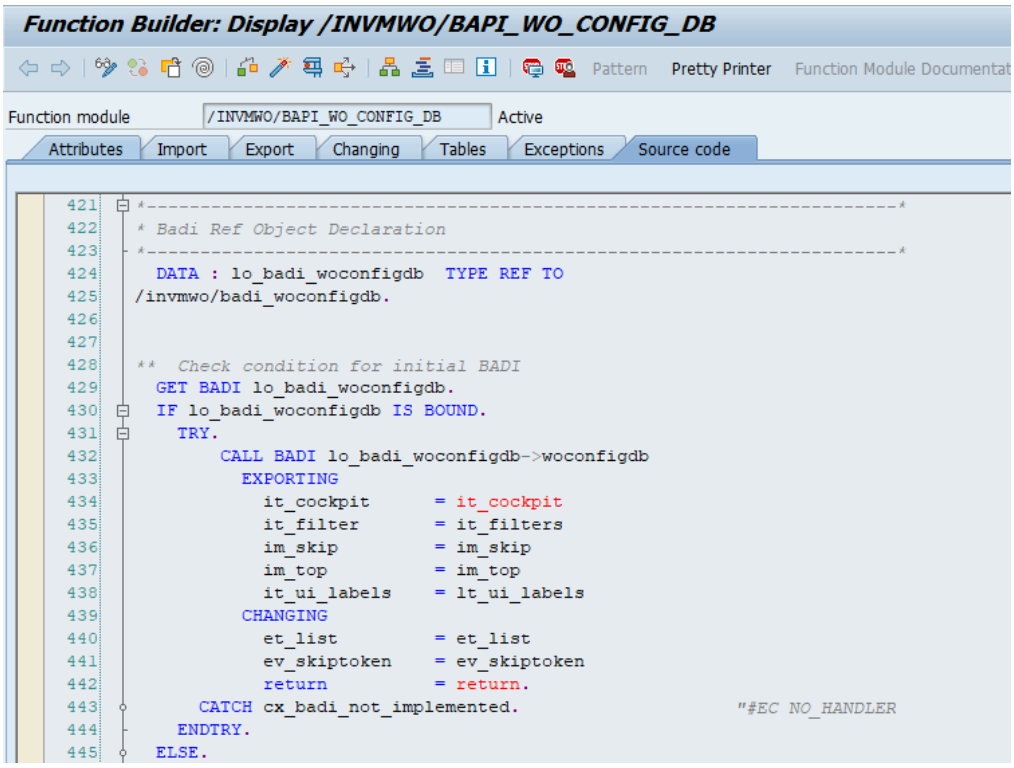
1. Log in to SAP.
2. Run transaction SPRO.
3. Click Innovapptive – Mobile Solutions, mWorkOrder and select BADI as shown in the image.
   For the list of BADIs available for mWorkOrder, see List of BADIs for mWorkOrder *(on page 114)*.

Figure 14-2 SPRO IMG Structure

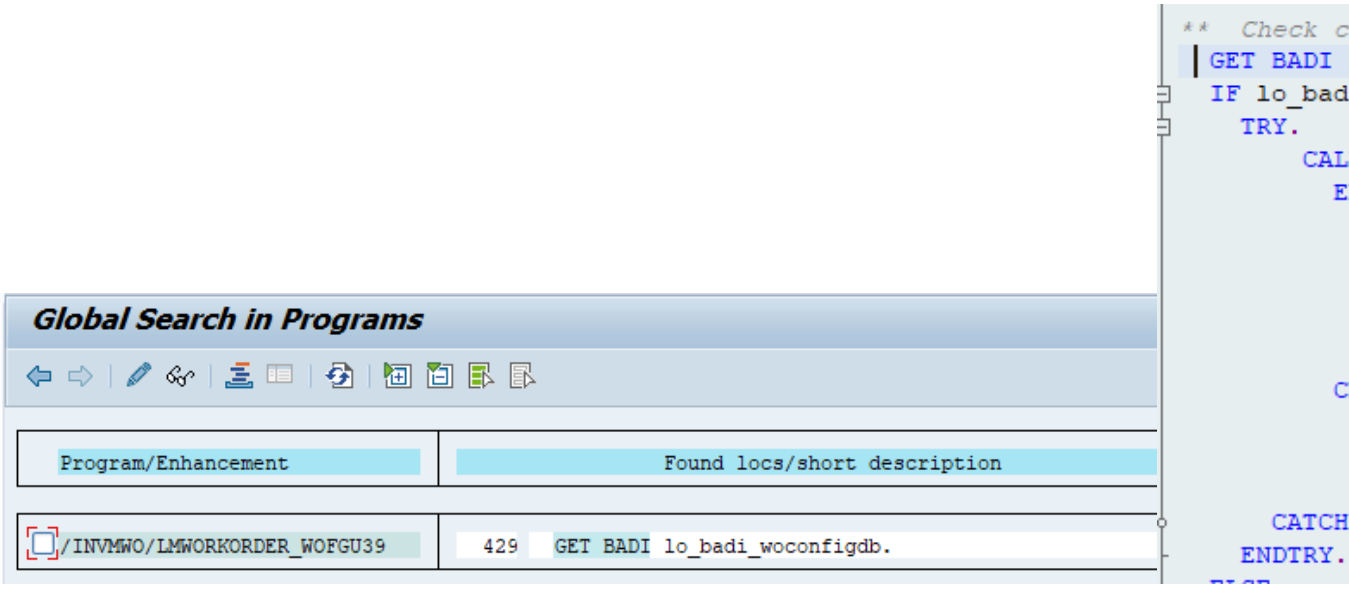


4. Click Execute.
5. Alternatively, you can use transaction SE37 and view the function module /INVMWO/BAPI_WO_CONFIG_DB. This FM is related to service call that gets WorkOrder Configurable Dashboard.

