# How to Setup Notifications in Fiori 2.0 Step-by-Step

## SAP S/4HANA 1610

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## Document History

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# Abstract

This document contains all the information about how to set up Notifications in Fiori 2.0. This document will also specify which part should be configured in the Hub system and which part should be configured in Backend system.

| ℹ **Note** | • In this document, we will use the following environment: |
| --- | --- |
| | SAP S/4HANA 1610 ON PREMISE |
| | SAP FIORI FRONT-END SERVER     3.0 |

| ➡ **Requirement** | • SAP_UI 751 SP00 or higher and GWFND 7.51 SP00 or higher on Notification Hub system. |
| --- | --- |
| | • GWFND 7.51 SP00 or higher on Backend system. |

## Create Roles from PFCG Role Templates

The Notification Channel framework provides predefined roles as templates for developers, administrators, end users and so-called provider users. You can configure the roles based on the provided templates and assign roles to the users.

| Template Name | Description |
| --- | --- |
| /IWNGW/RT_BEP_ADM | Role template for Notification Channel backend administrator |
| /IWNGW/RT_HUB_ADM | Role template for Notification Channel hub administrator |
| /IWNGW/ RT_NP_DEV | Role template for Notification Channel developer |
| /IWNGW/RT_USER_CONSU | Role template for Notification Channel consumer user |
| /IWNGW/RT_USER_PRODU | Role template for Notification Channel producer user |

1. Run transaction code PFCG.
2. Input the Role name. In our example, it is called **ZNTBEPADM** and click the "Single Role" button.
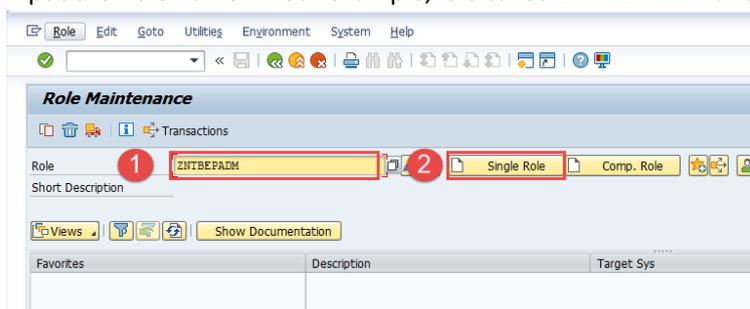


**Figure 1 – Create PFCG role**

3. Input "Description".
4. Click "Save" button.
5. Click "Authorization" tab.
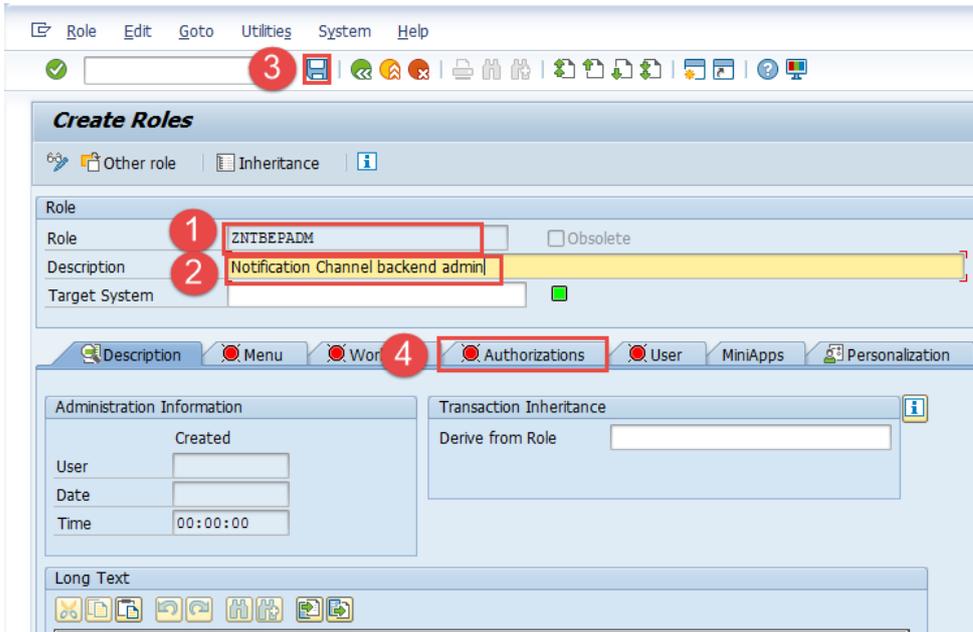


**Figure 2 – Save the PFCGF role**

6. Click "Change Authorization Data" button.
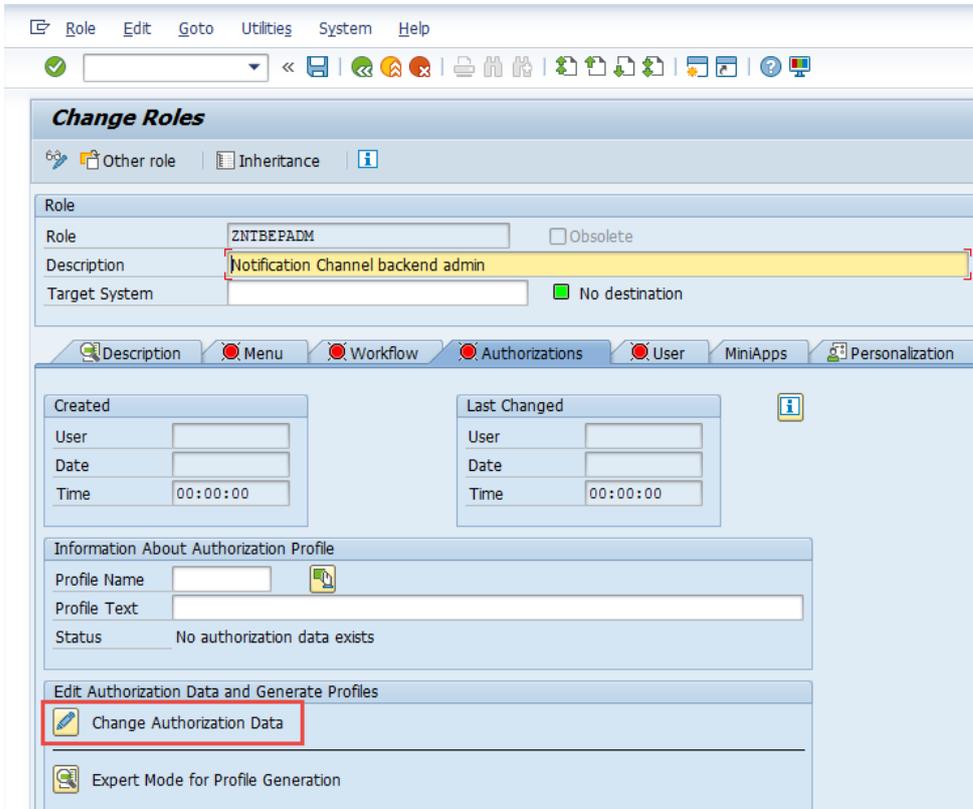


**Figure 3 – Change Authorization Data**

7. Select "/IWBEP/RT_BEP_ADM" and click "Apply Template" button.
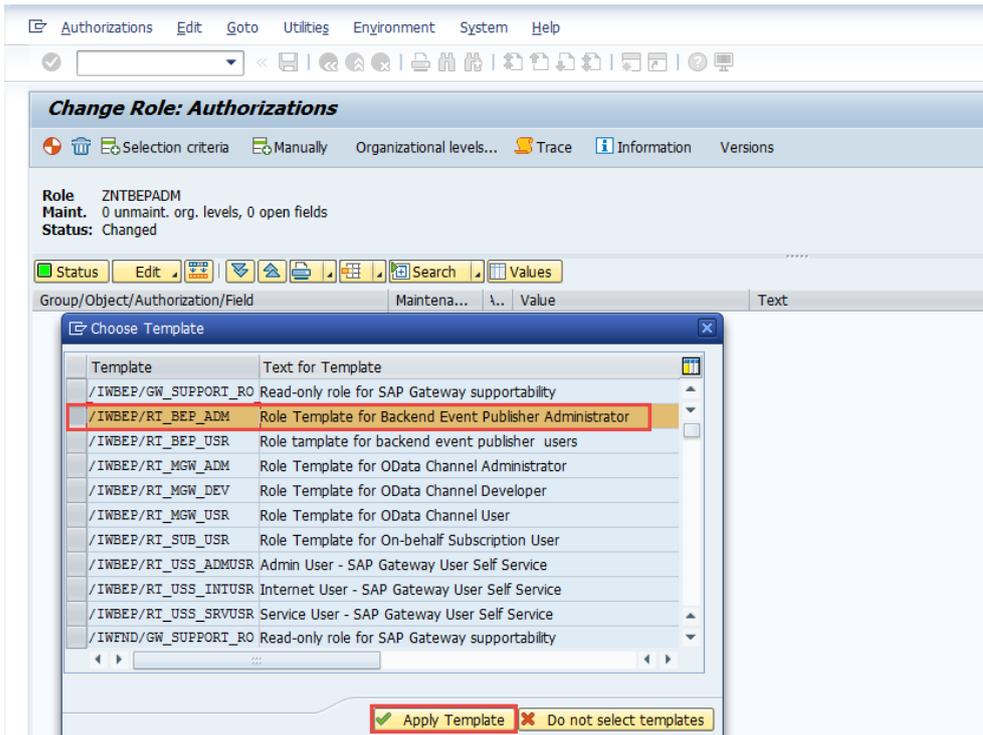


**Figure 4 – Choose template**

8. Click "Save" button.
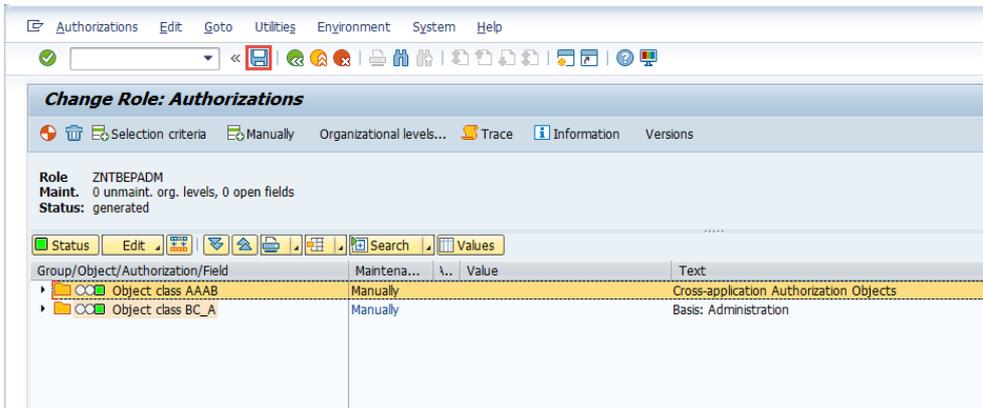


**Figure 5 – Save the role**

9. Click the "Generate" button to generate the role profile.
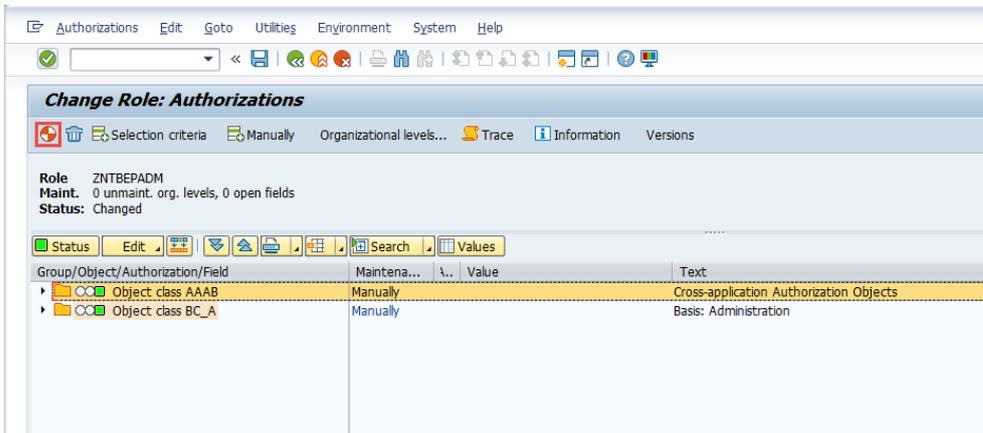


**Figure 6 – Generate the role profile**

10. Save the generated profile.
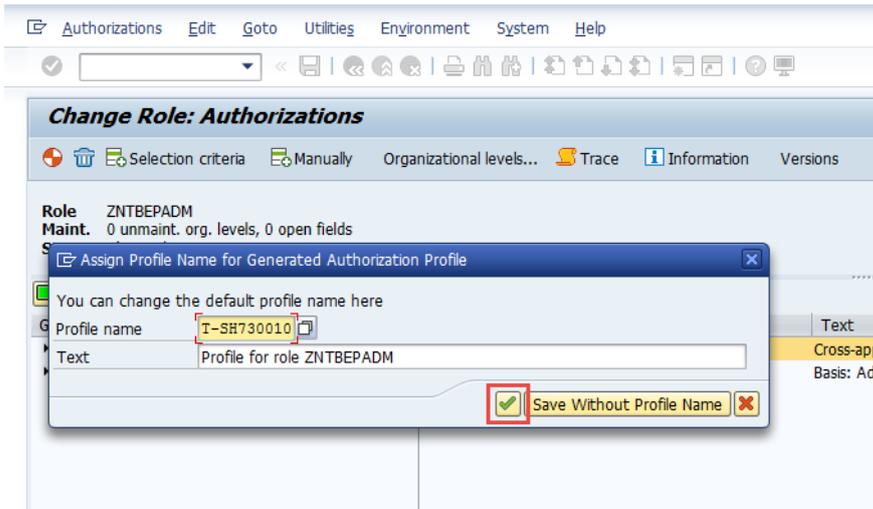


**Figure 7 – assign profile name for generated profile**

11. Click "User" tab.
12. Enter the ID of the Notification Channel Backend administrator.
13. Click "Save" button.
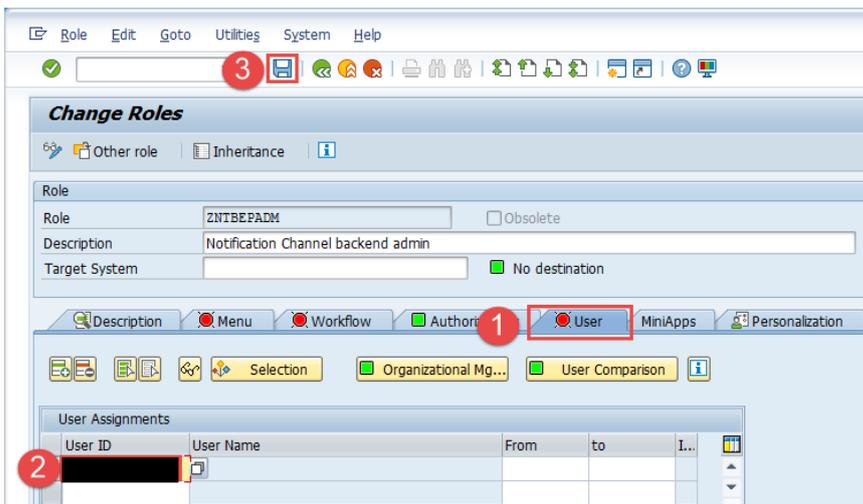


**Figure 8 – assign the role to the user**

14. Click "User Comparison" button.
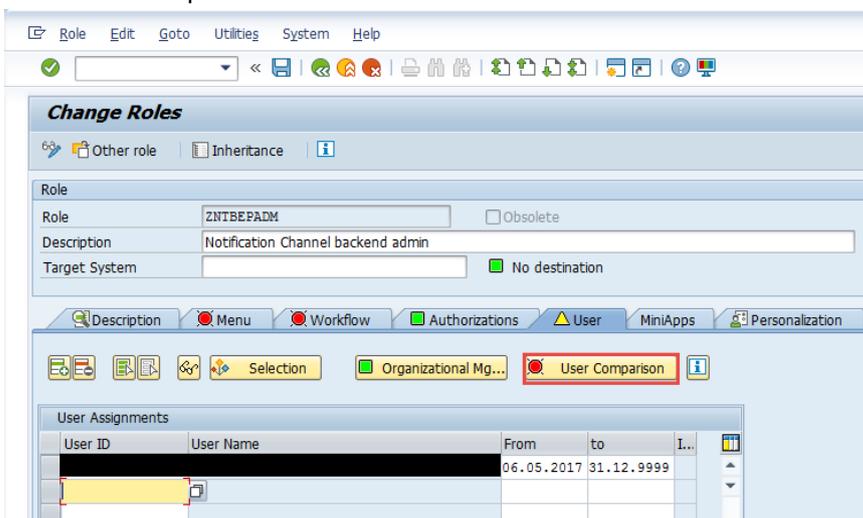


**Figure 9 – User comparison**

15. Click "Complete comparison" button.
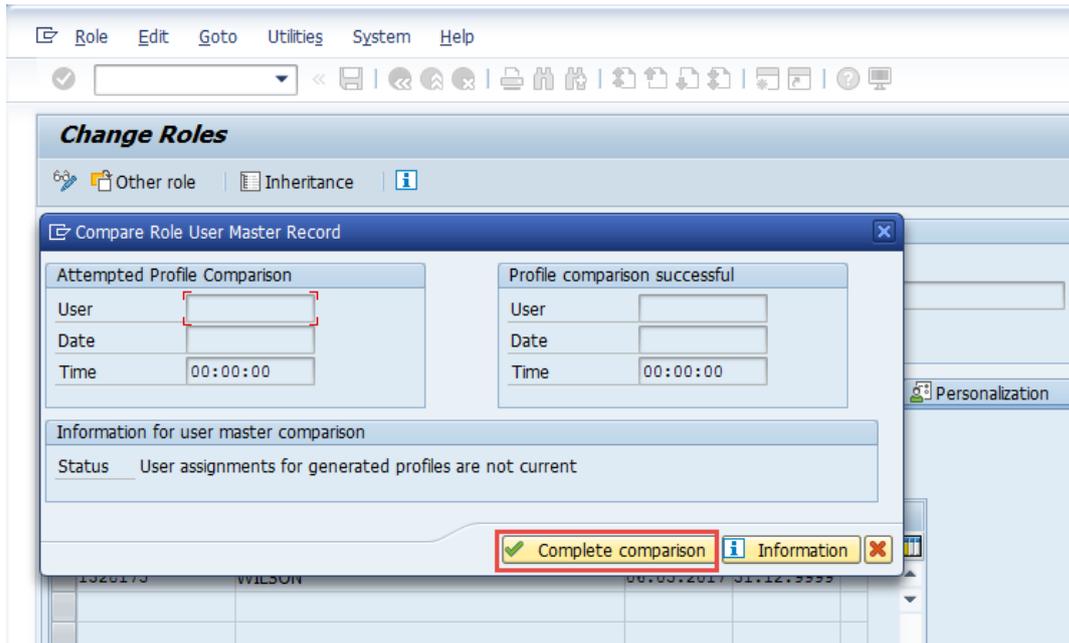


**Figure 10 – Compare Role User Master Record view**

16. Close the popup.
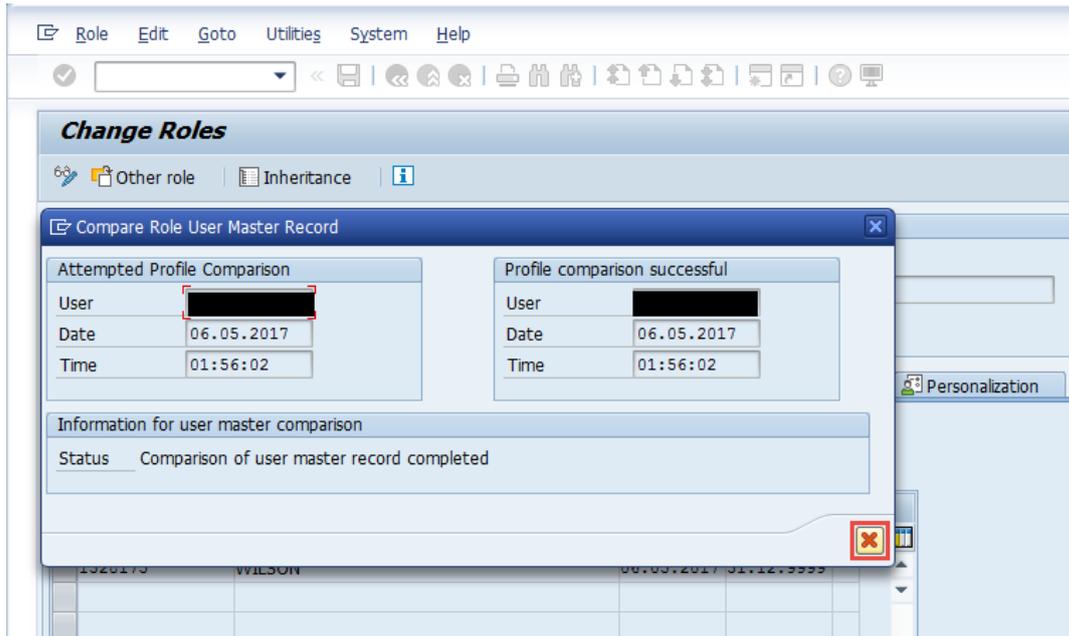


**Figure 11 – Complete comparison**

17. Please repeat the above steps to create the other PFCG roles form the role template.
18. Assign the newly created roles to the eligible user based on their role.