Figure 14-3 FM: /INVMWO/BAPI_WO_CONFIG_DB



6. Search the function module with the string GET BADI
7. Click GET BADI

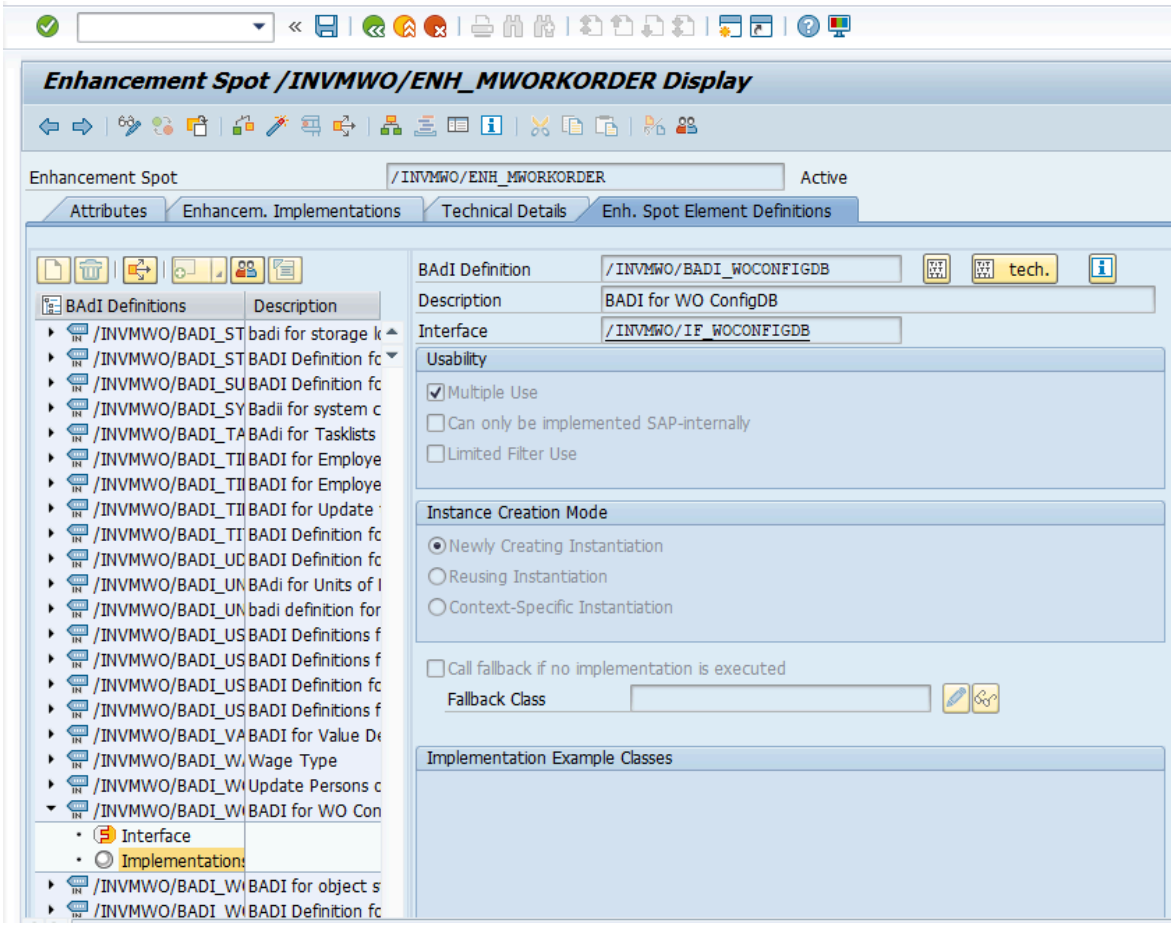


8. Double-click the BADI to navigate to the SE18 transaction

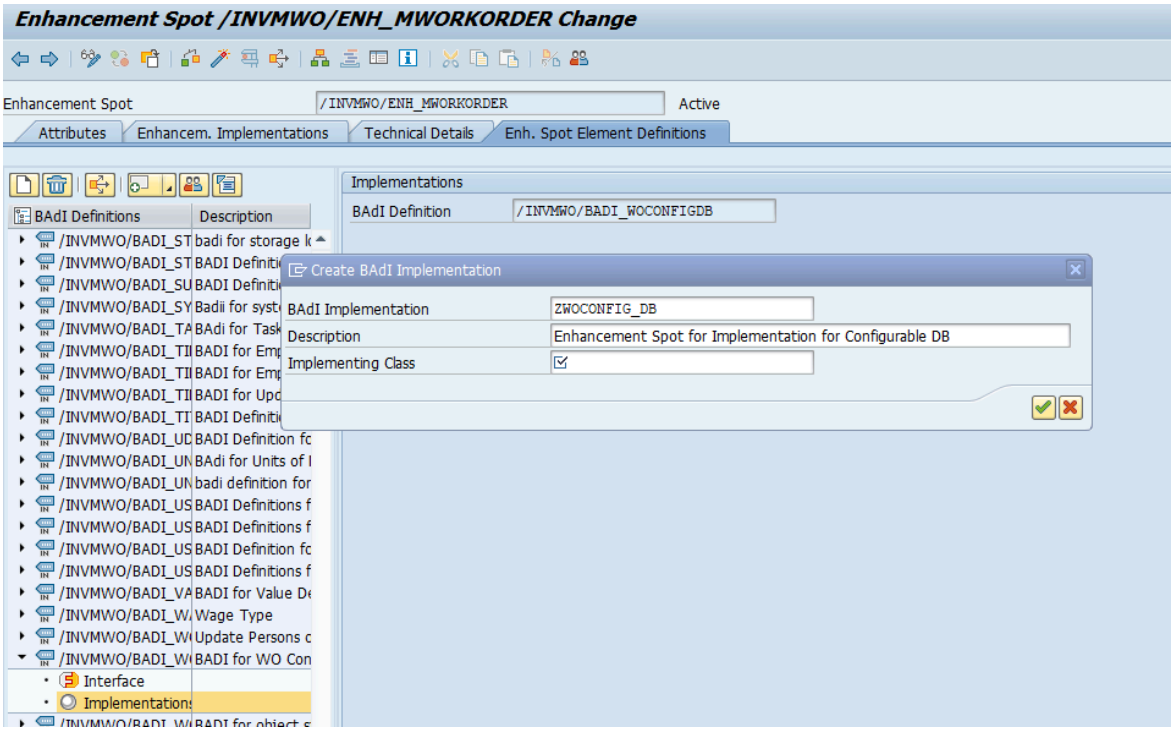
Figure 14-4 SE18

```
*---------------------------------------------------------------------*
 * Badi Ref Object Declaration
*---------------------------------------------------------------------*
  DATA : lo_badi_woconfigdb  TYPE REF TO
/invmwo/badi_woconfigdb.
```

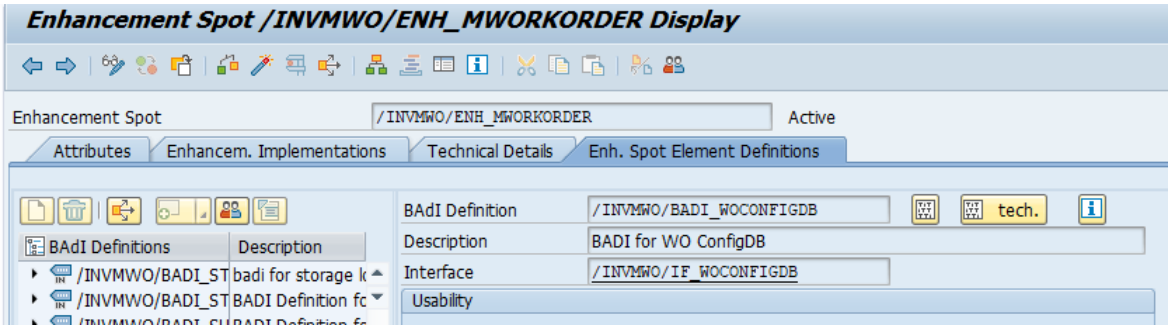
9. Click the Implementation icon for BADI.



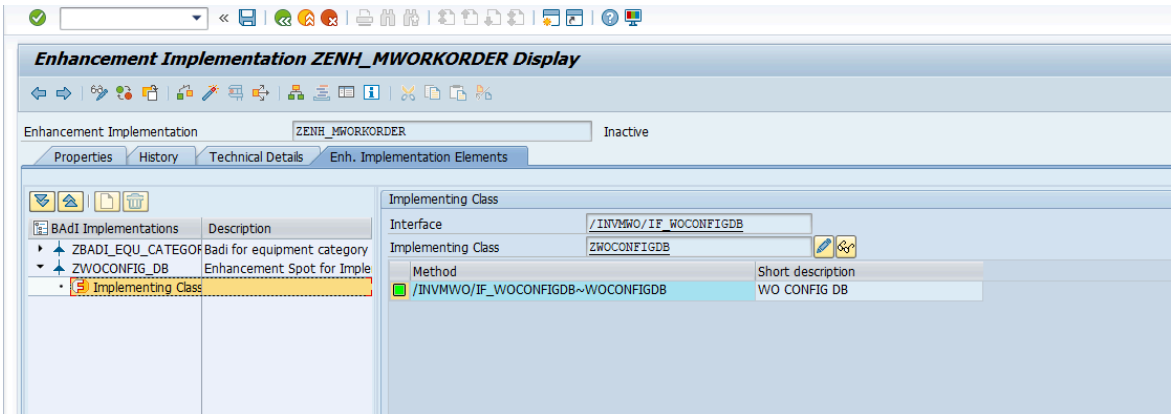
10. Enter an appropriate name (starting with Y/Z) for enhancement of spot implementation. (Follow the naming conventions and standards as per the policies and procedures defined.)



11. Enter the package name.
12. Enter an appropriate name starting with Y/Z for BADI implementation and any Z/Y name for implementing a class.

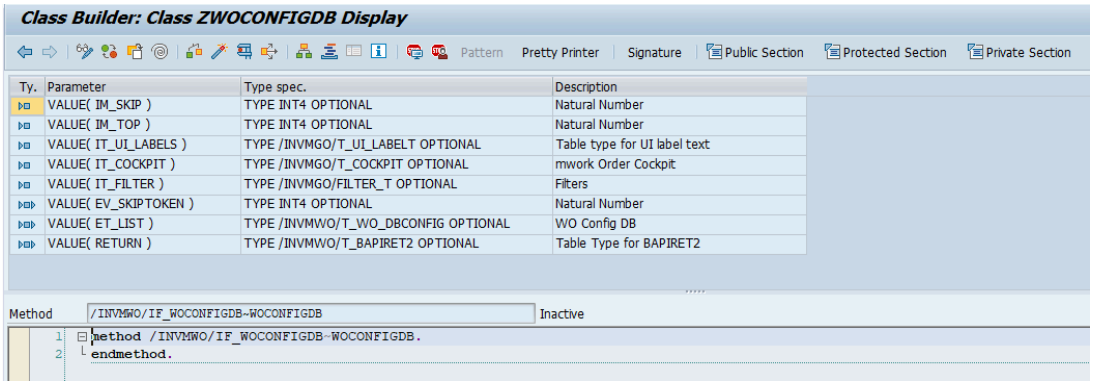


13. Click the method as shown in the following screenshot.



14. Click **Yes**.
15. Perform the development activity (code changes and enhancements) to meet the business requirements:
    a. By default, the BADI is initially blank.
    b. Copy all the lines of the code from the standard Innovapptive—delivered FM / INVMWO/BADI_WOCONFIGDB to this section.

    The code can now be enhanced by following the standard ABAP development practices.

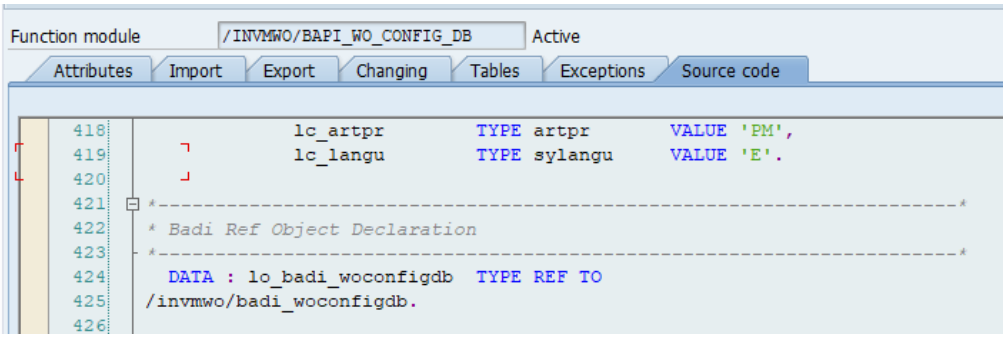


    c. Activate the BADI implementation (while activating, select all the relevant objects in the activation list).

14.3. Verify BADI Implementation

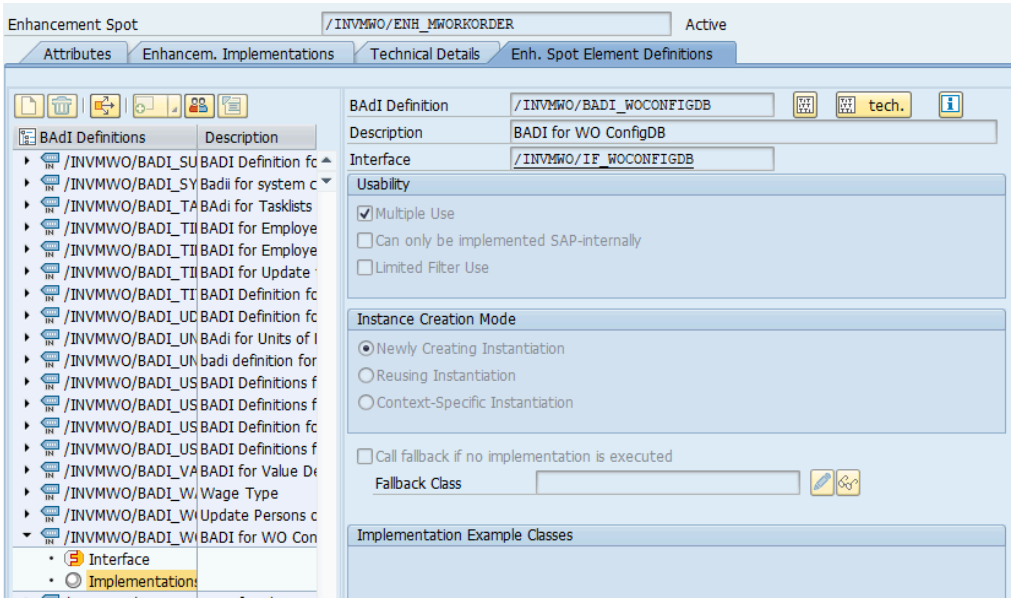
1. Run **SE37** and display the function module **/INVMWO/BAPI_WOCONFIGDB**.

Figure 14-5 Function Module: /INVMWO/BAPI_WOCONFIGDB



2. Double-click the BADI **//INVMWO/BADI_WOCONFIGDB**

Figure 14-6 BADI: //INVMWO/BADI_WOCONFIGDB



This displays the BADI implementation along with the active or inactive status.

3. Verify the **Implementation is active** check box.

14.4. List of BADIs for mWorkOrder

List of BADIs (Business Add-Ins) available as part of the mWorkOrder SAP ECC Add-on component to enhance the standard functionality with ABAP development.