| ⓘ **Note** | • The roles created from the following template should be created in Notification hub system: /IWNGW/RT_HUB_ADM, /IWNGW/RT_USER_CONSU, <br> • The roles created from the following template should be created in Backend system: /IWNGW/RT_BEP_ADM, /IWNGW/RT_NP_DEV, /IWNGW/RT_USER_PRODU |
| --- | --- |

In this session, you can find the information about configuring Notification Hub. Notification Hub collects notifications to be shown in the Notification Center.

| ℹ **Note** | • The configuration in this chapter should be performed in the Hub system. |
|---|---|

## Create system alias

| ℹ **Note** | • For Embedded deployment, we need one system alias called LOCAL. |
|---|---|
| | • For Hub deployment, we need two system alias, one is "Local", the other one is pointing to the Backend system. |

1. After login to the Hub system, run transaction code SPRO.
2. Select "SAP Customizing Implementation Guide".
3. Select "SAP NetWeaver".
4. Select "Notification Channel".
5. Select "Notification Channel Hub".
6. Select "Configuration".
7. Select "Connection Settings".
8. Execute "Manage SAP System Alias".
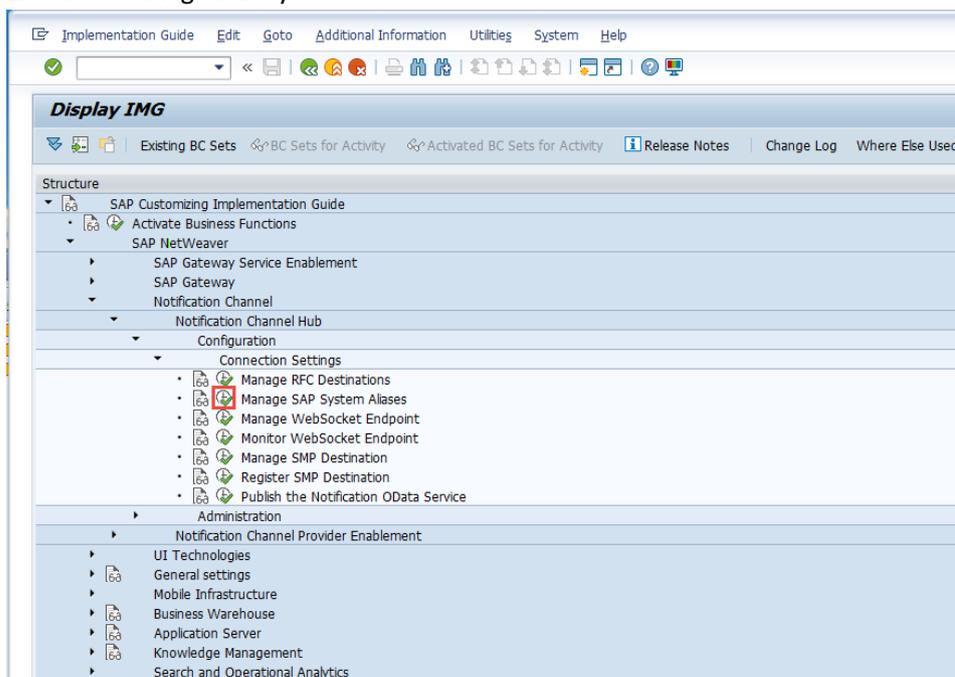


**Figure 12 – Display IMG**

9. Create an SAP system alias called LOCAL, RFC destination to NONE. If it exists, please skip this step.
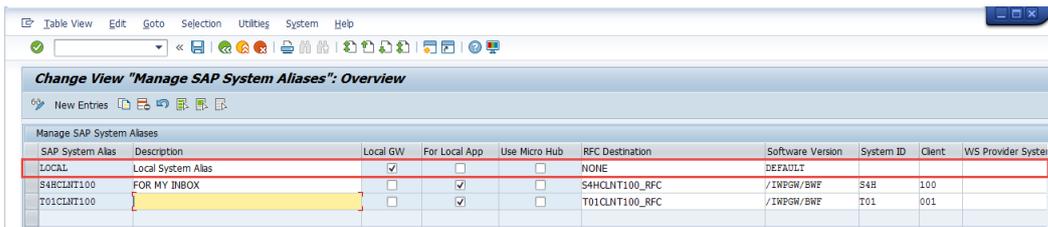


**Figure 13 – Manage SAP System Alias overview**

10. Click "New Entries" button.

11. Create an SAP system alias with the RFC destination pointing to the backend system then Save it. If you are in Embedded scenario, please skip this step.
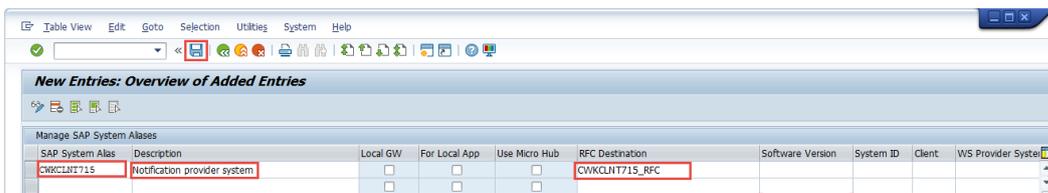


**Figure 14 – Create system Alias**

12. Select a transport request and click "Save" button.
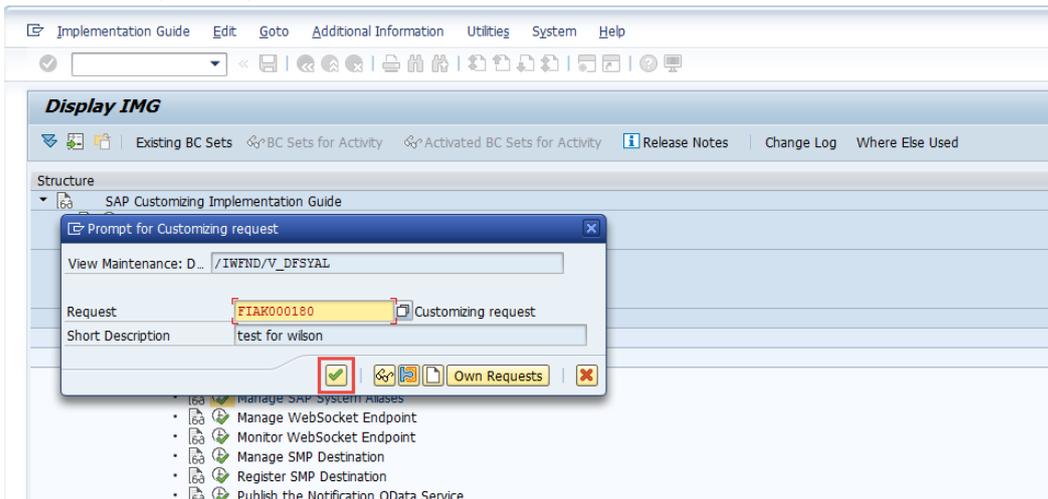


**Figure 15 – Assign transport request**

## Activate SICF Service for OData V4

1. Run transaction code SICF.

2. Enter "/sap/opu/odata4" in the Service path field and click "Execute" button.
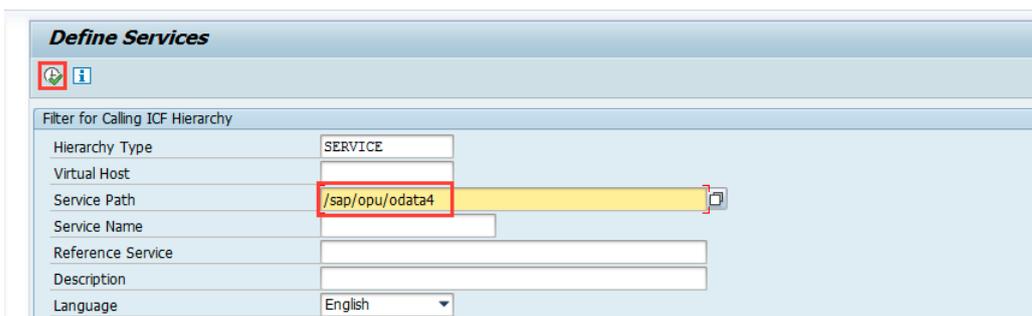


**Figure 16 – SICF view**

3. The screen will display as below:
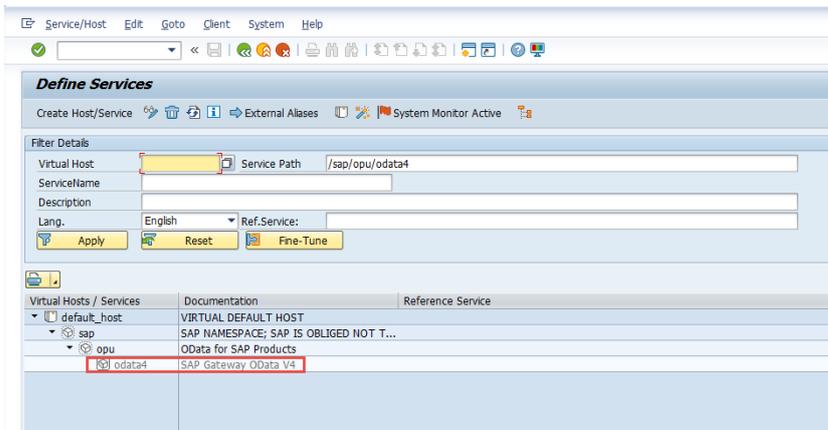


**Figure 17 – Activate SICF service**

4. Right click the SICF node and click "Activate Service" item.
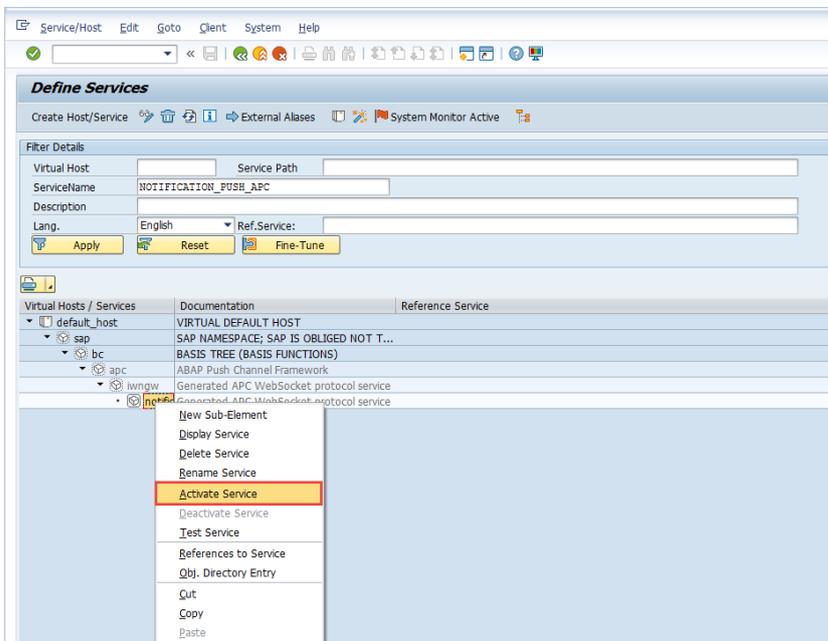


**Figure 18 – Activate SICF service**

5. Click the second "Yes" button.
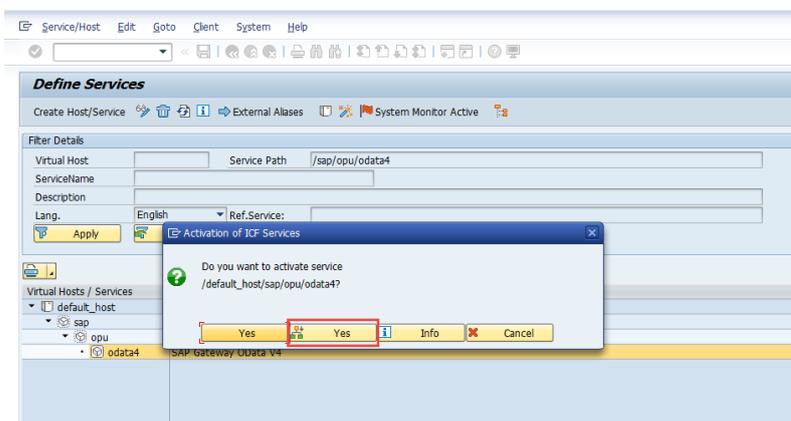


**Figure 19 – Activate SICF service**

# Publish Notification OData Service

OData V4 service /IWNGW/NOTIFICATION_SRV is used to create notification and execute all other task with respect to this notification.

6.  Execute "Publish the Notification OData Service' or run transaction code /N/IWFND/V4_ADMIN.
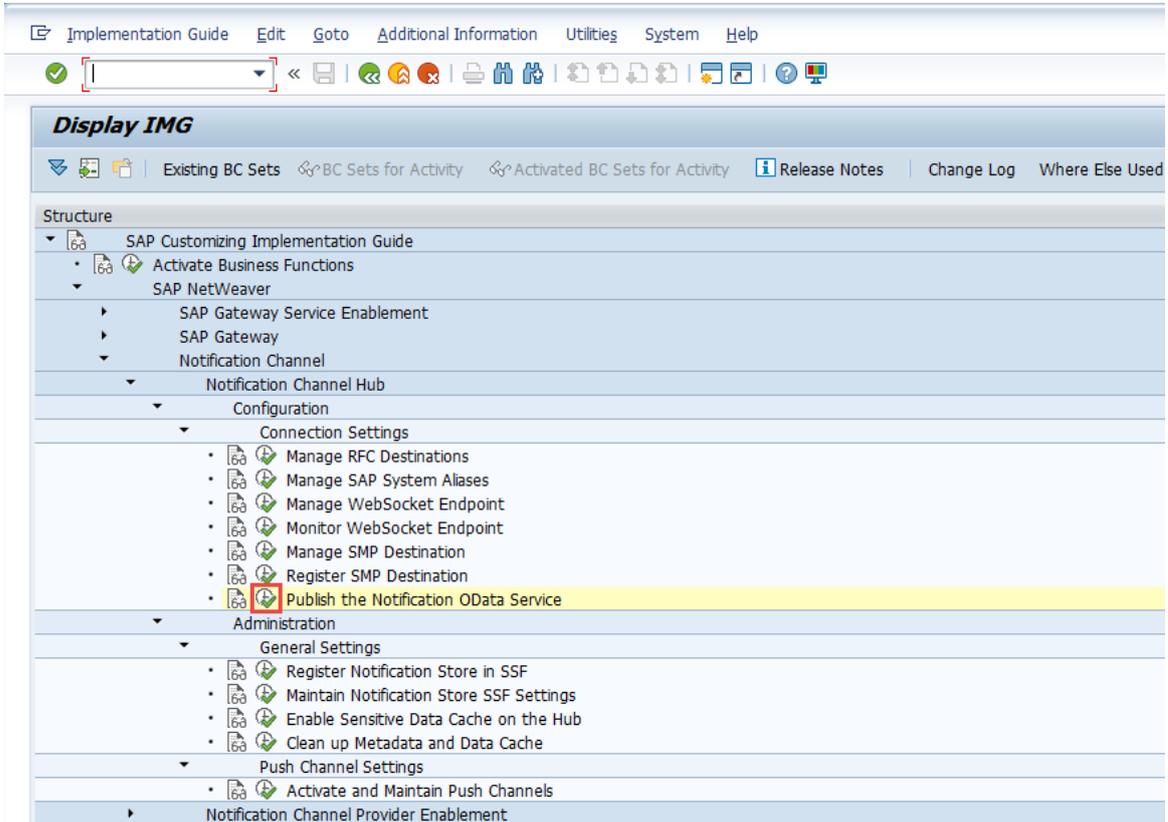