Table 14-1 BADIs in mWorkOrder Application

MODULE NAME	BADI Name	BADI Description	Screen Description
EQUIPMENT	/INVMWO/BADI_ADDRNO_CREATE	BADI Definition for Address Number Create and Update	Equipment Address Create
EQUIPMENT	/INVMWO/BADI_EQUIPMENT_DETAIL	BADI Definition for Equipment List	Equipment General Display
EQUIPMENT	/INVMWO/BADI_EQUIPMENT_LIST	BADI Definition for Equipment List	Equipment Header Display
EQUIPMENT	/INVMWO/BADI_EQUI_CREATE	BADI definition for Equipment Create	Equipment Location Create
EQUIPMENT	/INVMWO/BADI_MAINTENANCE_PLANS	Maintenance Plans	Equipment Display Maintenance plant
EQUIPMENT	/INVMWO/BADI_EQUIPMENT_BOM	BADI Definition for Equipment BOM	Equipment Display Bill of Material
EQUIPMENT	/INVMWO/BADI_EQUIP_ATTACHMENTS	BADI for Equip Attachments	Equipment Filters
FUNCTIONAL LOCATION	/INVMWO/BADI_IFLO_CREATE	BADI Definition for Functional Location Create	Functional Location Header Display
FUNCTIONAL LOCATION	/INVMWO/BADI_FL_LAST_MEASPOINT	BADI Definition for Last MP List	Functional Location Measuring Counter
FUNCTIONAL LOCATION	/INVMWO/BADI_EQUIP_NEAR_ME	BADI Definition for Equipment Last Active Orders	Functional Location Near Me Notification Filters
FUNCTIONAL LOCATION	/INVMWO/BADI_PARTNER_LIST	BADI Definition for Partner List	Functional Location Partner Create
FUNCTIONAL LOCATION	/INVMWO/BADI_FUNCTIONAL_DETAIL	BADI Definition for Functional Location	Functional Location Search

Table 14-1 BADIs in mWorkOrder Application (continued)

MODULE NAME	BADI Name	BADI Description	Screen Description
INSPECTIONLOT	/INVMWO/BADI_-INSP_CHAR_LIST	BADI Definition for Inspection Lot List	Inspection Lot Characteristics Display
INSPECTIONLOT	/INVMWO/BADI_-INSP_OPERATIONS	BADI Definition for inspection Lot Operations	Inspection Lot Operations Display
INSPECTIONLOT	/INVMWO/BADI_-INSPECLOT_NO_LIST	BADI Definition for Inspection Lot List	Inspection Lot Search
MEASURINGPOINT	/INVMWO/BADI_ENTRYLIST	BADI for Entry list	Measuring Point Entry List Display
MEASURINGPOINT	/INVMWO/BADI_-MEASURING_POINT	BADI Definition for Get List of Measuring point	Measuring Point Range Limits Display
MEASURINGPOINT	/INVMWO/BADI_-MEASPOINT_CREATE	BADI Definition for Create Measuring Point	Measuring Point Header Create
MEASURINGPOINT	/INVMWO/BADI_-MEASDOC_HISTORY	BADI Definition for MP History	Measuring Point History Display
NOTIFICATION	/INVMWO/BADI_-WO_NOTIF_LIST	BADI for Notification List	Notification Map
NOTIFICATION	/INVMWO/BADI_-NOTIF_ACTIVITY_LI	BADI for Notification Activity List	Notification Activities Create
NOTIFICATION	/INVMWO/BADI_-NOTIF_CREATE	BADI for Notification Create	Notification Header Create
NOTIFICATION	/INVMWO/BADI_-NOTIF_ITEM_UPDATE	BADI Definition for Notify Item Update	Notification Items Create
NOTIFICATION	/INVMWO/BADI_-WO_NOTIF_DETAILS	BADI for Notification Details	Notification Header
NOTIFICATION	/INVMWO/BADI_-NOTIF_ITEMS_DISP	BADI for Notification Items List	Notification Items

Table 14-1 BADIs in mWorkOrder Application (continued)

MODULE NAME	BADI Name	BADI Description	Screen Description
NOTIFICATION	/INVMWO/BADI_-NOTIF_CAUSES_LIST	BADI for Notification Causes list	Notification Causes
NOTIFICATION	/INVMWO/BADI_-NOTIF_TASK_LIST	BADI for Notification Task List	Notification Tasks
NOTIFICATION	/INVMWO/BADI_-NOTIFTASK_REL_-COM	Notification Release and Complete	Notification Task Create
NOTIFICATION	/INVMWO/BADI_-NOTIF_HISTORY	BADI Definition for Notification History	Notification History
NOTIFICATION	/INVMWO/BADI_-NOTIF_CAUSES_UPD	BADI for Notification Causes Update	Notification Header Display
WORKORDER	/INVMWO/BADI_-WO_COMPONENT_-LIST	BADI for Compo-nents list	Work Order Compo-nents Create
WORKORDER	/INVMWO/BADI_-WORKORDERS_LIST	BADI for work order list	Work Order Header Create
WORKORDER	/INVMWO/BADI_-WO_OPERATION_LIST	Work Order Opera-tion List	Work Order Opera-tions Create
WORKORDER	/INVMWO/BADI_-WORKORDER_CRE-ATE	BADI Definition for Create Workorder	Work Order Header Display
WORKORDER	/INVMWO/BADI_-MATERIAL_GETLIST	BADI for Material List	Material Search
WORKORDER	/INVMWO/BADI_E-QUI_CREATE	BADI definition for Equipment Create	Work Order Header
WORKORDER	/INVMWO/BADI_-PLANNING_VIEW	BADI for PLANNING_-VIEW	Work Order Planning tasks Display

Table 14-1 BADIs in mWorkOrder Application (continued)

MODULE NAME	BADI Name	BADI Description	Screen Description
WORKORDER	/INVMWO/BADI_-WORKORDER_HISTO-RY	BADI Definitions for Workorder History	Work Order History Display
WORKORDER	/INVMWO/BADI_-WO_OPERATION_LIST	Work Order Opera-tion List	Work Order Opera-tions
WORKORDER	/INVMWO/BADI_-WO_BOM_DETAILS	BADI definition for BOM details	Work Order Compo-nents
WORKORDER	/INVMWO/BADI_-OPECONF_DETAILS	BADI Definitions for WO Operations	Work Order Oper-ation Confirmation Create
WORKORDER	/INVMWO/BADI_-ALM_CONF_CANCEL	BADI Definitions for Priority Count	Workorder DB search
WORKORDER	/INVMWO/BADI_AT-TACHMENT_CREATE	BADI Definition for attachment create	Workorder Attach-ments
WORKORDER	/INVMWO/BADI_-MATERIAL_STOCK	BADI Definition for Material Stock	Material Availability Filters
WORKORDER	/INVMWO/BADI_-WOTYPES_GETLIST	BADI for Work Order Types	WO DocType Filters
WORKORDER	/INVMWO/BADI_D-DWORKORDERS_LIST	BADI Definitions for DD Workorders List	Work Order Search
WORKORDER	/INVMWO/BADI_-NOTIF_EQUIPT_LIST	BADI for Notification Equipment list	DD Equipment Filters
WORKORDER	/INVMWO/BADI_-NOTIF_FUNLOC_LIST	BADI Notification function location list	DD Functional Loca-tion Filters
USAGEDECISION	/INVMWO/BADI_-USAGE_DEC_LIST	BADI Definitions for Usage Decision List	Usage Decision Header Display
USAGEDECISION	/INVMWO/BADI_DE-FECTS_GET	BADI Definitions for Defects List	Usage Decision De-fects Display

Table 14-1 BADIs in mWorkOrder Application (continued)

MODULE NAME	BADI Name	BADI Description	Screen Description
USAGEDECISION	/INVMWO/BADI_-USAGE_DEC_SAVE	BADI Definitions for Usage Decision Save	Usage Decision Save
TIMESHEET	/INVMWO/BADI_-TIME_ENTRY_-OVRVEW	BADI for Employee Time Entry Overview	Timesheet Filters
TIMESHEET	/INVMWO/BADI_-TIME_ENTRY_CREATE	BADI for Employee Time Entry Creation	Time Sheet Create
CREWMANAGEMENT	/INVMWO/BADI_W-C_PERSONS_UPD	Update Persons of Work Center	Pernr Search
CREWMANAGEMENT	/INVMWO/BADI_D-DEMP_LIST	BADI Definitions for Employee List	Pernr Search
WORKORDER	/INVMWO/BADI_-WO_ATTACH_DEL	BADI to delete WO attachments	Work Order
EQUIPMENT	/INVMWO/BADI_E-QUIP_ATTACH_DEL	BADI to delete Equipment attachments	Equipment
FUNCTIONALLO-CATION	/INVMWO/BADI_FL_-ATTACH_DEL	BADI to delete FL attachments	Functional location
NOTIFICATION	/INVMWO/BADI_-NOTIF_ATTACH_DEL	BADI to delete Notification attachments	Notification
MEASURINGPOINT	/INVMWO/BADI_M-P_ATTACH_DEL	BADI to delete Measuring Points attachments	Measuring Points
WORKORDER	/INVMWO/BADI_-WOCONFIGDB	BADI Definition for WOCONFIGDB	Work Order
NOTIFICATION	/INVMWO/BADI_NO-CONFIGDB	BADI Definition for NOCONFIGDB	Notification
WORKORDER	/INVMWO/BADI_-VALUE_DESC	BADI Definition for Value Descriptions	Work Order

Table 14-1 BADIs in mWorkOrder Application (continued)

MODULE NAME	BADI Name	BADI Description	Screen Description
WORKORDER	/INVMWO/BADI_-WOOBJ_STATUS_-LIST	BADI for object status and individual status for an object	Work Order
NOTIFICATION	/INVMWO/BADI_-NOOBJ_STATUS_LIST	BADI for Object or Individual status for an object	Notification
WORKORDER	/INVMWO/BADI_-ALM_CONF_CANCEL	BADI for Confirmation Cancelation	Work Order
WORKORDER	/INVMWO/BADI_-MULTIOPER_CONF	BADI for Work Order Multi Operation confirmation	Work Order
NOTIFICATION	/INVMWO/BADI_-NOTIF_UPDATE	BADI for Notif Update for overall conf	Notification
WORKORDER	/INVMWO/BADI_-WO_OPERATION_-UPD	BADI for Updating the work order	Work Order
WORKORDER	/INVMWO/BADI_-UNIT_OF_WORK	BADI Definition for Unit of Work	Work Order
WORKORDER	/INVMWO/BADI_-WO_TLIST_COMP_-PRT	BADI Definition for Tasklists Components	Work Order
WORKORDER	/INVMWO/BADI_-TASKLIST_CREATE	BADI Definition for Tasklists Create	Work Order
WORKORDER	/INVMWO/BADI_-TASKLIST_CHANGE	BADI Definition for Tasklists Change	Work Order
WORKORDER	/INVMWO/BADI_-IFLO_UPDATE	BADI Definition for Functional Location Update	Work Order

Table 14-1 BADIs in mWorkOrder Application (continued)

MODULE NAME	BADI Name	BADI Description	Screen Description
WORKORDER	/INVMWO/BADI_-MEASDOC_CREATE	BADI Definition for Create Measuring Document	Work Order
WORKORDER	/INVMWO/BADI_-WO_PRT_DOCS	BADI Definition for WO Display PRT's Document	Work Order
WORKORDER	/INVMWO/BADI_-WO_TLIST_PRTS_-DOC	BADI Definition for WO Create PRT's Document	Work Order
NOTIFICATION	/INVMWO/BADI_-NOTIF_CODEGR_LIST	BADI Definition for Notification Code group List	Notification
WORKORDER	/INVMWO/BADI_-WO_OBJECTS_DE-TAIL	BADI Definition to get Object list	Work Order
WORKORDER	/INVMWO/BADI_-WO_OBJECTS_UP-DATE	BADI Definition to update object de-tails	Work Order
WORKORDER	/INVMWO/BADI_-WO_OBJECTS_CRE-ATE	BADI Definition to create new object	Work Order
WORKORDER	/INVMWO/BADI_-MULTDFORM_DIS-PLAY	BADI Definition to get multiple form list of Workorder	Work Order
NOTIFICATION	/INVMWO/BADI_-MULTDFORM_DIS-PLAY	BADI Definition to get multiple form list of Notification	Notification
WORKORDER	/INVMWO/BADI_-MULDFORM_UPDATE	BADI Definition to update forms of workorder	Work Order

Table 14-1 BADIs in mWorkOrder Application (continued)

MODULE NAME	BADI Name	BADI Description	Screen Description
NOTIFICATION	/INVMWO/BADI_-MULDFORM_UPDATE	BADI Definition to update forms of Notification	Notification
TIMESHEET	/INVMWO/BADI_-TIME_ENTRY_CONFRM	BADI definition for timesheet confirmation	Timesheet
TIMESHEET	/INVMWO/BADI_-TIMESHEET_RELEASE	BADI for Timesheet Release	Timesheet
WORKORDER	/INVMWO/BADI_-WO_DASHBOARD	BADI Definition for Work Order and Operations Dashboard	Work Order Dashboard screen
WORKORDER	/INVMWO/BADI_-WO_DASHBOARD_-LIST	BADI Definition for Work Order and Operations Dashboard	Work Order Dashboard screen
WORKORDER	/INVMWO/BADI_-WO_WC_PERSONS	BADI Definition for Work Center and Persons Relation	Work Order Dashboard screen
WORKORDER	/INVMWO/BADI_-NOTIFSCODEGROUP	Badi for Notifications Code-group in offline.	Notification
WORKORDER	/INVMWO/BADI_-NOTIFICATIONCODE	Badi for Notification Codes	Notification
WORKORDER	/INVMWO/BADI_-WO_NO_EXPAND_-NEW	Badi for Workorder store(General store) in offline	Work Order

Table 14-2 BADIs for mWorkOrder

Module Name	BADI Name	BADI Description
WORKORDER	/INVMWO/BADI_WOORDER-ENTITYSET	BADI Definition for to get workorder details

Table 14-2 BADIs for mWorkOrder (continued)