**Figure 20 – Display IMG view**

7.  Click "Publish Service Groups" button.
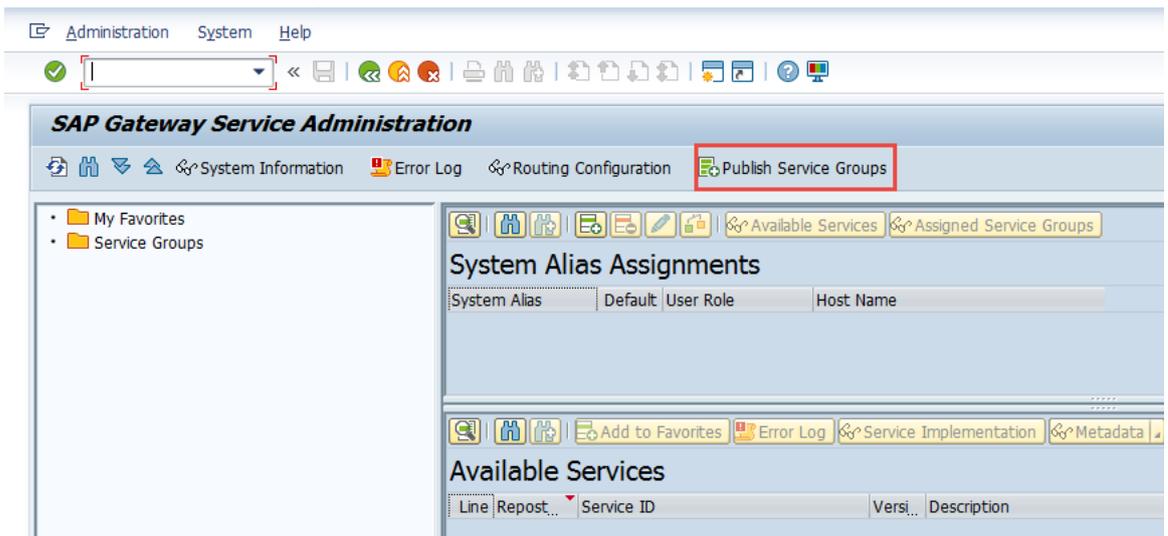


**Figure 21 – Publish OData Service Groups**

8.  Select "Local" in the System Alias field.

9. Click "Get Service Groups" button.
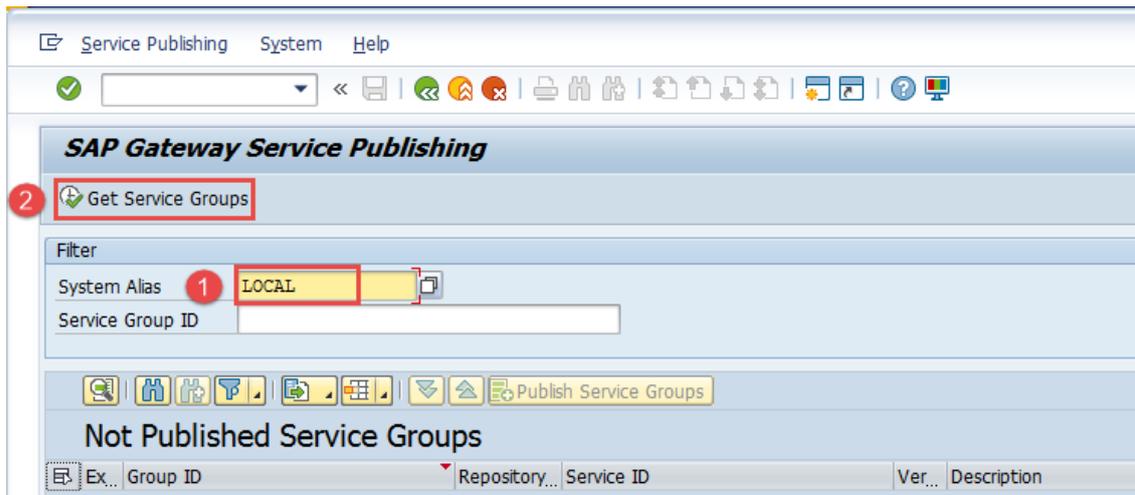


**Figure 22 – Get Service Groups**

10. Select "/IWNGW/NOTIFICATION" and click "Publish Service Groups" button.



**Figure 23 – Publish OData Service Group**

11. Click "Save" button.
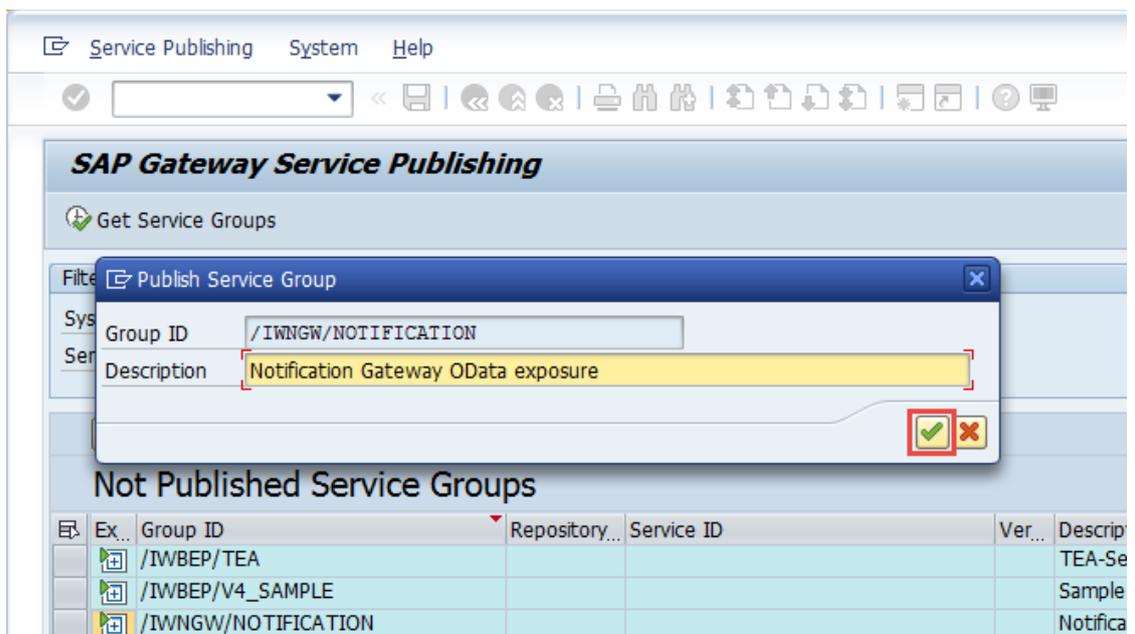


**Figure 24 – Publish OData Service Group**

12. Close the popup.
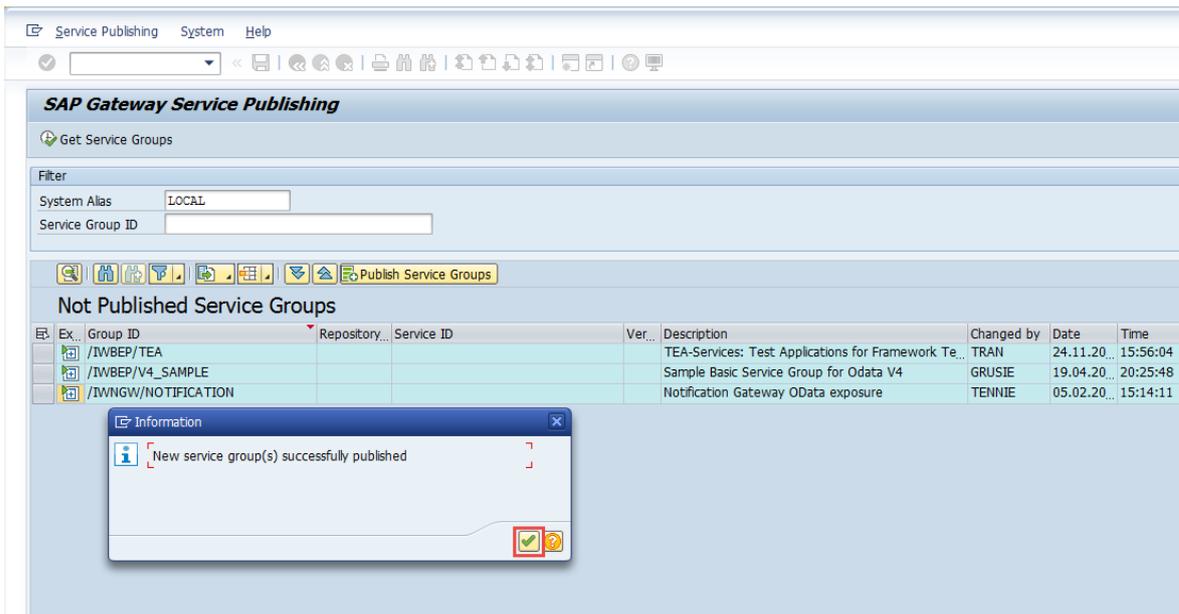


**Figure 25 – Confirm the pop up**

13. Open 'Service Groups" folder.

14. Open "/IWNGW/NOTIFICATION" folder.

15. Open "Local" folder.

16. Open "Available Services" folder.

17. Select newly created OData Service /IWNGW/NOTIFICATION_SRV.

18. Click "Service Test" button to test the service.
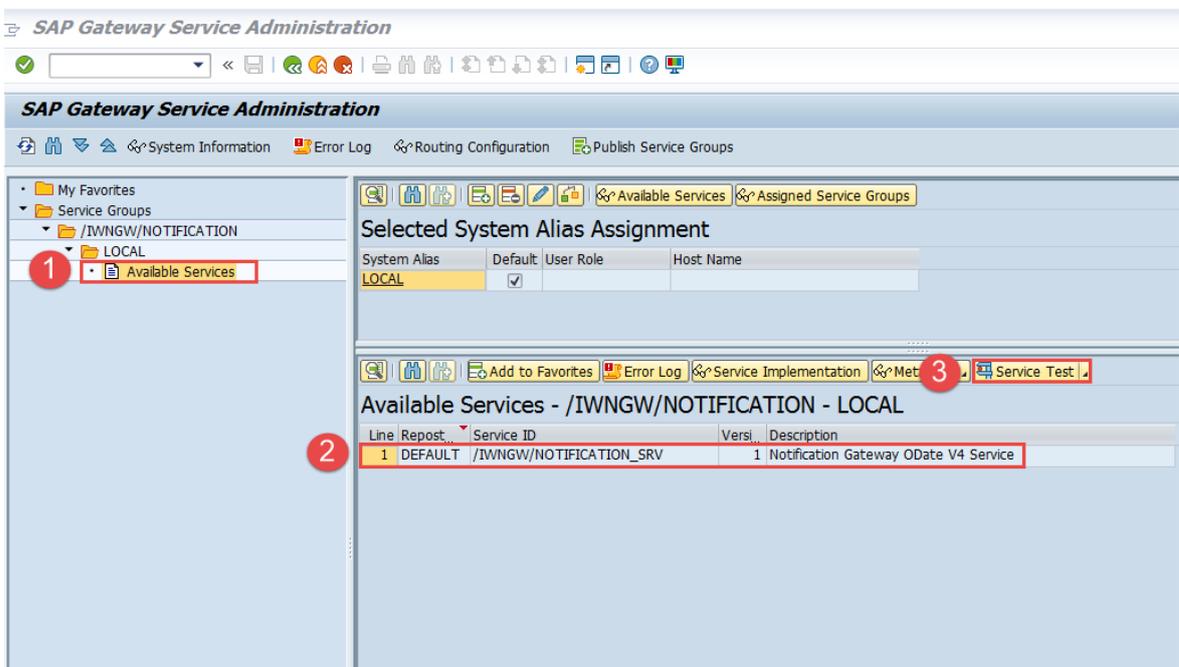


**Figure 26 – Test Service**

**19.** Click "Execute" button.
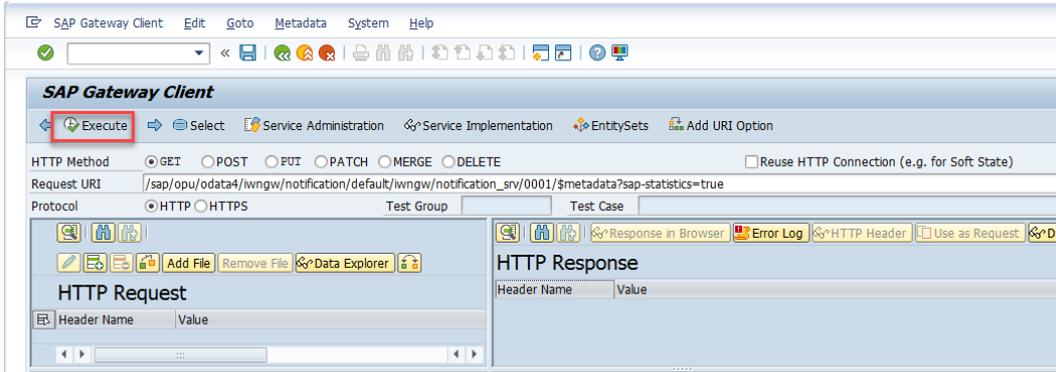

**Figure 27 – Test the Service**

**20.** The connection works well.
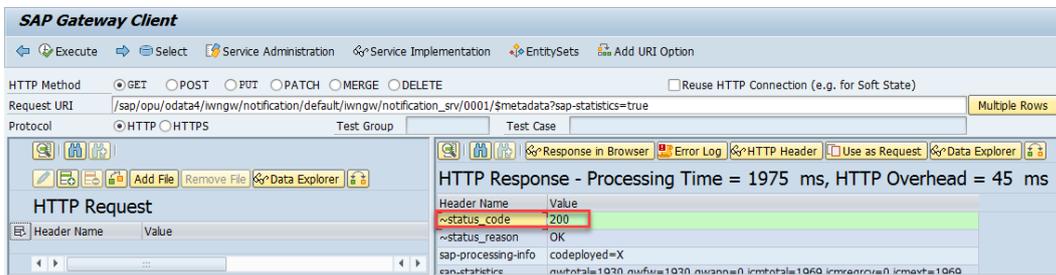

**Figure 28 – Check the status code**

## Setup Push Channel

Notifications use an ABAP Push Channel to push notifications to the Fiori Launchpad. The recommended approach is to use a WebSocket connection for this purpose. WebSockets establish a bidirectional communication channel between server and client. Using WebSockets a server can push notifications to the client.

**1.** Execute "Manage WebSocket Endpoint".
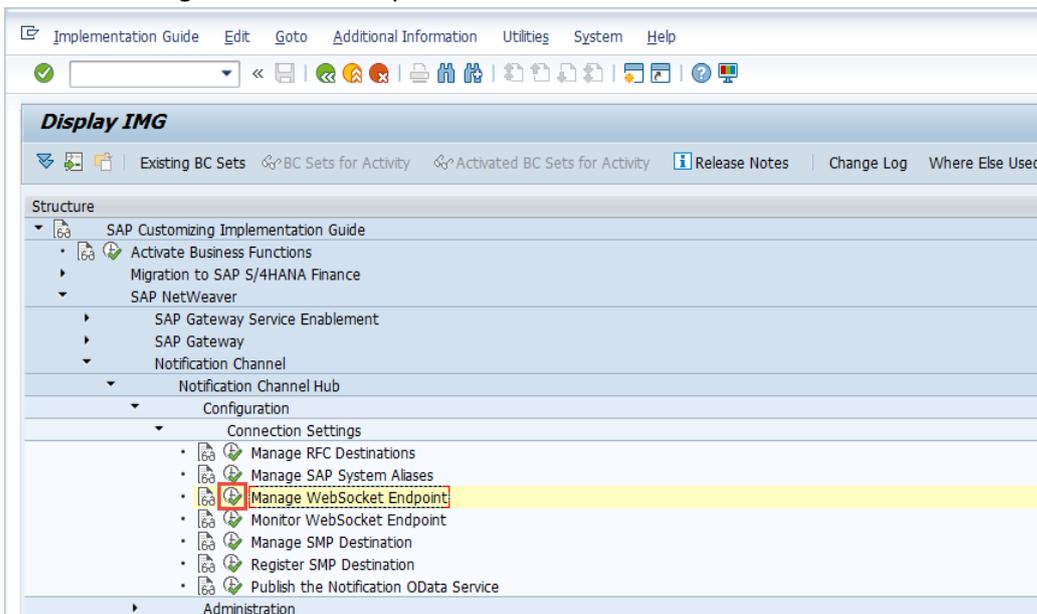

**Figure 29 – Display IMG view**

2. Enter "NOTIFICATION_PUSH_APC" in Service Name field.
3. Click "Execute" button.
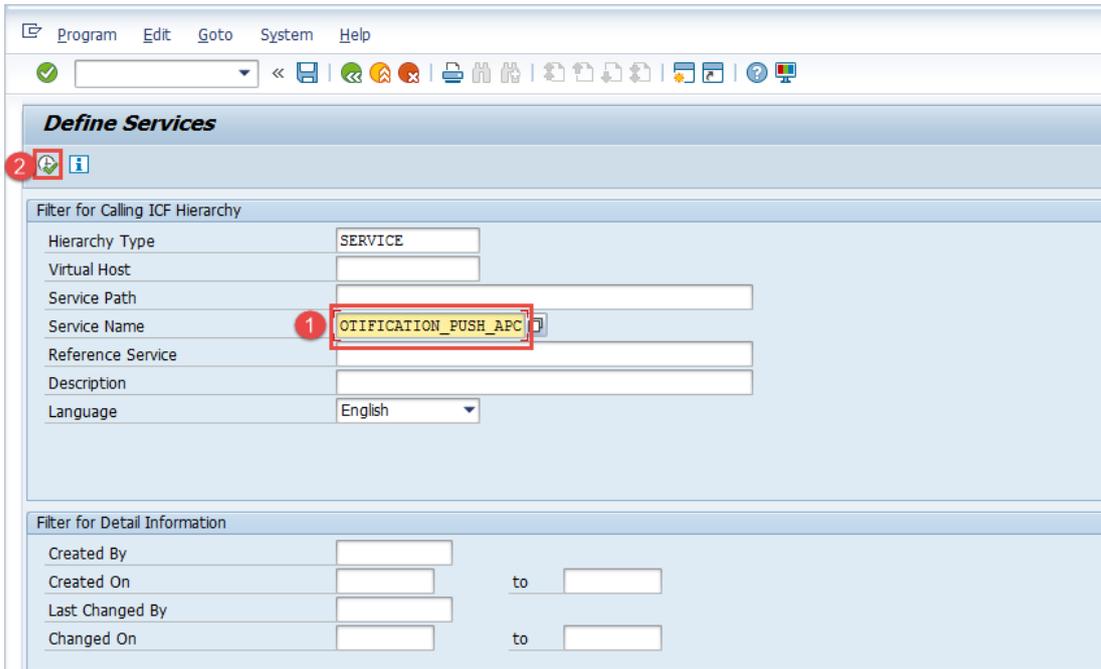