Module Name	BADI Name	BADI Description
WORKORDER	/INVMWO/BADI_WO-ORDEROPER	BADI Definition for to get operation details
WORKORDER	/INVMWO/BADI_WO-ORDEROPERDEL	BADI Definition for Workorder Operations delete
WORKORDER	/INVMWO/BADI_WO_DYND-DENTITYSET	Dynamic Dropdown
WORKORDER	/INVMWO/BADI_WO_DYN_-CREATE	Create Dynamic extension collection
WORKORDER	/INVMWO/BADI_WO_HAN-DLCHANGESET	Workorder Handle change set
WORKORDER	/INVMWO/BADI_WO_OP-ER_UPDATE	Work order Operation Update
WORKORDER	/INVMWO/BADI_WO_OR-DERSUPDATE	Work order update
WORKORDER	/INVMWO/BADI_WOORDER-COMPDEL	Work Order Component Delete
WORKORDER	/INVMWO/BADI_WOORDER-COMP	WorkOrder Component
WORKORDER	/INVMWO/BADI_WODYNEX-TUPDATESET	Dynamic Extension Update
WORKORDER	/INVMWO/BADI_WODYNEX-TENTITYSET	Dynamic Extension
WORKORDER	/INVMWO/BADI_WODYNEX-TUPDATESET	Dynamic Extension Update
WORKORDER	/INVMWO/BADI_WOORDER-COMP	WorkOrder Component
WORKORDER	/INVMWO/BADI_WOORDER-COMPDEL	Work Order Component Delete

Table 14-2 BADIs for mWorkOrder (continued)

Module Name	BADI Name	BADI Description
WORKORDER	/INVMWO/BADI_WOORDER-ENTITYSET	Work order collection
WORKORDER	/INVMWO/BADI_WO-ORDEROPER	BADI Definition for Worko-rder Operations
WORKORDER	/INVMWO/BADI_WO-ORDEROPERDEL	BADI Definition for Worko-rder Operations delete
WORKORDER	/INVMWO/BADI_WO_DYND-DENTITYSET	Dynamic Dropdown
WORKORDER	/INVMWO/BADI_WO_DYN_-CREATE	Create Dynamic extension collection
WORKORDER	/INVMWO/BADI_WO_HAN-DLCHANGESET	Workorder Handle change set
WORKORDER	/INVMWO/BADI_WO_OP-ER_UPDATE	Work order Operation Up-date
WORKORDER	/INVMWO/BADI_WO_OR-DERSUPDATE	Work order update
WORKORDER	/INVMWO/BADI_WODYNEX-TENTITYSET	Dynamic Extension
WORKORDER	/INVMWO/BADI_WOCOUN-TENTITYSET	Count Entity
WORKORDER	/INVMWO/BADI_WOAT-TACHENTITYSET	Workorder Attachment
WORKORDER	/INVMWO/BADI_WOAPP-DATAENTITYSE	App Data Configuration
WORKORDER	/INVMWO/BADI_USER_DE-TAILS	User details
WORKORDER	/INVMWO/BADI_SEARCH_-FILTER	Search and filters

Table 14-2 BADIs for mWorkOrder (continued)

Module Name	BADI Name	BADI Description
WORKORDER	/INVMWO/BADI_OPERATION_LIST	Operation List
WORKORDER	/INVMWO/BADI_DD_DROPDOWN	Dynamic drop down : sub
WORKORDER	/INVMWO/BADI_COMPONENT_UPDATE	Component update
WORKORDER	/INVMWO/BADI_COMPONENT_LIST	Get Component List
WORKORDER	/INVMWO/BADI_ATTACHCREATESET	Attachment creation

15. Generate Secondary Indices

To improve the application performance, for tables containing large amounts of data, generate secondary indices for key tables relevant for the product.

Note:
Ensure you have ABAP Developer access to ECC system with authorization to maintain tables and set up table indexes.

Table 15-1 Secondary Indice - Table and Field

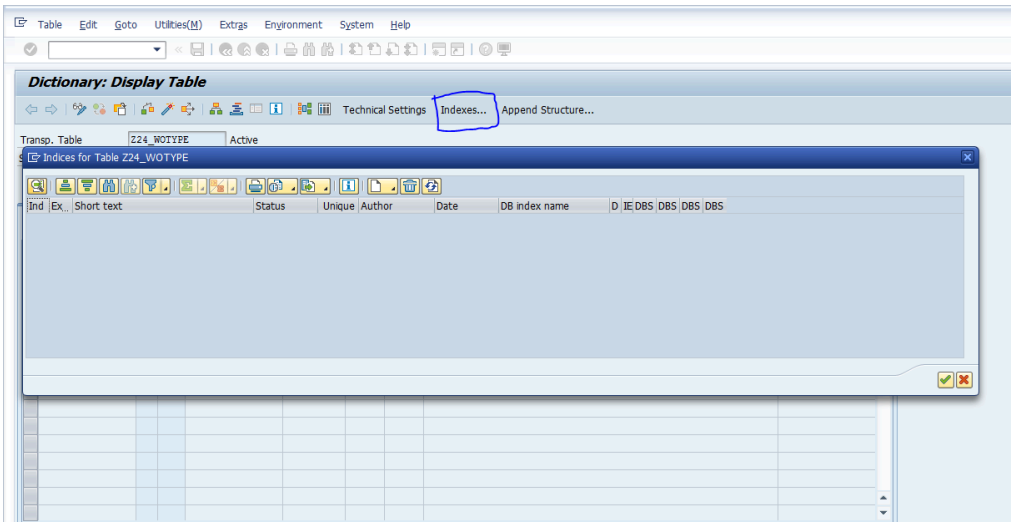
Table	Field for Secondary Index
PLKO	WERKS
AFIH	GEWRK
AUFK	WERKS

15.1. Create Secondary Index

To create secondary index:

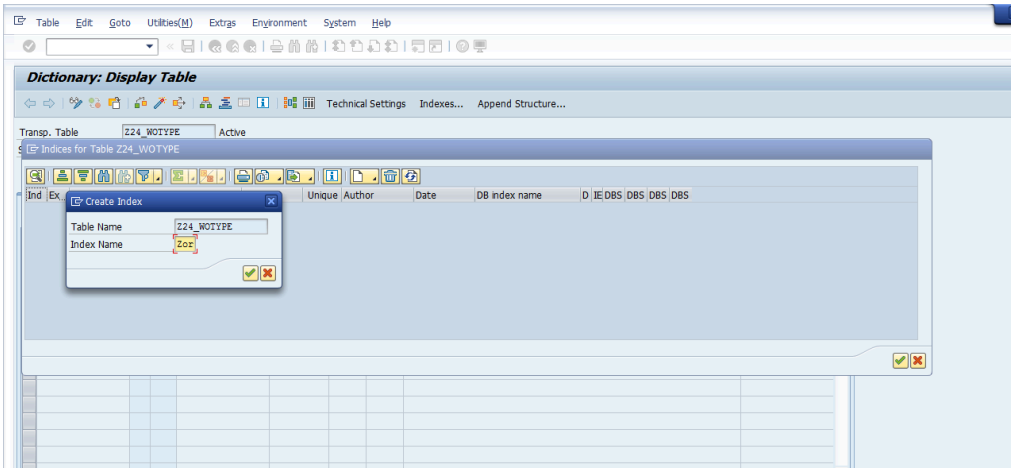
1. Log in to SAP ECC.
2. Go to transaction SE11.
3. Enter the Table name.
4. Click Display to view the table.
5. Click Indexes.

Figure 15-1 Display Table - Indexes



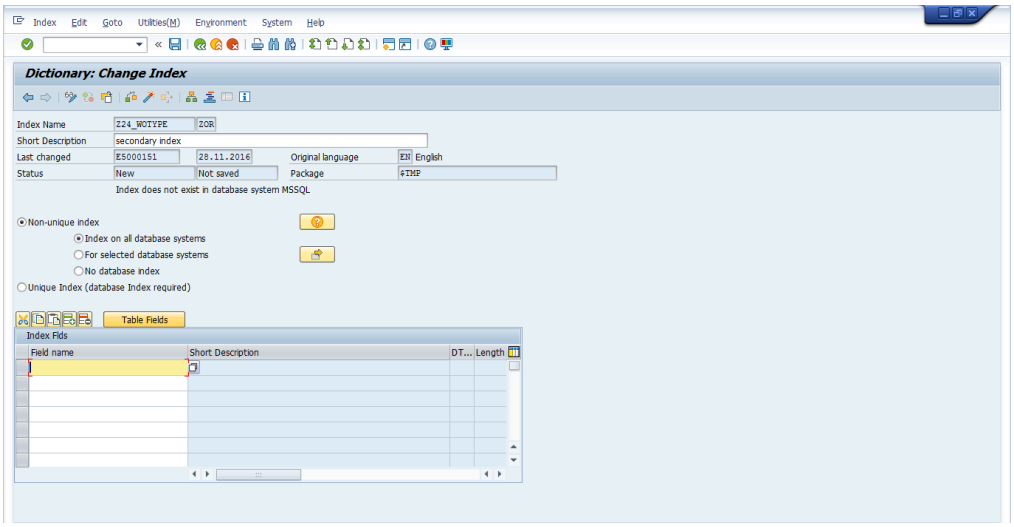
6. Click Create and select Create Index.
7. Enter the Index Name.

Figure 15-2 Create Index - Index Name



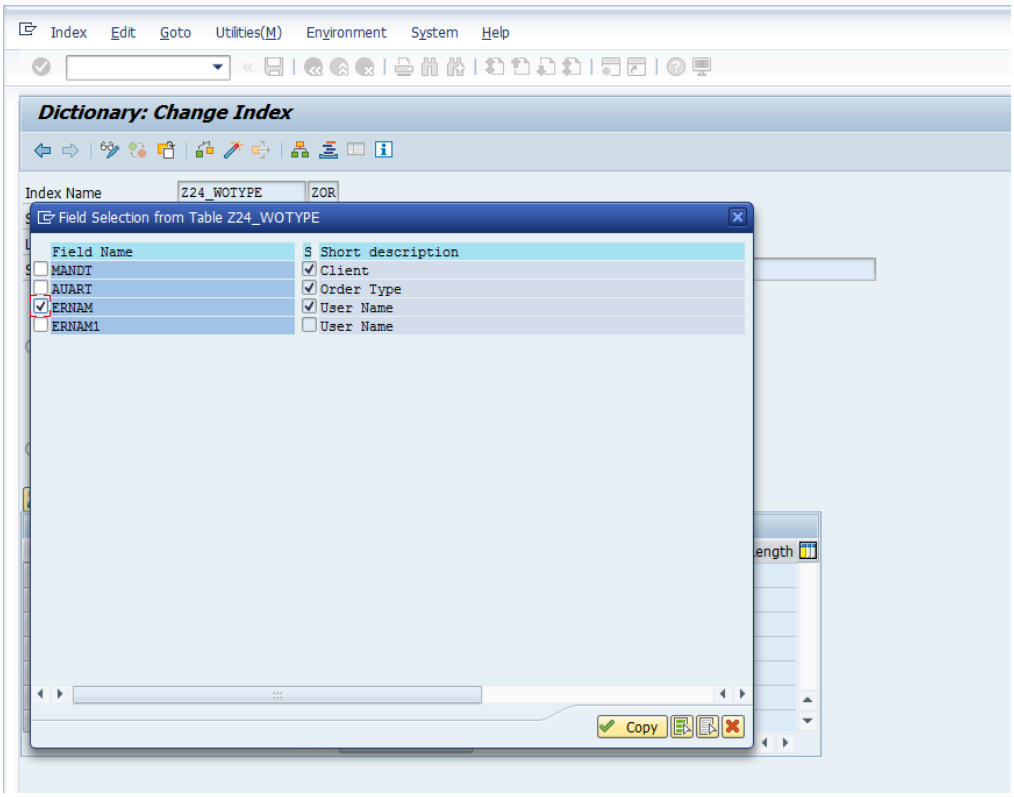
8. Enter description in the displayed fields.
9. Select **Table Fields** option to enter the Field name.

Figure 15-3 Table Fields



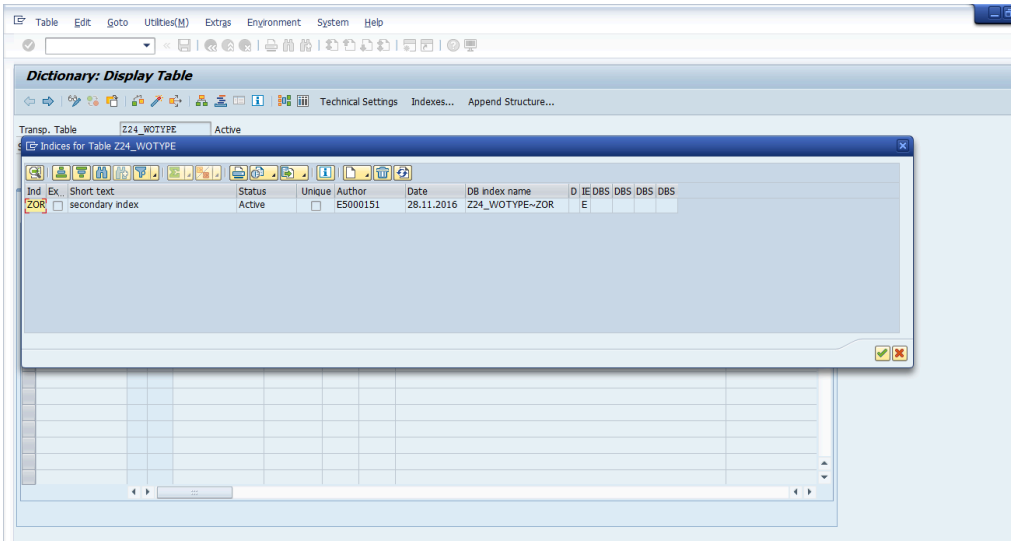
10. Select the required field for secondary index and click Copy.

Figure 15-4 Select Table Fields



11. Click **Activate**.

Figure 15-5 Activate Index



16. Update Resource File

This section describes the steps to view and modify the content, format, and structure of the Resources file.

As part of the initial product deployment, Innovapptive will provide a default zip file that needs to be updated to reflect your settings and branding needs.

mWorkOrder application resource file **resources_mworkorder.zip** on Windows platform is used as an example to demonstrate the steps and actions that are needed to be performed. The same steps can be followed for other products and platforms as well using the appropriate file and product names for other products.

To prepare and update the resource file:

1. Download the resources_mworkorder_zip file to the local drive.
2. Extract the resource_mmworkorder.zip file.

   The folder structure: **resource_mworkorder, Dev, ios** is displayed after successful extraction:
3. Navigate to the iOS folder. (Same file and settings are applicable for iOS, Android, and Windows).
   Standard images, logo, and the settings file are displayed in the folder.
4. Open the file **settings.json** in Notepad/Notepad++ (any standard text file editor).
5. Modify the default setting from **settings.json** file as required.