**Figure 30 – SICF view**

4. Right click the SICF node.
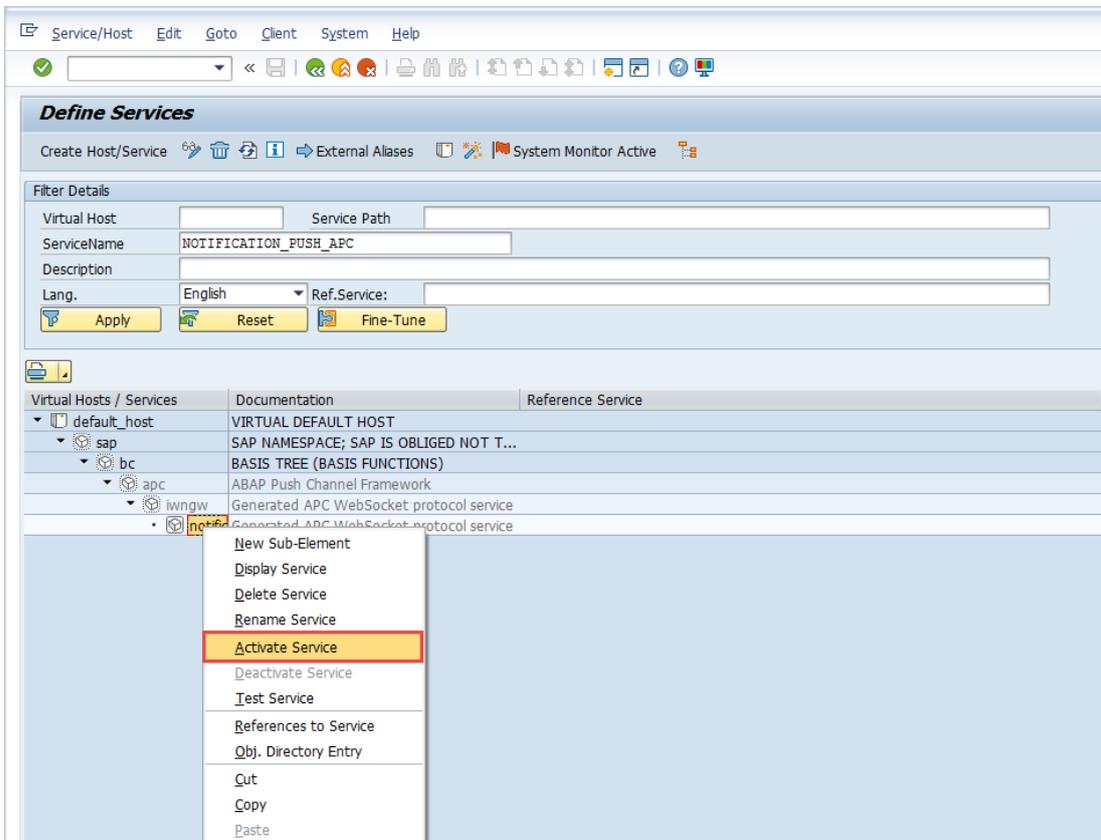


**Figure 31 – Activate SICF Service**

5. Click the "Yes" button to activate the service.
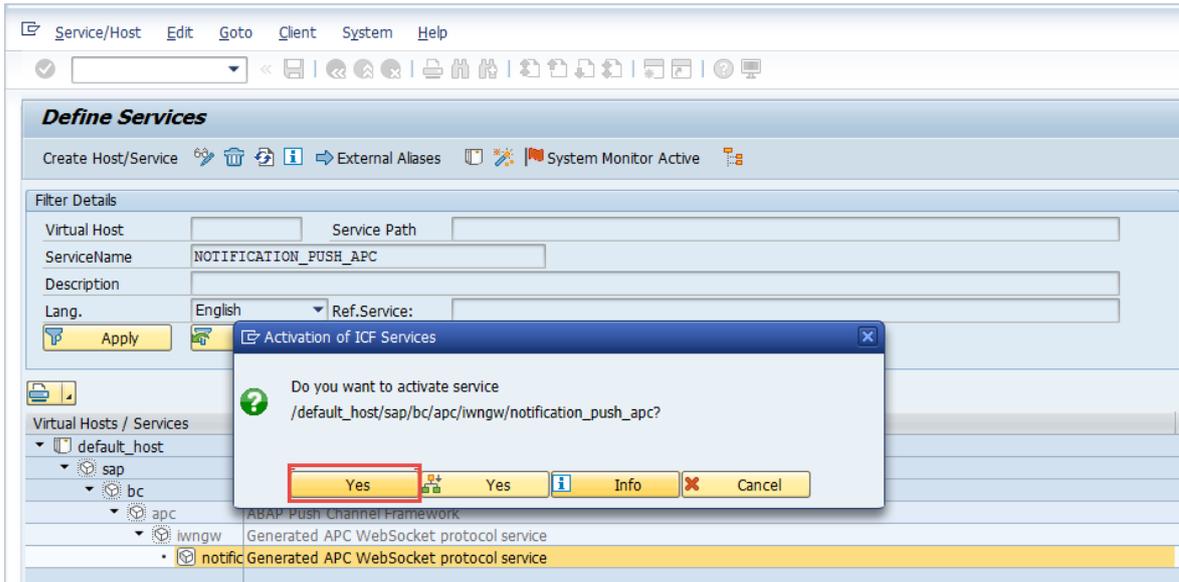


**Figure 32 – Activate SICF Service**

6. Select "Notification Channel".
7. Select "Notification Channel Hub".
8. Select "Administration".
9. Select "Push Channel settings".
10. Execute "Activate and maintain Push channels".
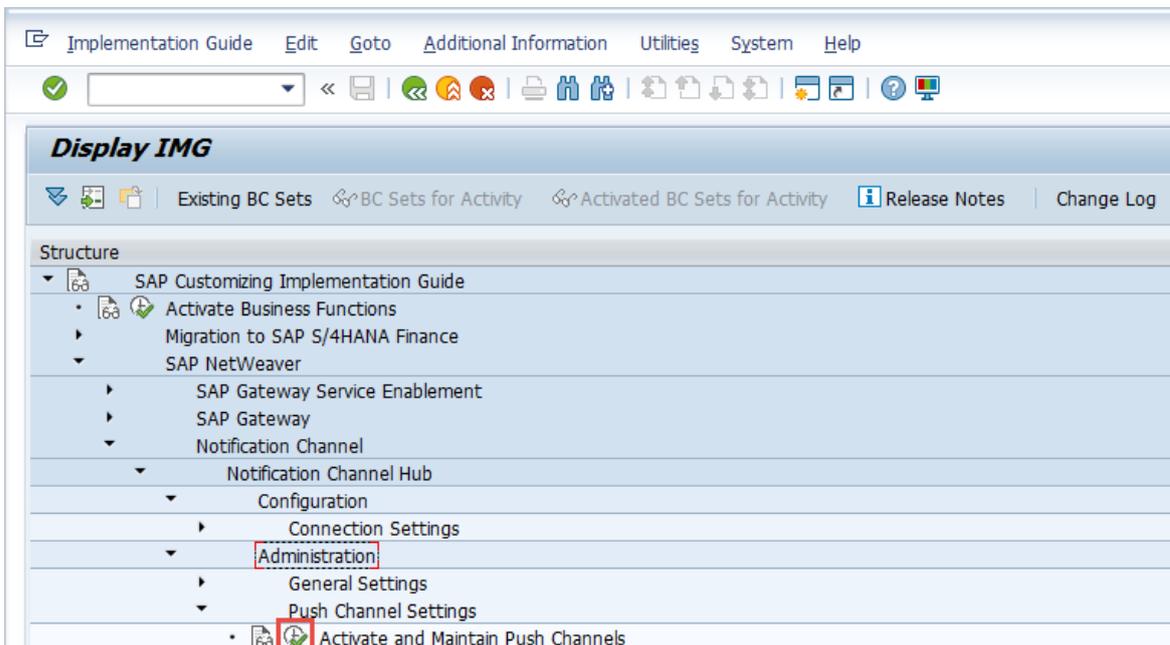


**Figure 33 – Display IMG view**

11. Click "New Entries" button.
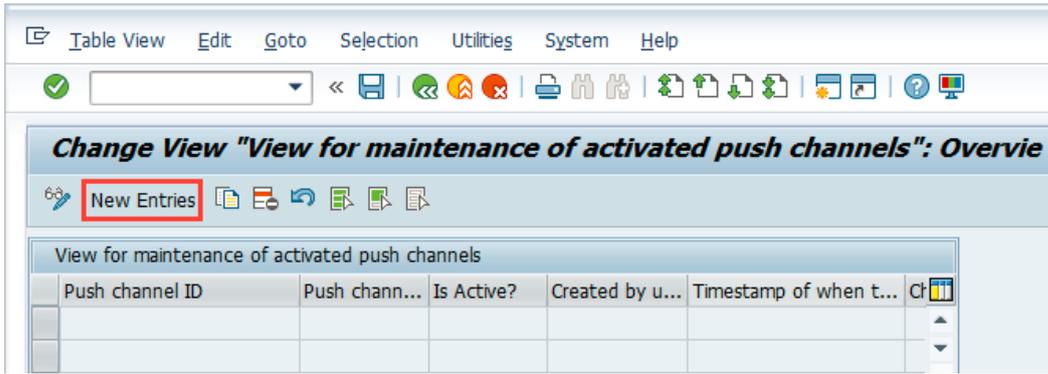


**Figure 34 – Maintain Push Channels**

12. Enter SAP_WEBSOCKET as Push Channel ID.

13. Specify the sequence number, for example, 10, as the sequence in which the push channel will be processed.

14. Activate it and click "Save" button.
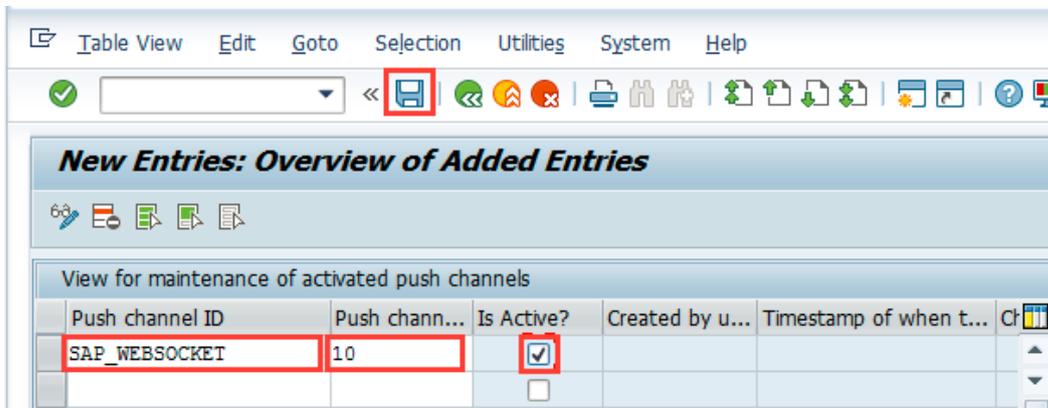


**Figure 35 – Activate Push Channels**

15. Select a transport request and click "Save" button.
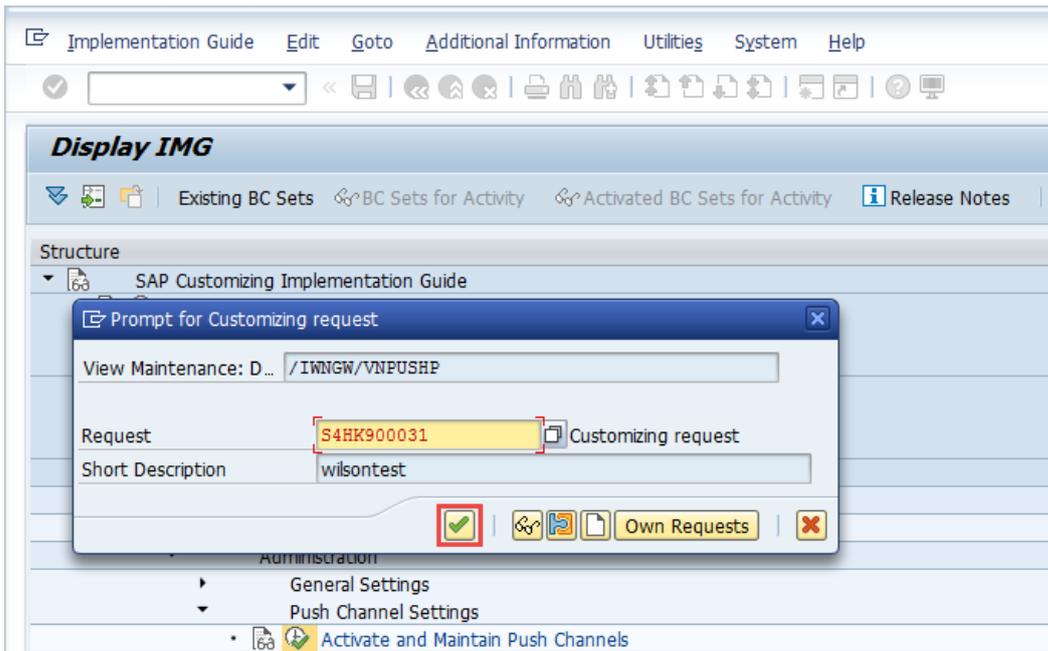


**Figure 36 – Assign transport request**

# Chapter 3
# Configuring Notification Provider

In this session, you can find the information about configuring Notification Provider. Notification Provider Provides notification content to the Notification Hub. In this example, we use SAP Business Workflow to provide notifications.

> **ⅰ Note**
>
> • The configuration in this chapter should be performed in the Backend system.

## Register the Notification Provider System with the Notification Hub System

1. After login to the Backend system, run transaction code SPRO.
2. Select "SAP Customizing Implementation Guide".
3. Select "SAP NetWeaver".
4. Select "Notification Channel".
5. Select "Notification Channel Provider Enablement".
6. Select "Configuration".
7. Select "Connection Settings".
8. Execute "Enter the Backend System Alias".
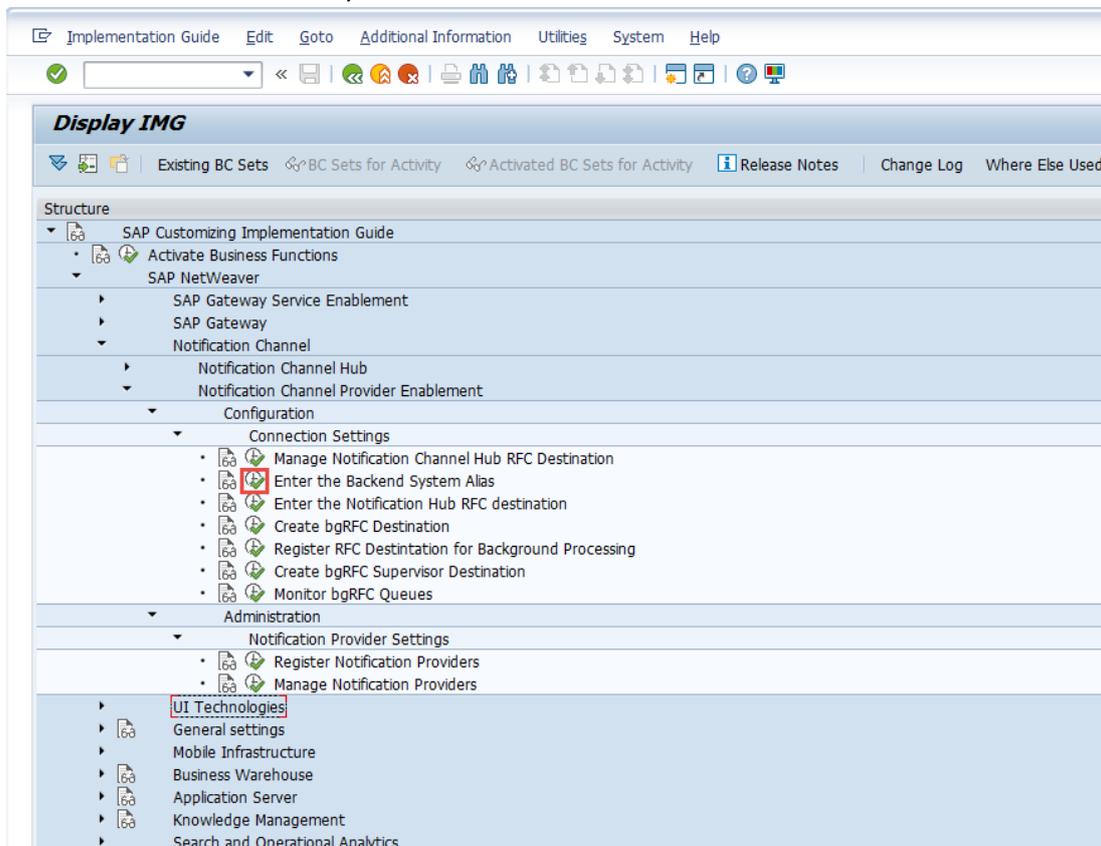


**Figure 37 – Display IMG view**

9. Enter the system alias that points to the backend system. The system alias is created in the Hub system. If you are in Embedded scenario, please Enter "Local" here.
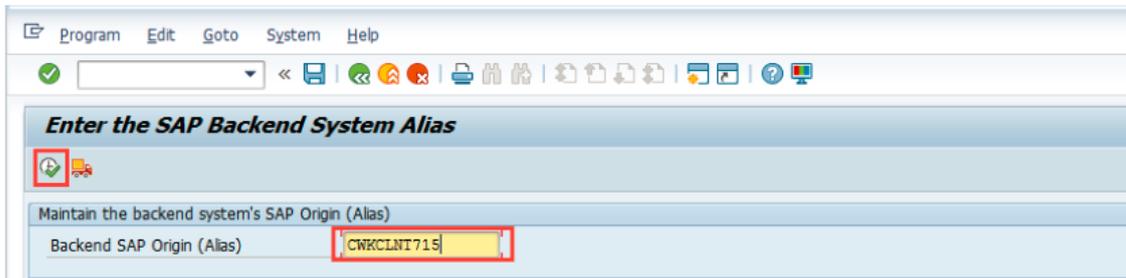


**Figure 38 – Enter the Backend System Alias**

10. After executing, the screen will display as below:



**Figure 39 – Backend System Alias successfully maintained**

11. Execute "Enter the Notification Hub RFC Destination".
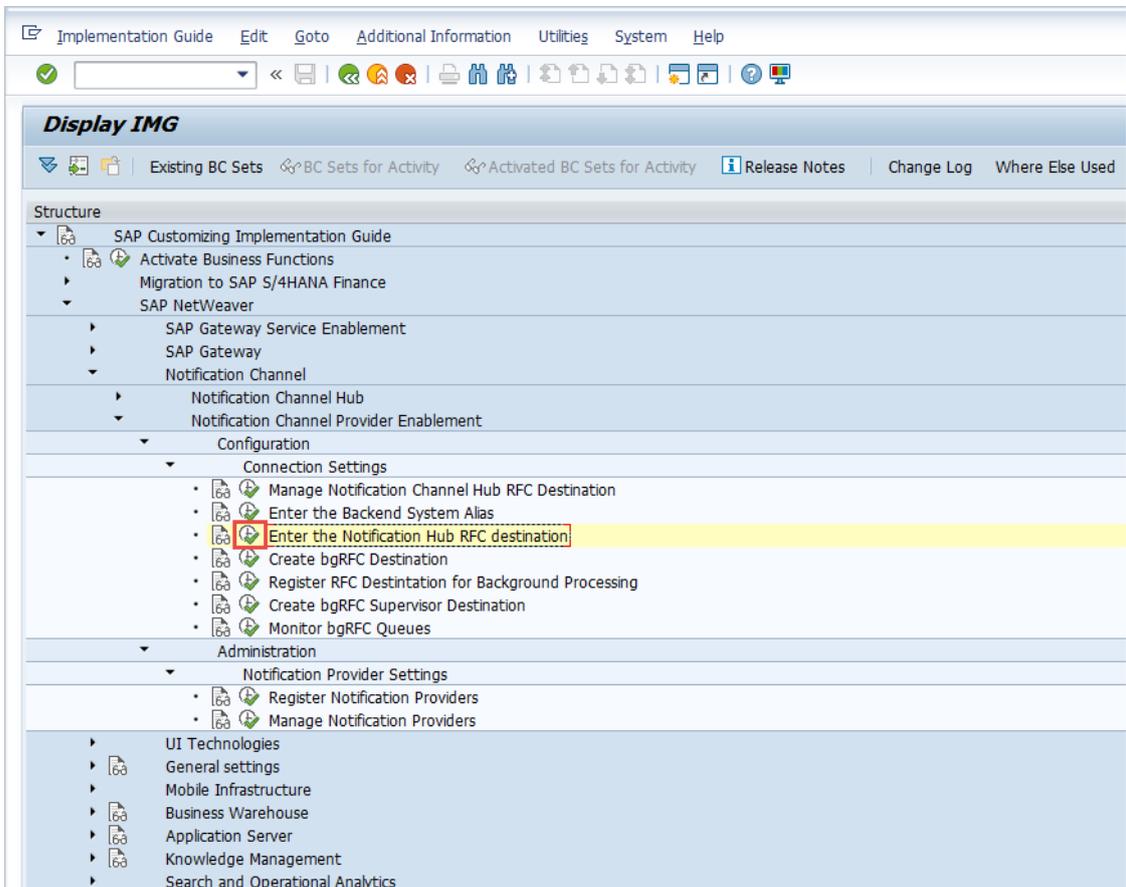


**Figure 40 – Display IMG view**

12. Enter the system alias that points to the Notification Hub system. The system alias is created in the Backend system. If you are in Embedded scenario, please Enter "None" here.
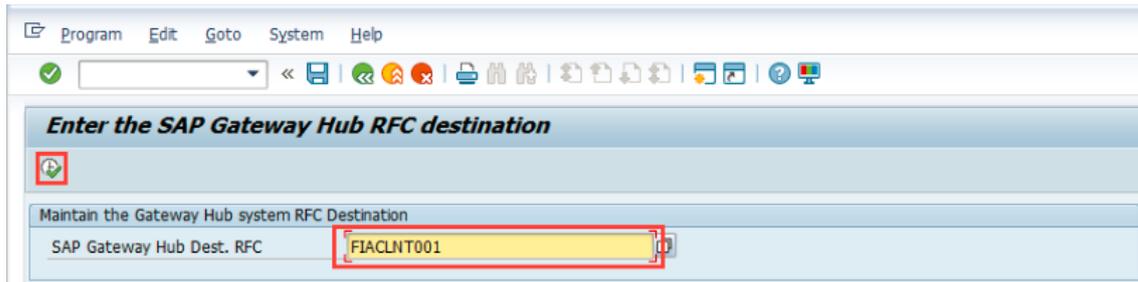


**Figure 41 – Enter the Notification Hub RFC Destination**

13. After executing, the screen will display as below:
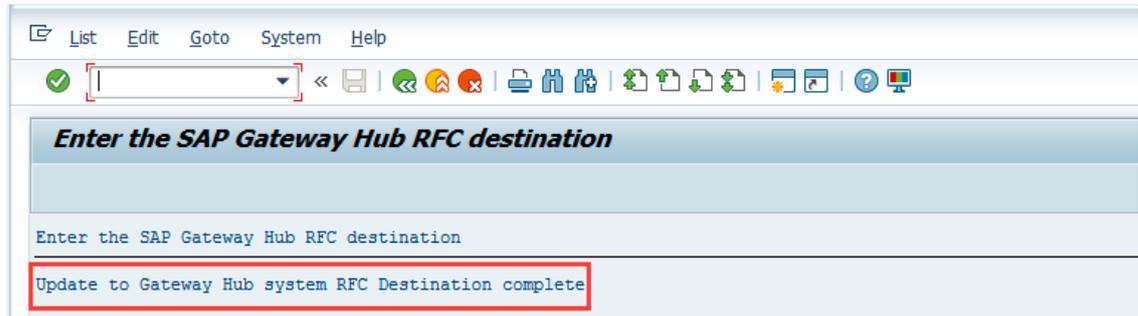


**Figure 42 – Notification Hub RFC Destination successfully maintained**

14. Execute "Create bgRFC Destination".
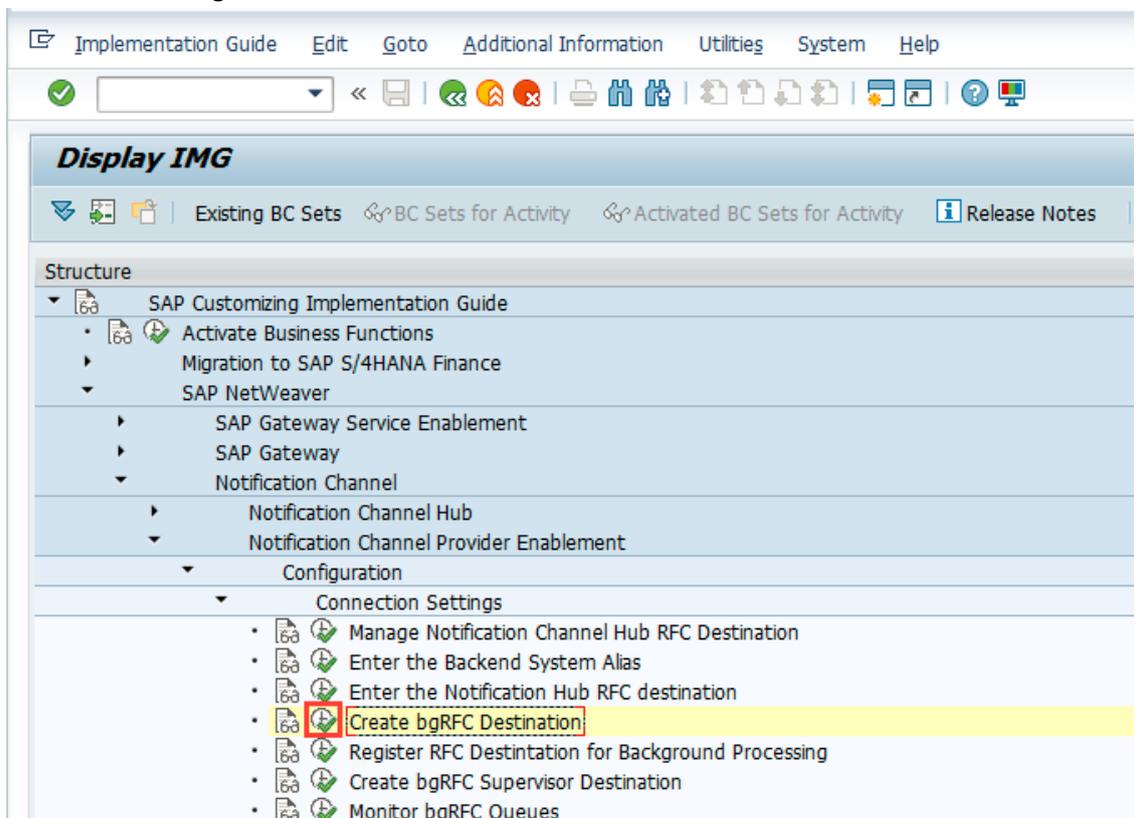


**Figure 43 – Display IMG view**

15. After executing, the screen will display as below:
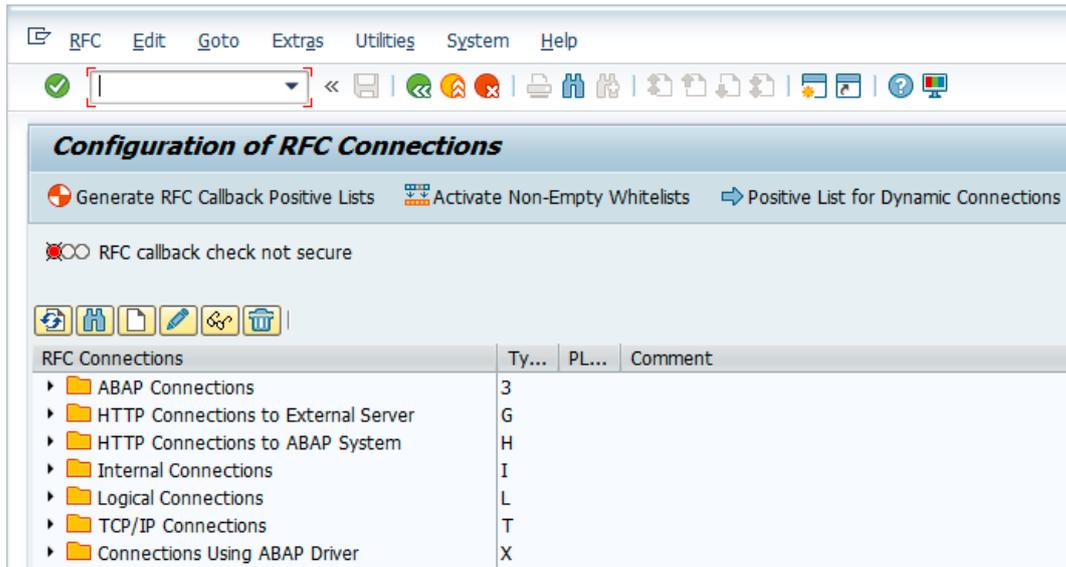


**Figure 44 – Create bgRFC Destination**

16. Click "Create" button.
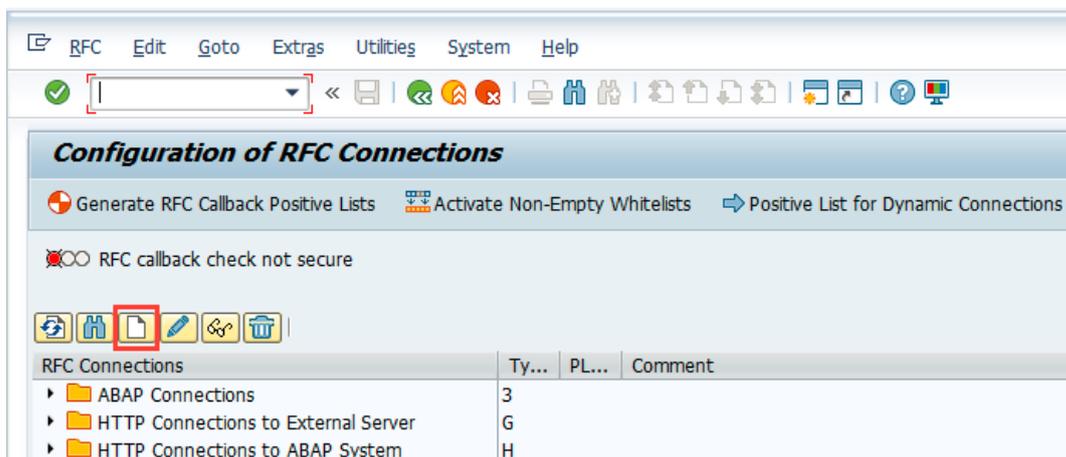


**Figure 45 – Create bgRFC Destination**

17. Enter the exact name IWNGW_BGRFC and choose connection type 3.
18. Click "Save" button.
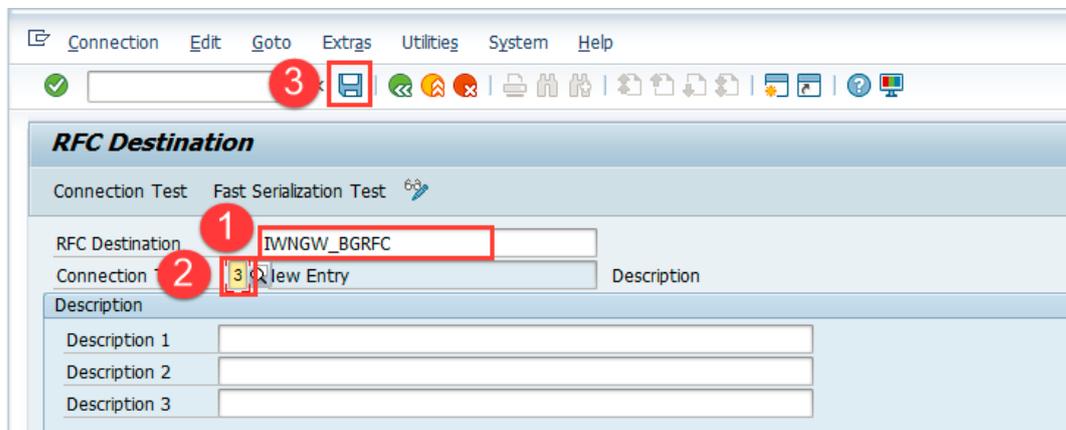