Table 16-1 json file attributes

Attribute	Description
AppName	This field is used to identify the Innovapptive product name. **Conditions:** Use uppercase alphabets. **Possible Values:** Based on the product, refer to the table Table 16-3 : AppName and App id *(on page 135)*. **Example:** MWORKORDER
Environment	Identifies the landscape to which the mobile application is connected. This value is displayed on the Login page of the mobile app.

Attribute	Description
	Conditions: None **Possible Values:** Development/Quality/Production
ShowDemoButton	Set to True to display the Sample Data button on the application Login page. Upon clicking the sample data, the user can view the demo data. **Conditions:** Use lowercase alphabets. **Possible Values:** true/false
hcolor	Custom header color for application. Use this parameter to customize the app screen elements, such as the header bar, to meet your corporate branding needs. Work with your appropriate branding team to identify the color that meets your enterprise palette. **Tip:** Using the Google Hex color picker, you can identify the Hex color code value that needs to be set up. To find the hex color code, go to www.google.com and search for “hex color picker.” Select the desired color and you will see the color code. **Condition:** Use the Hex color code value based on the color you would like to see on the mobile app screen elements. **Possible Values:** As per the requirement. **Example:**#42c2f4
TouchId	Set the value as **True** to enable the **Touch ID** feature in application.

Attribute	Description
AppPassCode	Set the value as **True** to enable the **App Passcode** feature in application**.**
ForgotPwd	Set the value as **True** to enable the **Forgot Password** feature in application.
ForgotPwdLink	Set the value as **True** to display the website link to reset password.
ForgotPwdMsg	Set the value as **True** to display the message to reset password.
Languages	Languages that are configured in the **settings.json** file are displayed to the user as a drop-down menu for selection. Additional languages can be added provided the language is available in SAP and the necessary translations are maintained. **Syntax:** `{"id":<SequenceNumber>,"key":"<SAPLanguageCode>", "value": "<LanguageName>"}` **Possible Values:** Languages supported by SAP **Example:** {"id":1,"key":"E","value":"English"} **Note:** For RACE™ Dynamic Forms, only English language is supported.
Timeout	Application idle Timeout (in minutes). This setting allows the administrator to specify the automatic time out when apps are left idle. **Example:**D30

6. Review and update the content block for each environment (Development, Quality, and Production).

> **Note:**
> Values described in the following table are case sensitive and are recommended to be used in the same format as mentioned in the Description section. All the values are mandatory.

Table 16-2 json parameters

Parameter	Description
Server	The DNS/HostName of the SMP/SCPms servers, which will be used for mobile application connection. **Example:** smp.innovapptive.com
Port	The application establishes the communication to the server based on the specified port number. **Possible Values:** 8080, 8081, 443 **Example:** HTTP/HTTPs (SMP default HTTP port 8080, HTTPs 8081, SCPms HTTPs 443 and custom ports for proxy)
ApplicationID	ApplicationID is the ID configured in SMP/SCPms and the mobile application will use it to connect to server for the registration. **Condition:** Use the same application ID as defined in SMP/SCPms. **Possible Values:** Based on the product, refer to the table below. **Example:.**com.innovapptive.mworkorder

Parameter	Description
SecurityType	This field is used to identify the security type configured in SMP/SCPms server for the application. Security types are used based on authentication mechanism/login mechanism selected for the application. **Condition:** Use the same security profile name as defined in SMP/SCPms. **Example:** Basic Authentication (SSO2), SAML Authentication (SAML) and x509 authentication(x509) mechanisms.
https	This field is used to identify the protocol type. The default value should be set to **false**. **Conditions:** Use lowercase alphabets. **Possible Values:** true/false
Whitelist [ApplicationID]	All Innovapptive applications require connection settings for RACE™ services and may require other connection settings also. mWorkOrder application requires connection setting for RACE™, EQUIPMENT, FUNCTIONALLOCATION, and ATTACHMENT. **Example**. com.innovapptive.race, mwo.equipment, mwo.funloc and mwo.attach.
Whitelist [StoreName]	This field describes the name Offline stores for whitelist ApplicationIDs. RACE™ store is common for all Innovapptive applications.

Parameter	Description
	mWorkOrder application requires to configure for following StoreName – RACE™, EQUIPMENT, FUNCTIONALLOCATION, and ATTACHMENT.

Figure 16-1 Sample JSON Settings file


```
{
  "Server": "smphost",
  "Port": "8080",
  "ApplicationID": "com.innovapptive.mworkorder",
  "SecurityType": "SSO2",
  "https": false,
  "AppName":"MWORKORDER",
 "Environment": "Development",
  "ShowDemoButton":true,
  "hcolor":"#445E75",
 "TouchId":true, "AppPassCode":true, "ForgotPwd":true, "ForgotPwdLink":false, "ForgotPwdMsg":"http://www.innovapptive.com/", "StoreName":"",
 "Languages":[{"id":1,"key":"E","value":"English"},{"id":2,"key":"D","value":"German"},{"id":3,"key":"F","value":"French"},
{"id":4,"key":"S","value":"Spanish"},{"id":5,"key":"P","value":"Portuguese"},{"id":6,"key":"1","value":"Chinese"},{"id":7,"key":"M","value":"Thai"}],
 "Timeout":"D30", "Whitelist":[{"ApplicationID": "com.innovapptive.mworace","StoreName":"RACE"},{"ApplicationID": "mwo.equipment","StoreName":"EQUIPMENT"},
{"ApplicationID": "mwo.funloc","StoreName":"FUNCTIONALLOCATION"},{"ApplicationID": "mwo.attach","StoreName":"ATTACHMENT"}]
}
```


ApplicationID and **AppName** depend on the app that you configure. The following table will help to configure the details.

Table 16-3 AppName and App id

Name	APP ID	AppName
Mobile Asset Tag	com.innovapptive.massettag	MASSETTAG
Mobile Inventory	com.innovapptive.minventory	MINVENTORY
Mobile Service Order	com.innovapptive.mserviceorder	MSERVICEORDER
Mobile Shopping Cart	com.innovapptive.mshop	MSHOP
Mobile Worklist	com.innovapptive.mworklist	MWORKLIST
Mobile Work Order	com.innovapptive.mworkorder	MWORKORDER
RACE™ Dynamic Forms	com.innovapptive.racedynamicforms	RACEDYNAMICFORMS

7. Save the **settings.json** file with the same name. (As a best practice, maintain a backup of the file with a different name)

8. Update the Image files.
   The .png image files that are provided can be replaced with images to meet your branding needs. Ensure that the file format, image size, quality, resolution, and so on are aligned with the image that is being replaced.
9. Compress the following files with the updated files from Part 1 & 2 into a zip file with the name **resources_ios.zip**. Ensure that the content and filenames are exactly matching.
   - App_BG_iPad_Landscape.png
   - App_BG_iPad_Protrait.png
   - App_BG_iPhone.png
   - App_Logo.png
   - settings.json

17. Download App and Install

Download the latest version of mWorkOrder app from Apple App Store, Google Play or the Microsoft Store and install it on your devices.