**Figure 46 – Create bgRFC Destination**

19. Open "Special Options" tab.
20. Select "Classic with bgRFC".
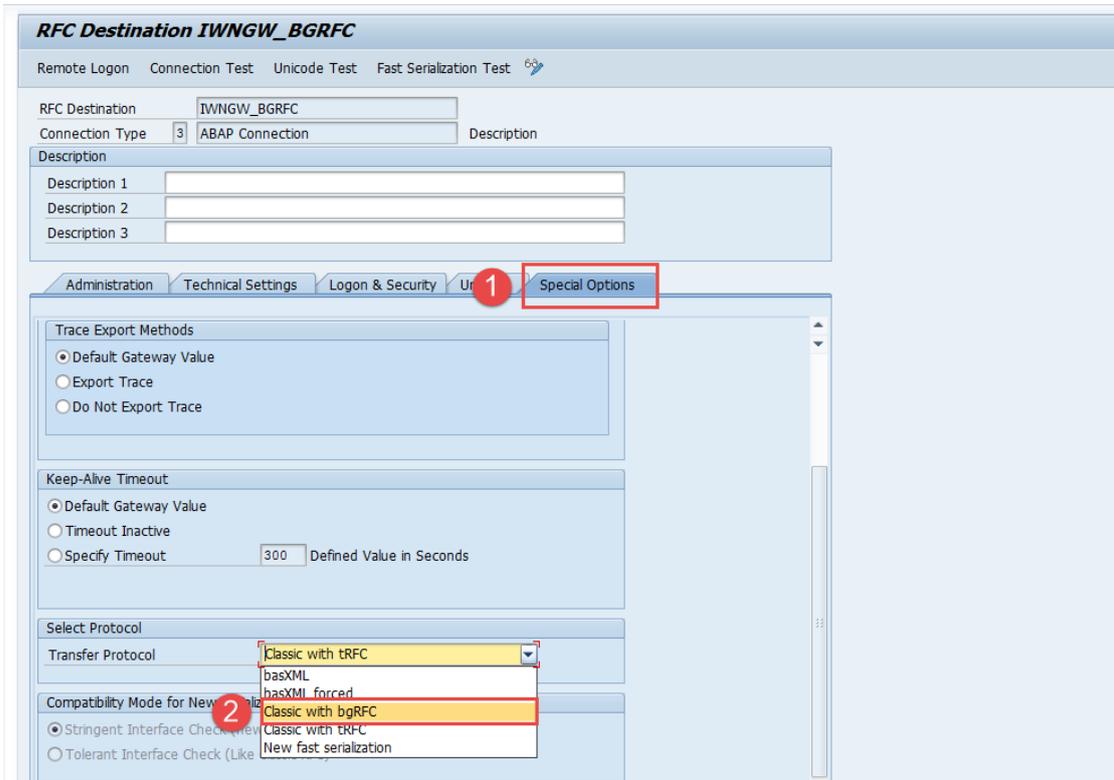


**Figure 47 – Select Protocol**

21. Read the warning message and click the "Yes" button.
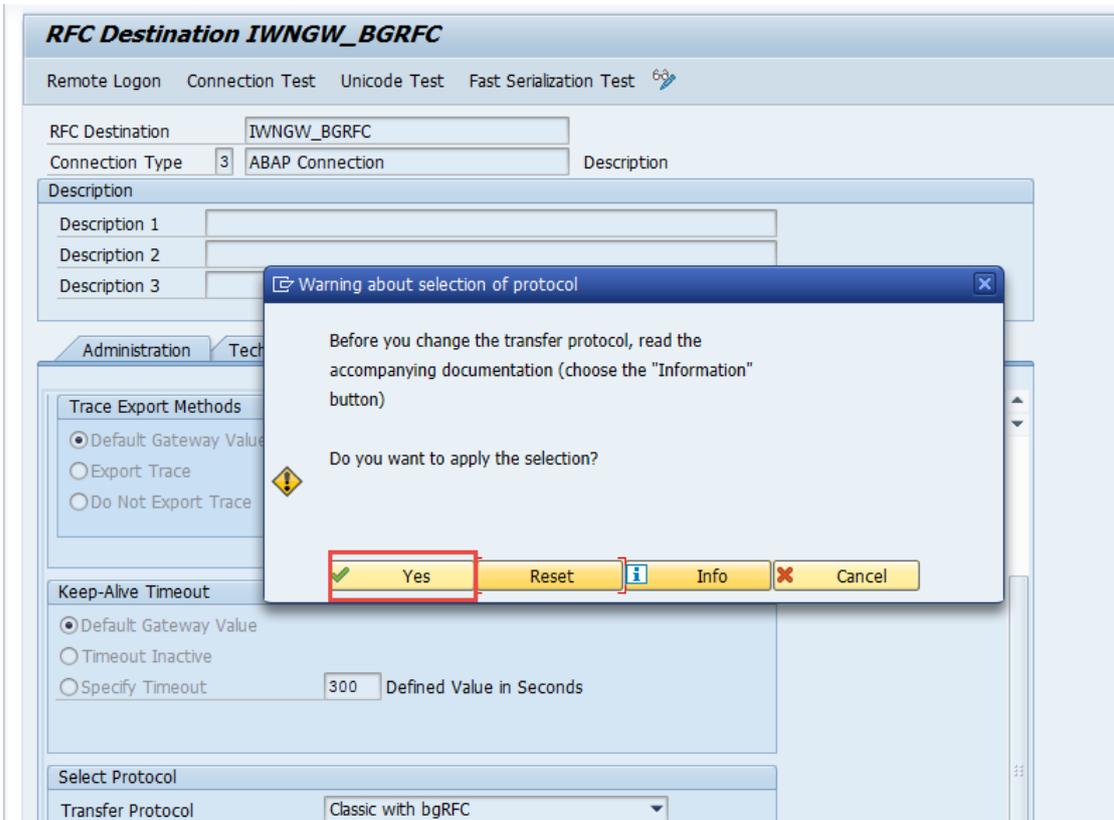


**Figure 48 – Read the warning message**

22. Click "Save" button.
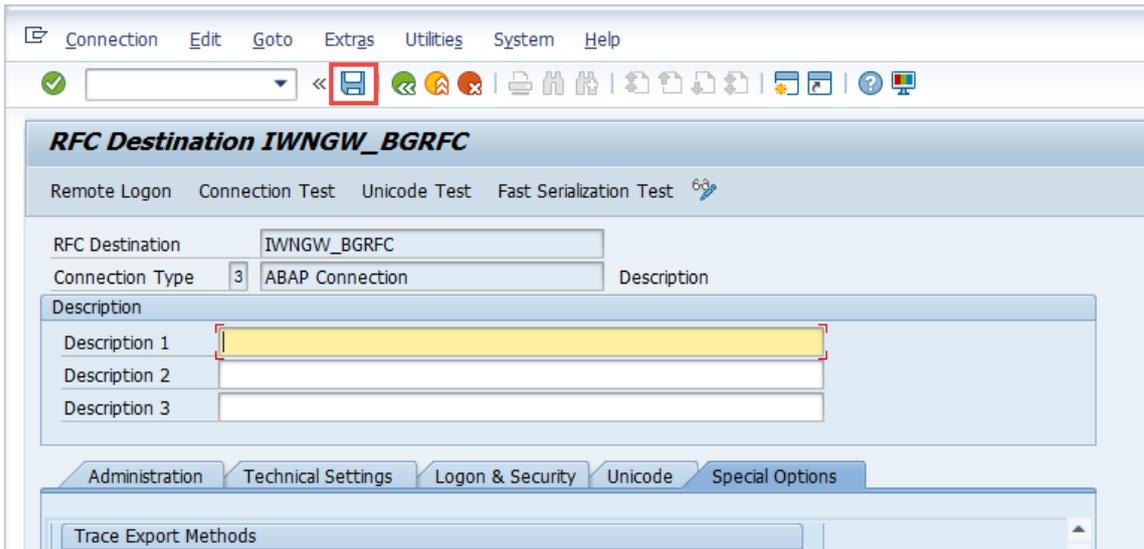


**Figure 49 – Generate the role profile**

23. Click "Connection Test".
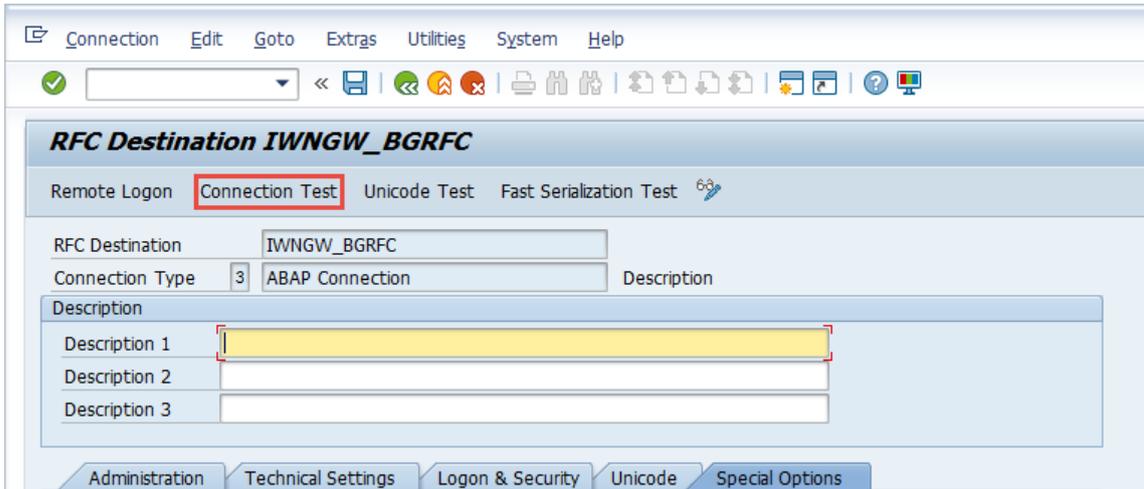


**Figure 50 – Test connection**

24. Make sure the connection works well.
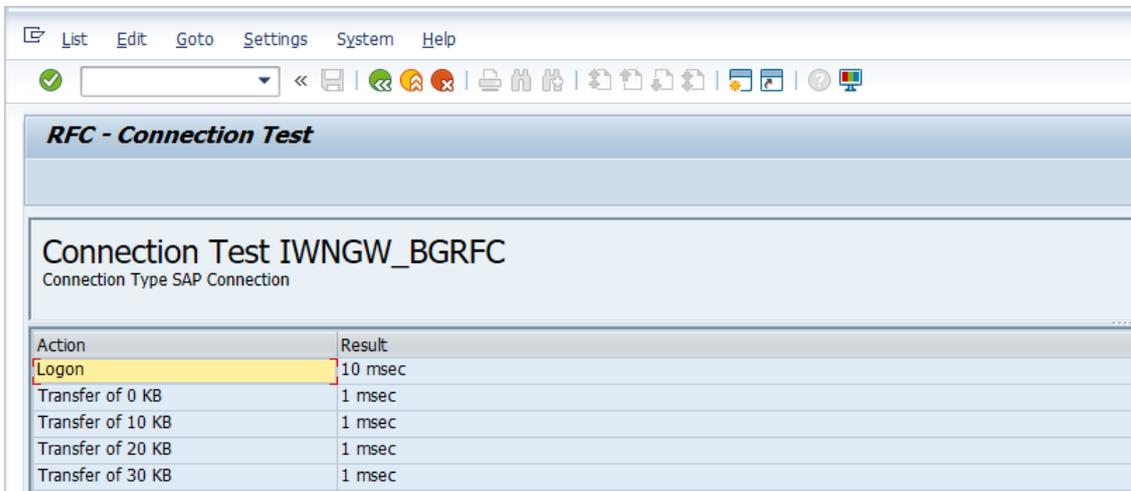


**Figure 51 – Test connection**

25. Execute "Register RFC Destination for Background Processing".
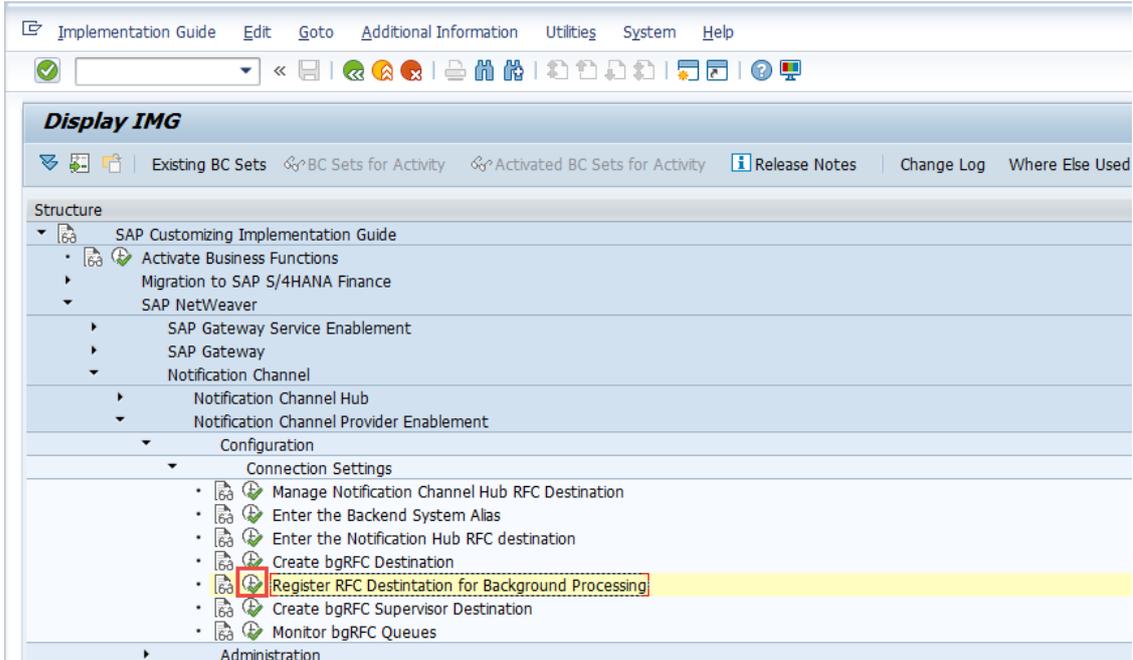


**Figure 52 – Display IMG view**

26. Click "Define Inbound Dest." tab.
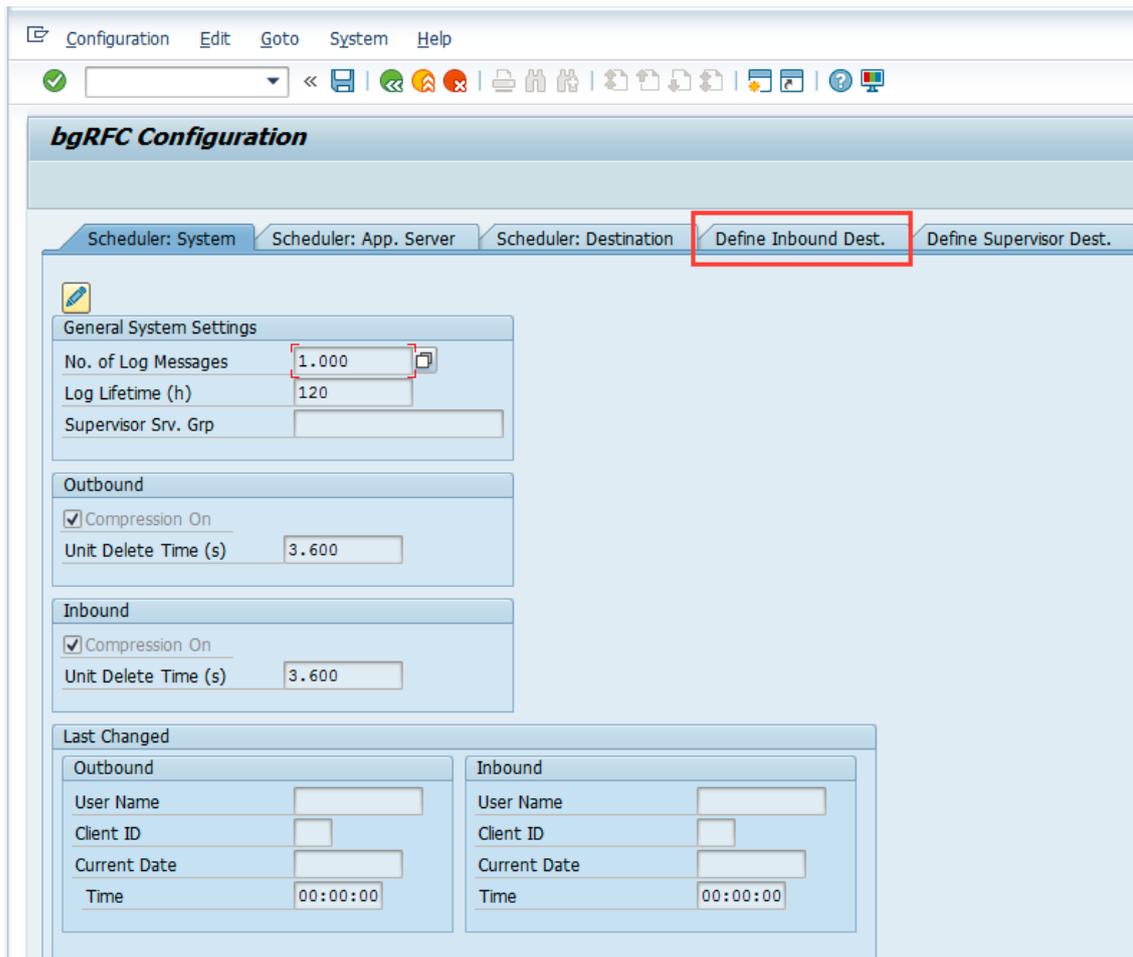


**Figure 53 – Define Inbound Dest.**

27. Click "Create" button.
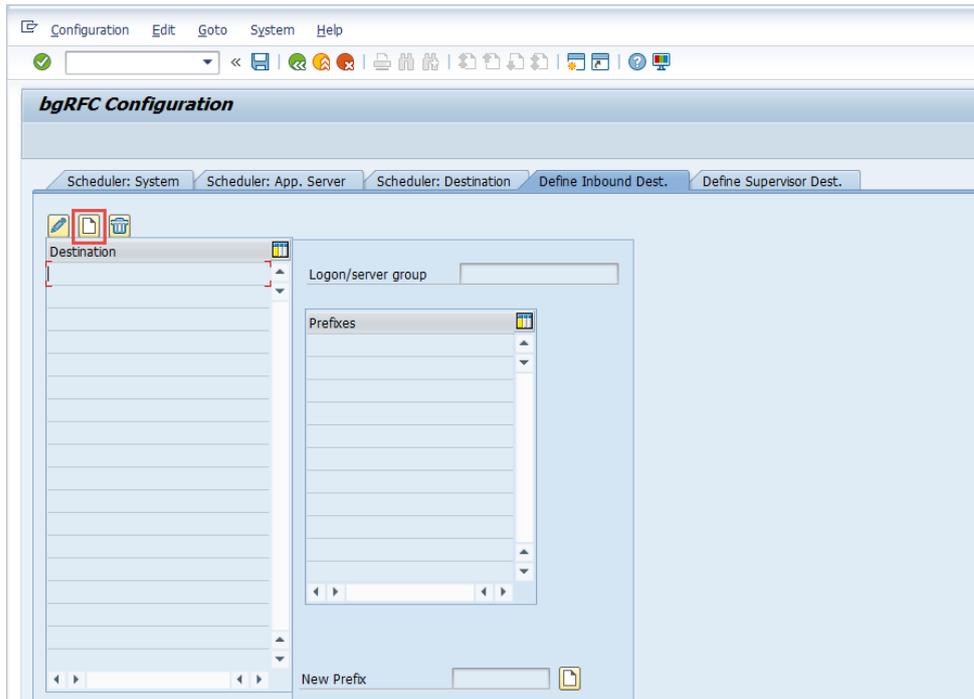


**Figure 54 – Create Inbound destination**

28. Enter the destination name "IWNGW_BEP_OUT_BGRFC".
29. Create a new prefix with the value Q and click "Save" button.
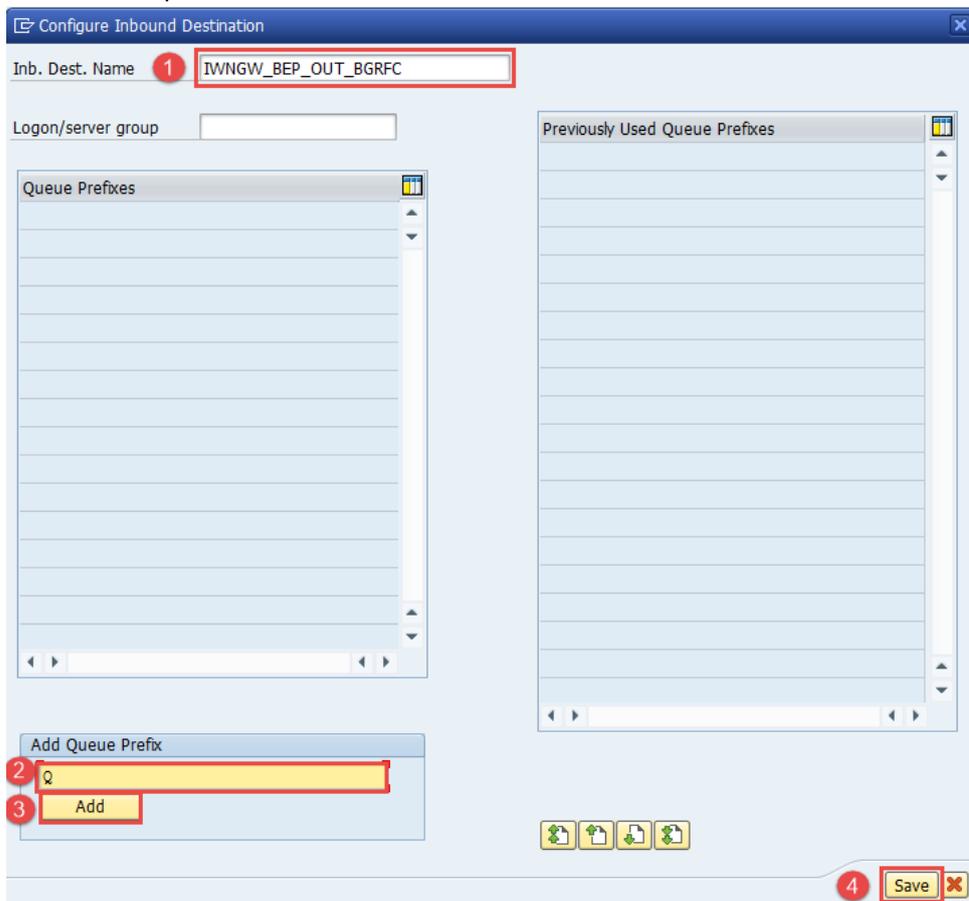


**Figure 55 – Add prefix**

30. Click "Save" button.
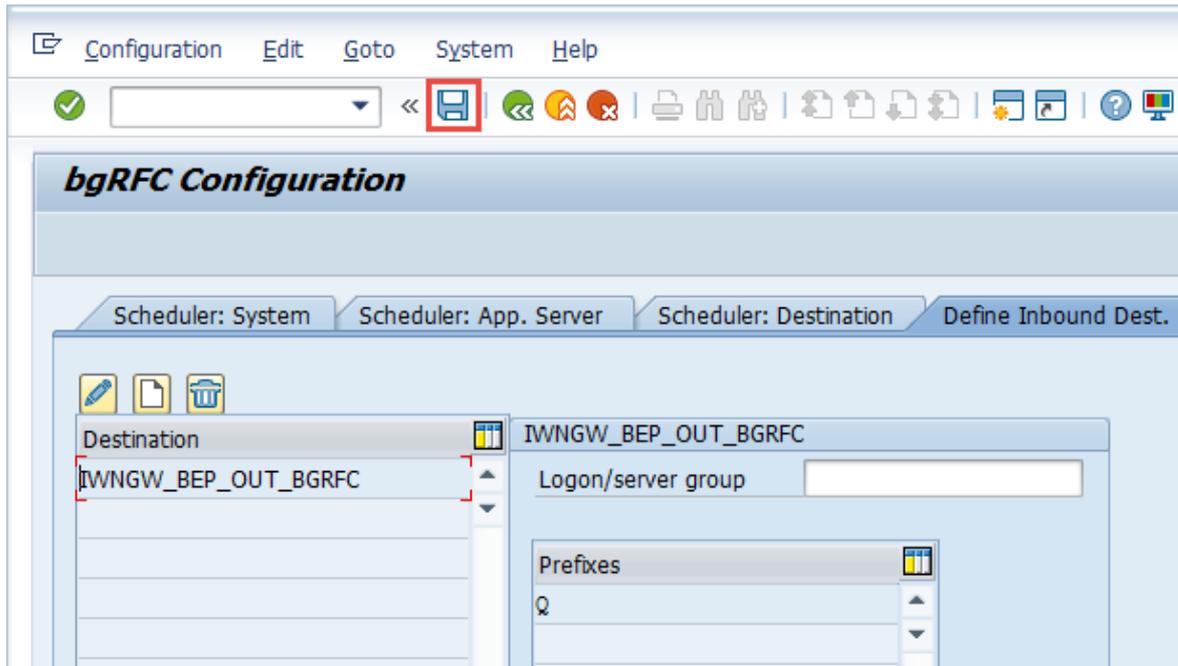


**Figure 56 – Save the changes**

31. Execute "Create bgRFC Supervisor Destination".
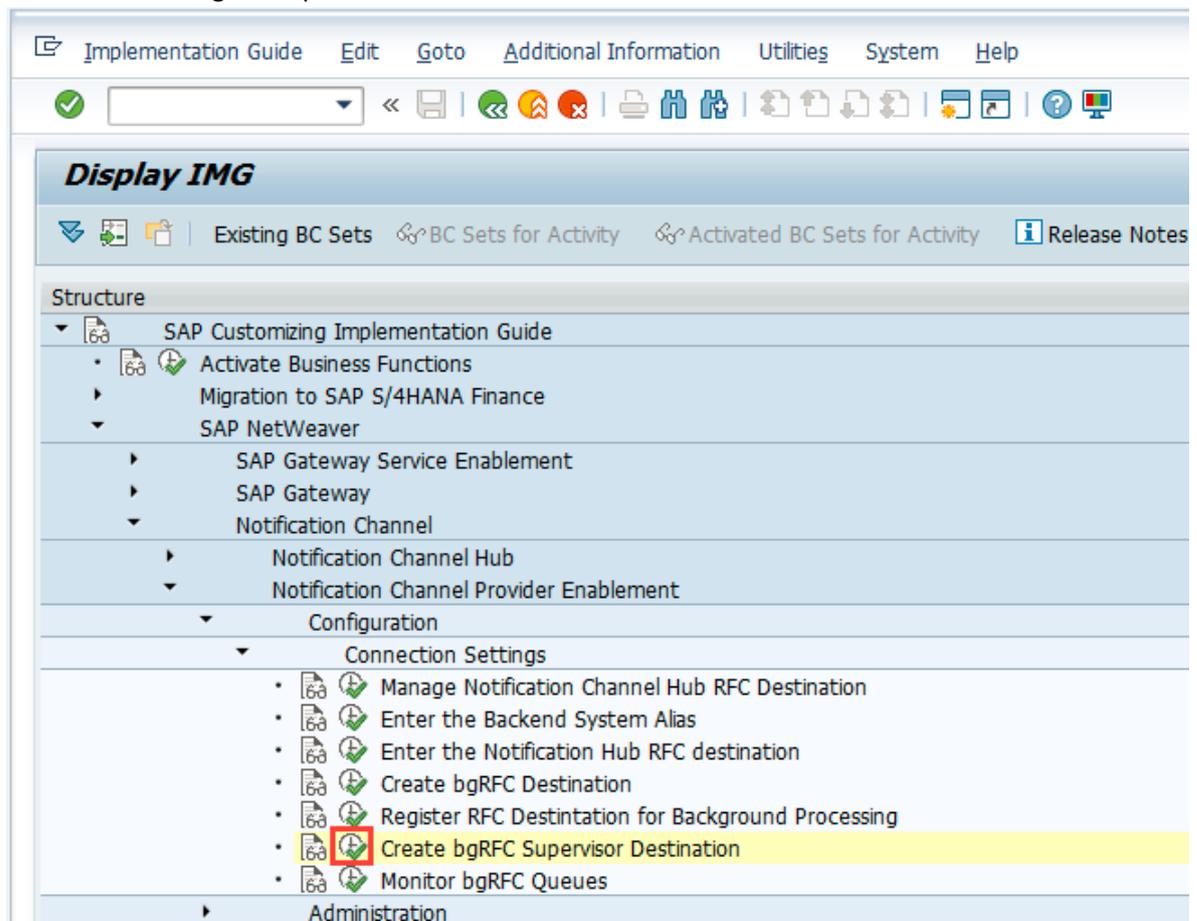


**Figure 57 – Display IMG view**

32. Click "Define Supervisor Dest." tab.
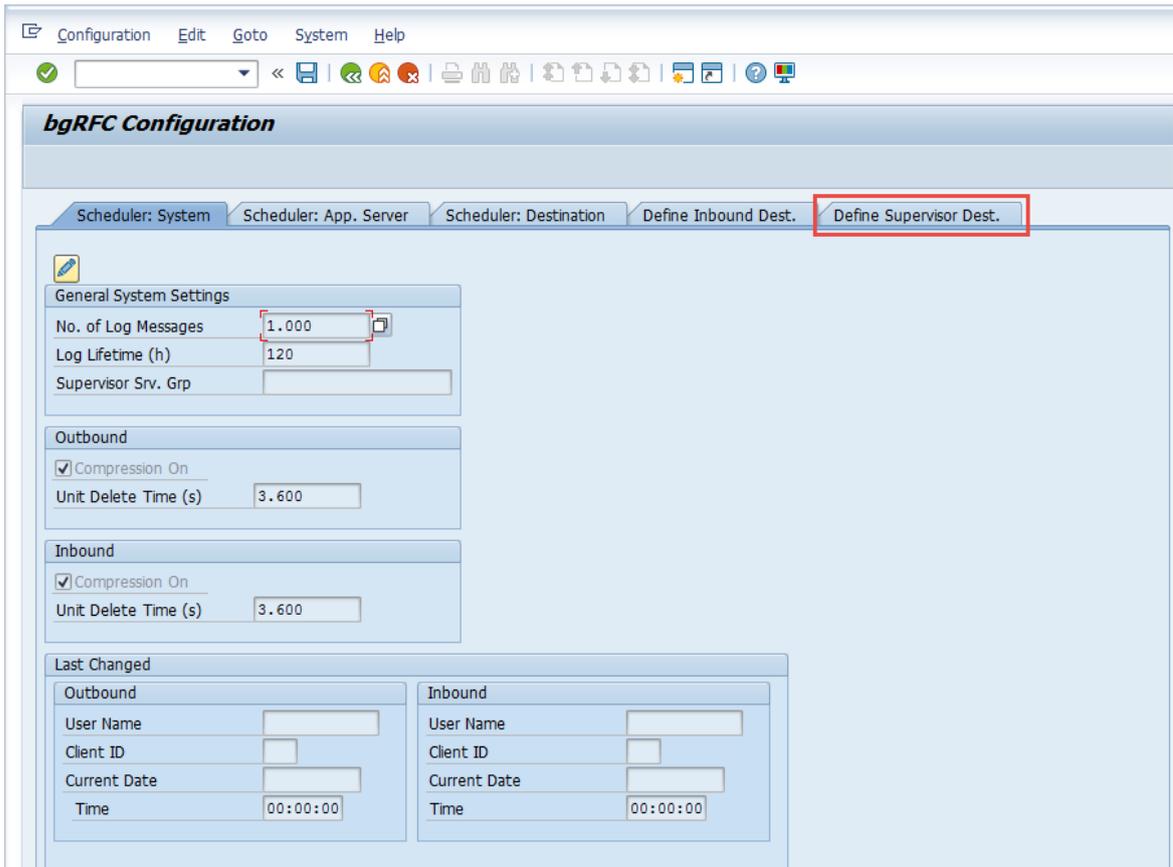


**Figure 58 – Define Supervisor Dest.**

33. Click "Create" button.
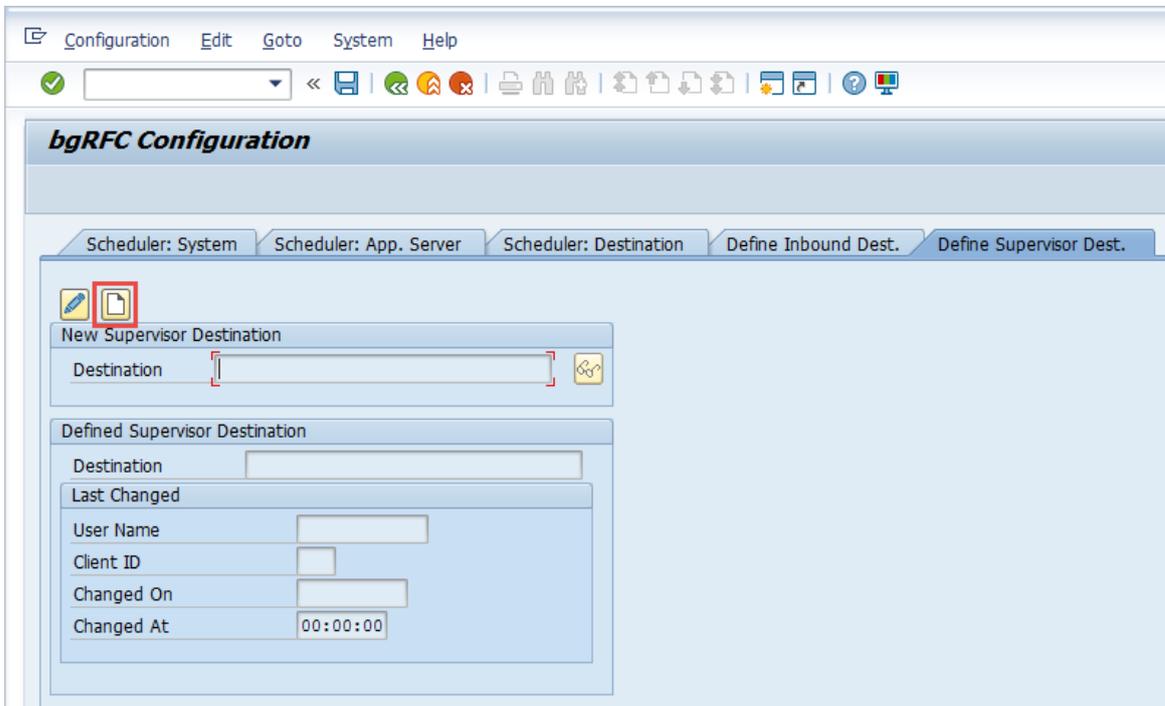


**Figure 59 – Create Supervisor Destination**

34. Enter the Destination Name "BGRFC_SUPERVISOR".
35. Enter the User Name "BgRFC_user".
36. Select "Create User".
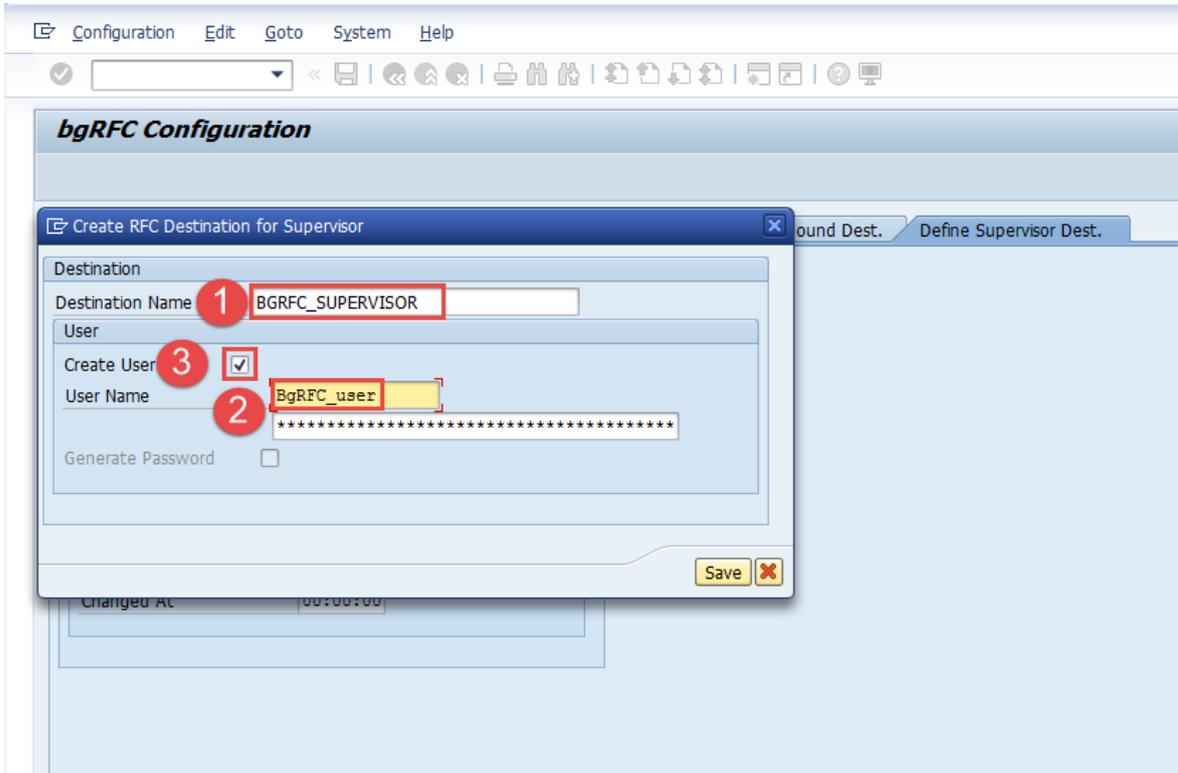


**Figure 60 – Create Supervisor Destination**

37. Select "Generate Password".
38. Click "Save" button.
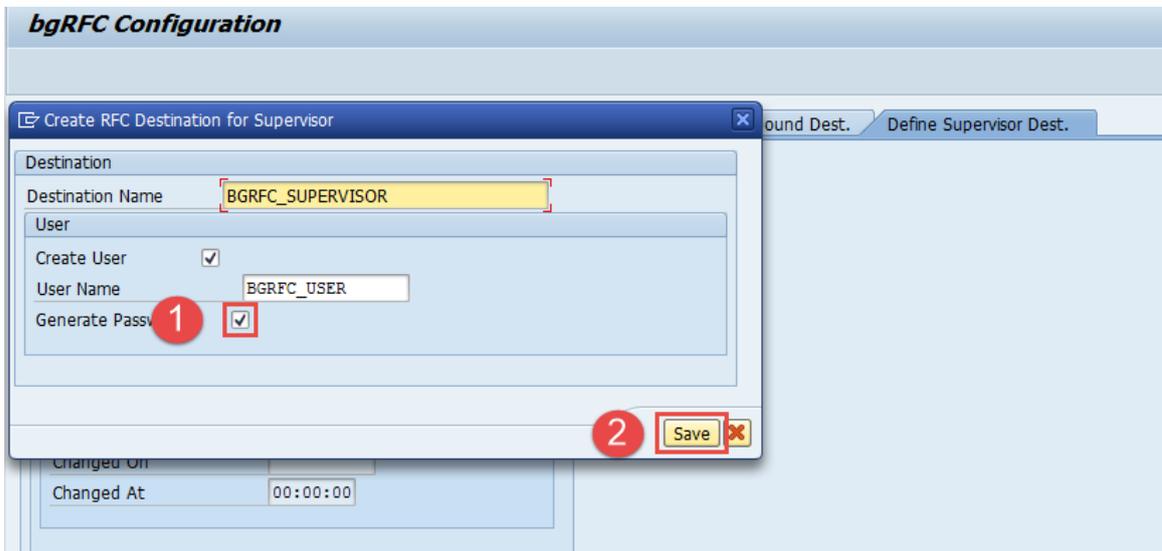


**Figure 61 – Generate password**

39. Click "Save" button.
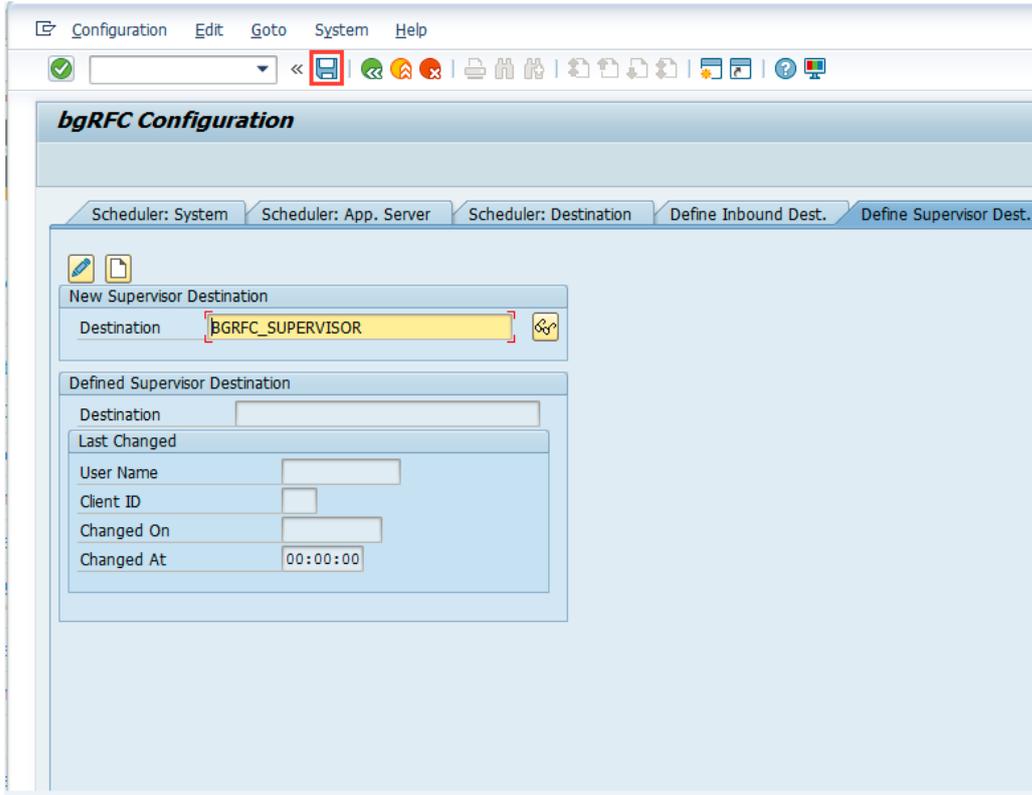


**Figure 62 – Save Supervisor Destination**

## Register and Activate Notification Provider

There are many Notification providers to provide the notifications, in this example, I will configure two Notification providers, one is a Demo Notification Provider for testing the Notification Channel, the other one is a standard SAP Business Workflow Notification Provider delivered by SAP.

1. Execute "Register Notification Provider".
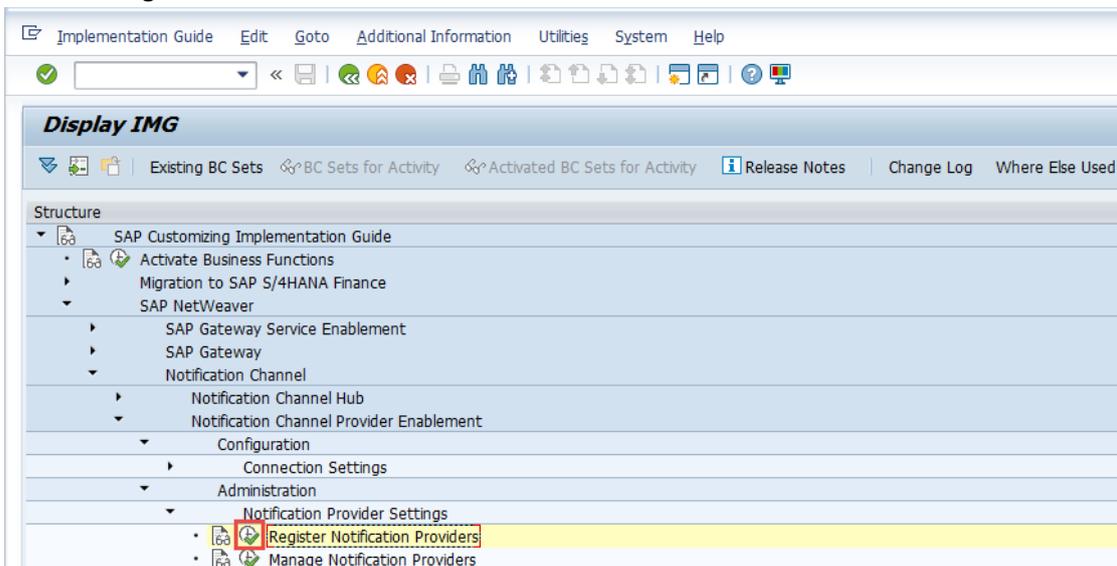


**Figure 63 – Display IMG**

2. Click "Create" button.
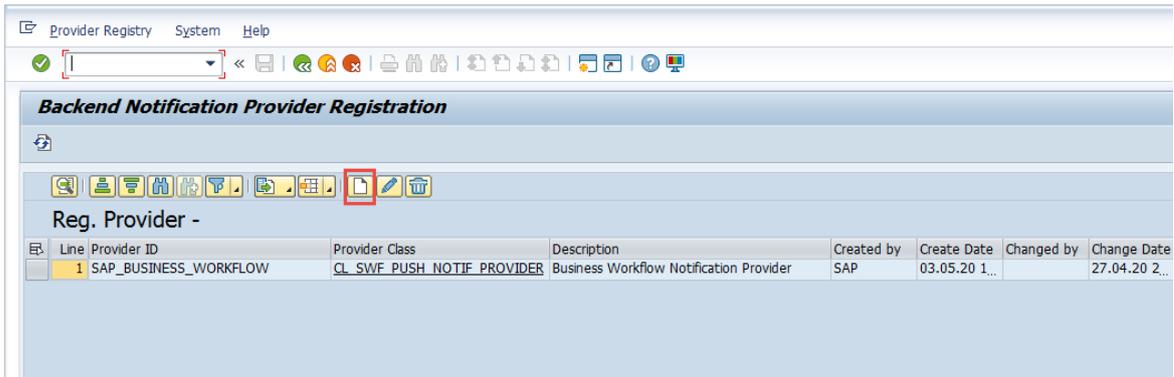


**Figure 64 – Create a new entry**

3. Enter the Provider ID ZIWNGW_DEMO1, please put a letter "Z" before "IWNGW_DEMO1" or you will get error when assign it to a package in the following step.
4. Select "/IWNGW/CL_DEMO_NOTIF_PROVIDER".
5. Enter the "Description".
6. Click "Save" button.



**Figure 65 – Register the Notification Provider**

7. As this is a demo provider to test the Notification Channel, you can assign it to a local object, if you want to transport to the other system, you can assign it to your transportation package.
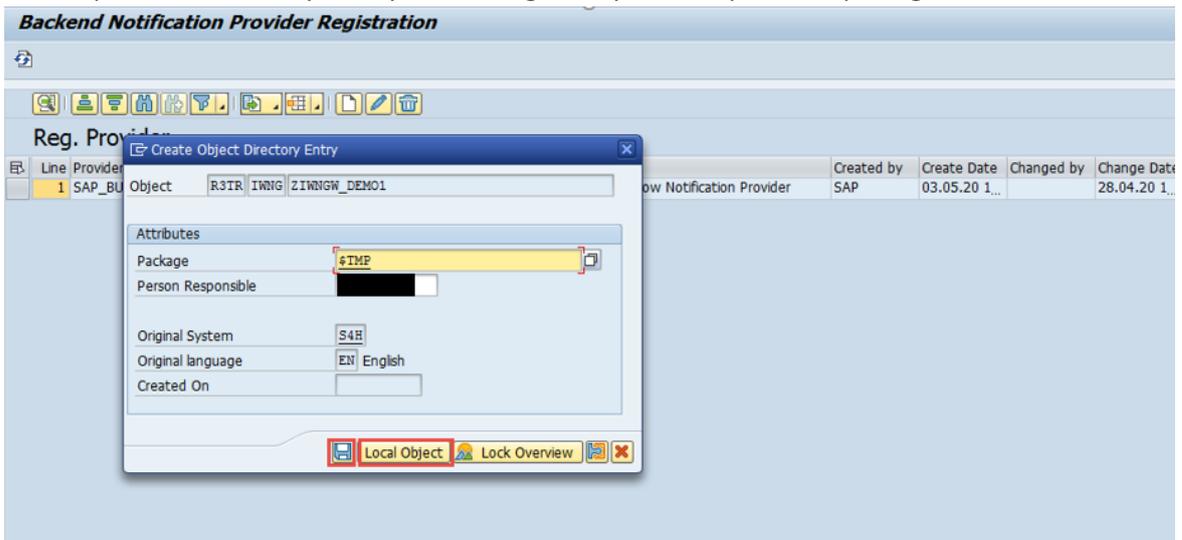


**Figure 66 – Assign package**

8. Execute "Manage Notification Provider".
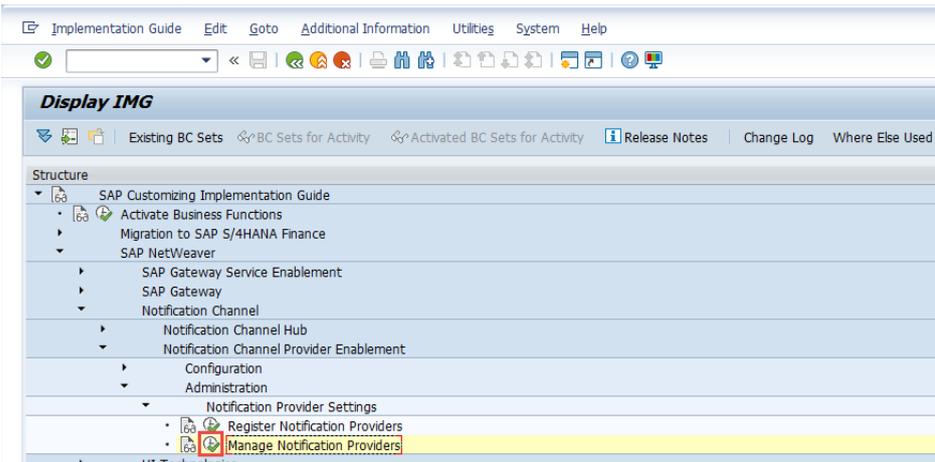


**Figure 67 – Display IMG view**

9. Click "New Entries" button.
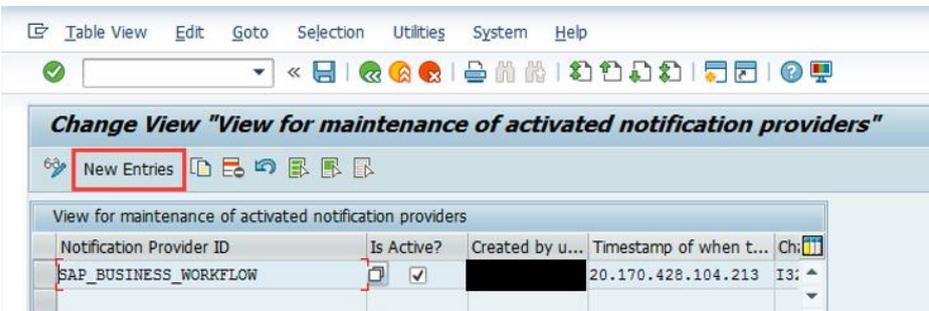


**Figure 68 – Create a new entry**

10. Enter "ZIWNGW_DEMO1".
11. Activate it and save.
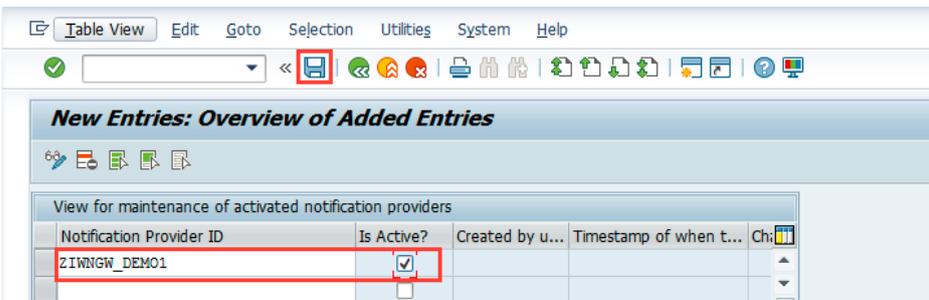


**Figure 69 – Activate the Notification Provider**

12. Click "Save" button.
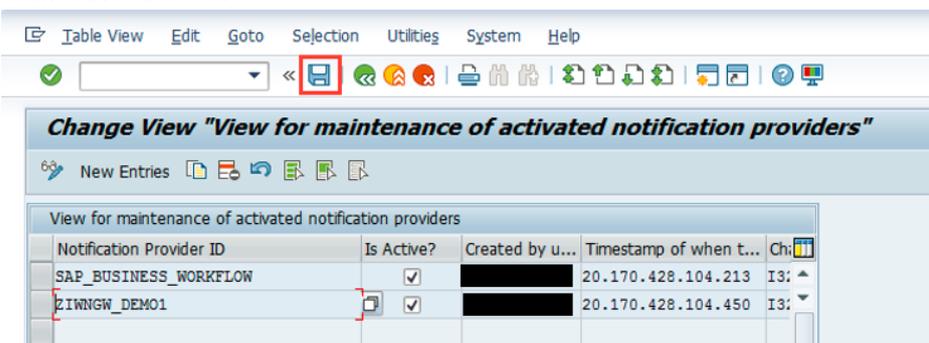


**Figure 70 – Save the changes**

| i Note | • To enable Push Notification for Workflows, we need to activate them in two steps:<br>  1. activate the SAP Business Workflow Notification provider.<br>  2. activate on a Task or Workflow Step level. |
|---|---|

1. Run transaction code SWF_PUSH_NOTIF1. The screen will display as below:
2. Click "Execute".
3. The screen will display as below, make sure the Provider button is in green light.  If not, please activate Notification Provider SAP_BUSINESS_WORKFLOW.
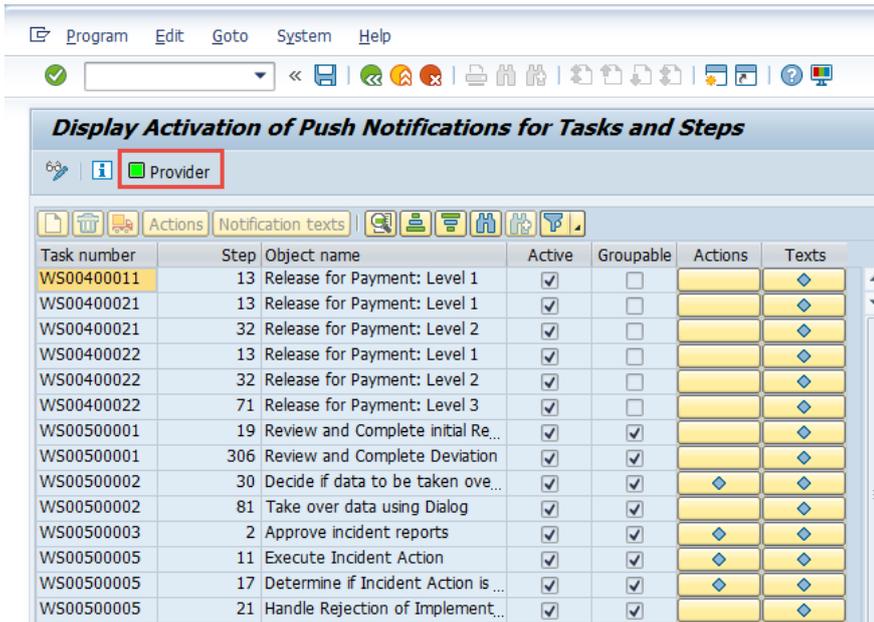


**Figure 71 – Run transaction code SWF_PUSH_NOTIF1**

4. Click "Change" button to change to edit mode.
5. Click "Create New Entry" button.
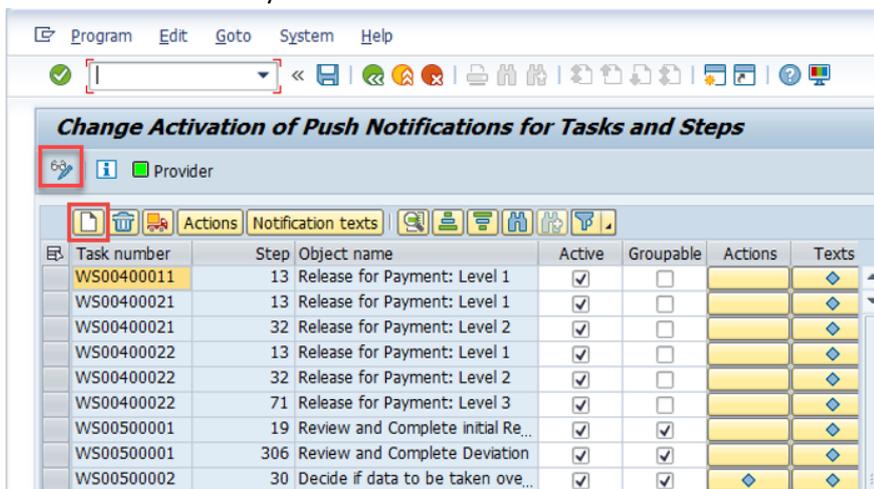


**Figure 72 – Create a new entry**

6. Create a new entry for the task or the workflow step that you want to create notifications for.
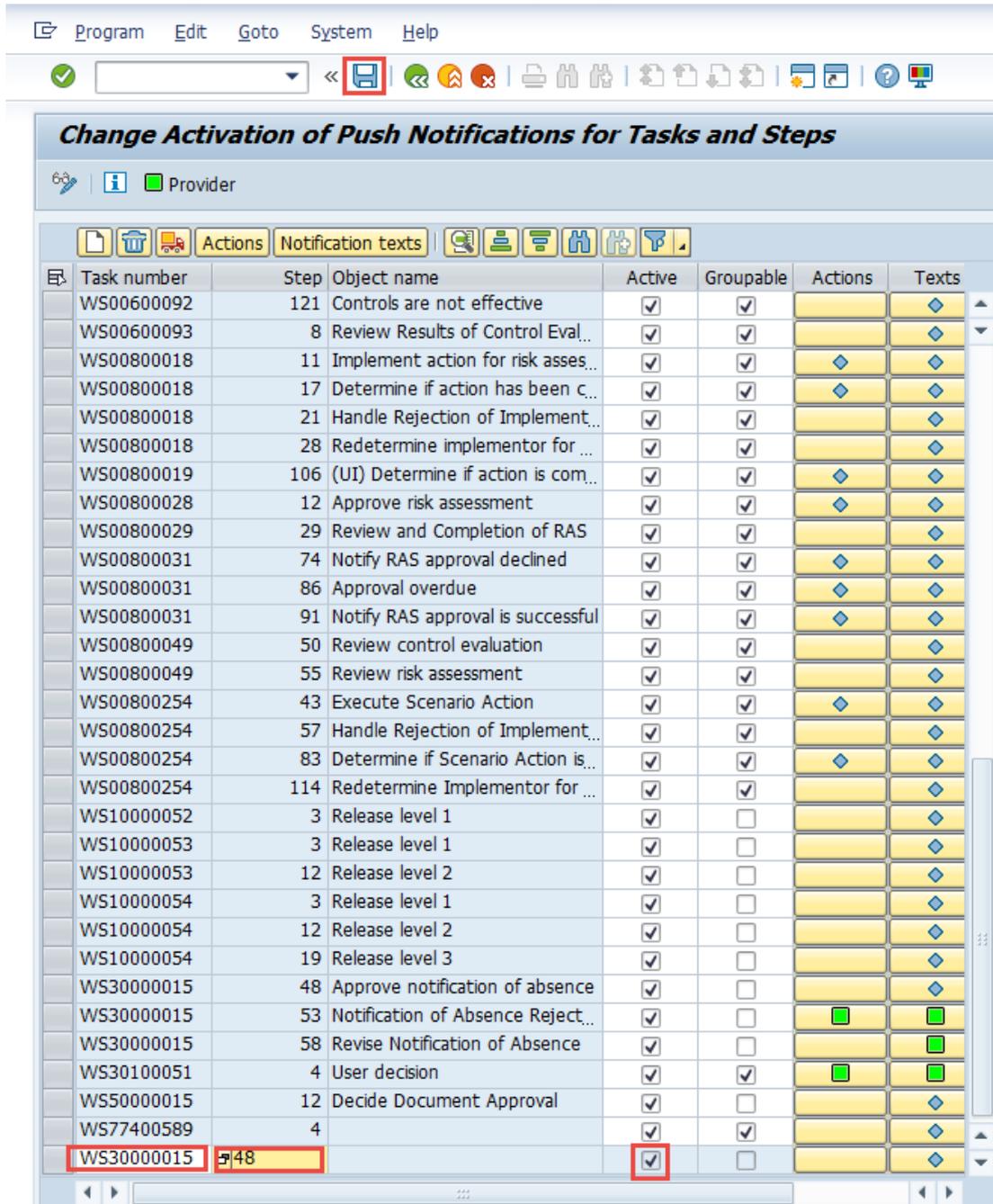


**Figure 73 – Create a new entry**

**Task Number:** enter a Task or Workflow.

**Step:** If you enter a task in the "Task Number" Field, this field will be disabled. If you enter a Workflow in the "Task Number" Field, please define a step to create notifications. If you want to have notifications for more than one steps, you need to create a new entry for each step of the workflow.

**Active:** if you set the "Active" flag, push notification will be enabled.

**Groupable:** it defines whether the notifications can be grouped by type or not. It determines whether group texts can be maintained or not.

7. Click "Save" button.

8. To make the changes you have made to your workflow visible in your SAP Fiori Launchpad, you must refresh the cache in transaction /IWNGW/H_CLEAR_CACHE.

# Schedule Workflow Job SWWDHEX

We have activated the SAP Business Workflow Notification Provider and define which steps or tasks to send notifications in Transaction code SWF_PUSH_NOTIF1.

Next, we will schedule the job SAP_WORKFLOW_PUSH_NOTIFICATION and SWWDHEX to create notifications. As the job SAP_WORKFLOW_PUSH_NOTIFICATION is scheduled by default, I will explain how to schedule the job SWWDHEX.

1. Run transaction code SWU3 to check whether SWWDHEX is scheduled or not.
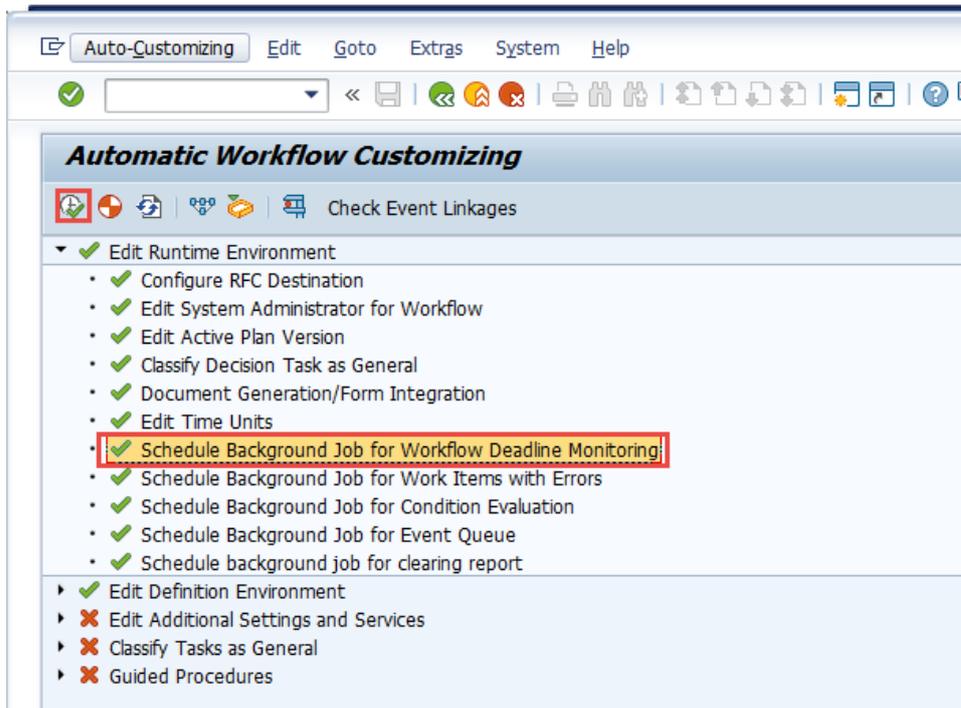


**Figure 74 – Run transaction code SWU3**

2. If the "Schedule Background Job for Workflow Deadline Monitoring" is in error status, please select it and click "Execute" button. Or run transaction code SWWA.
3. Click "Save and Schedule" button.
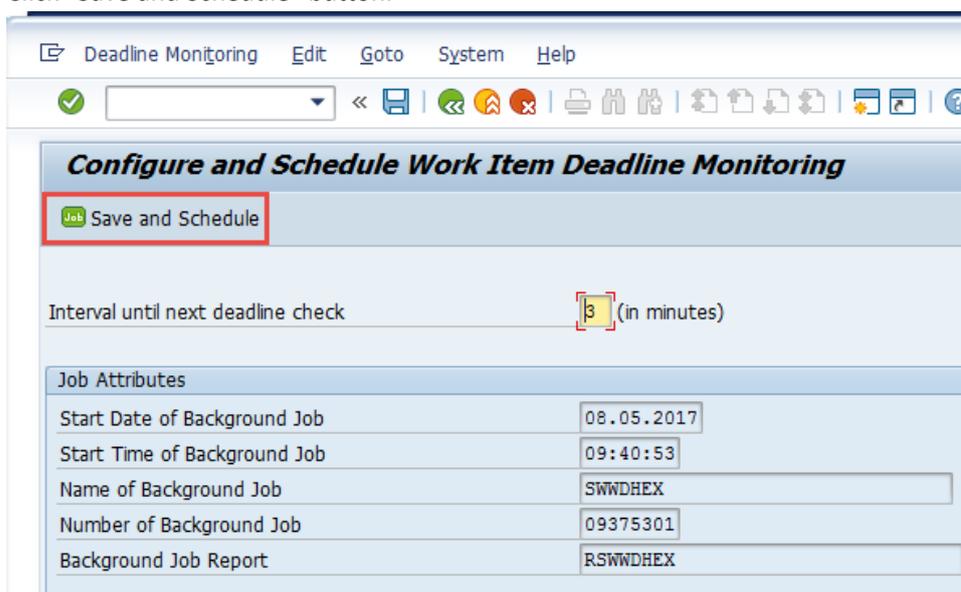


**Figure 75 – Schedule the job SWWDHEX**

SAP Fiori Launchpad can consume notifications from the SAP Gateway Notification Channel. The SAP Gateway Notification Channel is a framework for applications to deliver notifications to end users through various channels. Notifications are disabled by default in the Launchpad, and none of the notification-related UI elements are made visible to the user. This topic describes how to configure the notification parameters in the Launchpad to enable the required service and UI elements.

| i  Note | • | The configuration in this chapter should be performed in the Hub system. |
|---------|---|-----------------------------------------------------------------------------|

## Enable Notification in Fiori Launchpad

SAP delivered two example configuration files containing notifications settings which can be found in the ushell resources:

notifications enabled without preview: /sap/bc/ui5_demokit/test-resources/sap/ushell/demoapps/LaunchpadConfigFileExamples\EnableFiori2WithoutNotificationPreview.json

notifications enabled including preview: /sap/bc/ui5_demokit/test-resources/sap/ushell/demoapps/LaunchpadConfigFileExamples\EnableFiori2WithNotificationPreview.json

1. Run transaction code SICF.
2. Enter "/sap/bc/ui5_demokit".
3. Click "Execute" button.
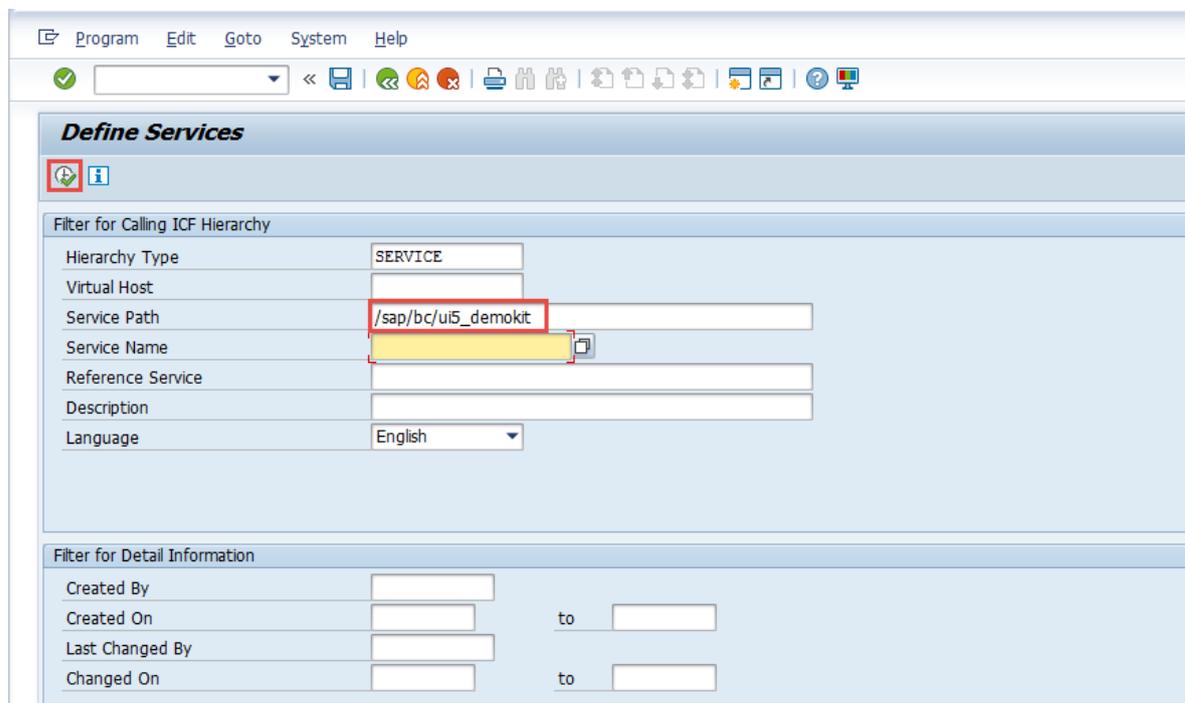


**Figure 76 – 1.    Run transaction code SICF**

4. After executing, the screen will display as below.
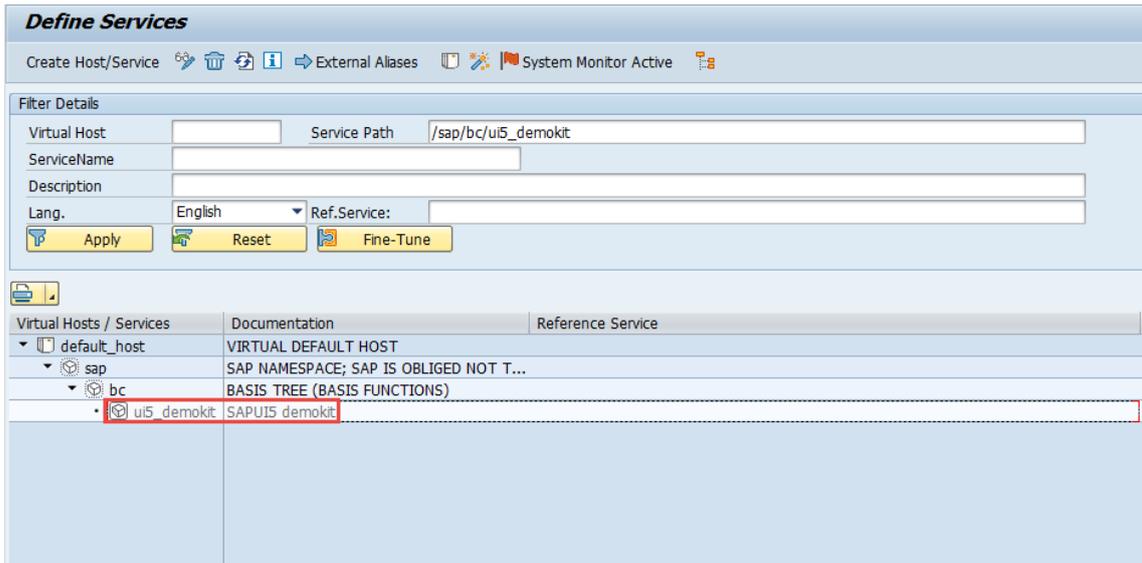


**Figure 77 – Activate the SICF service**

5. Right click the SICF node.
6. Click "Activate Service" item.
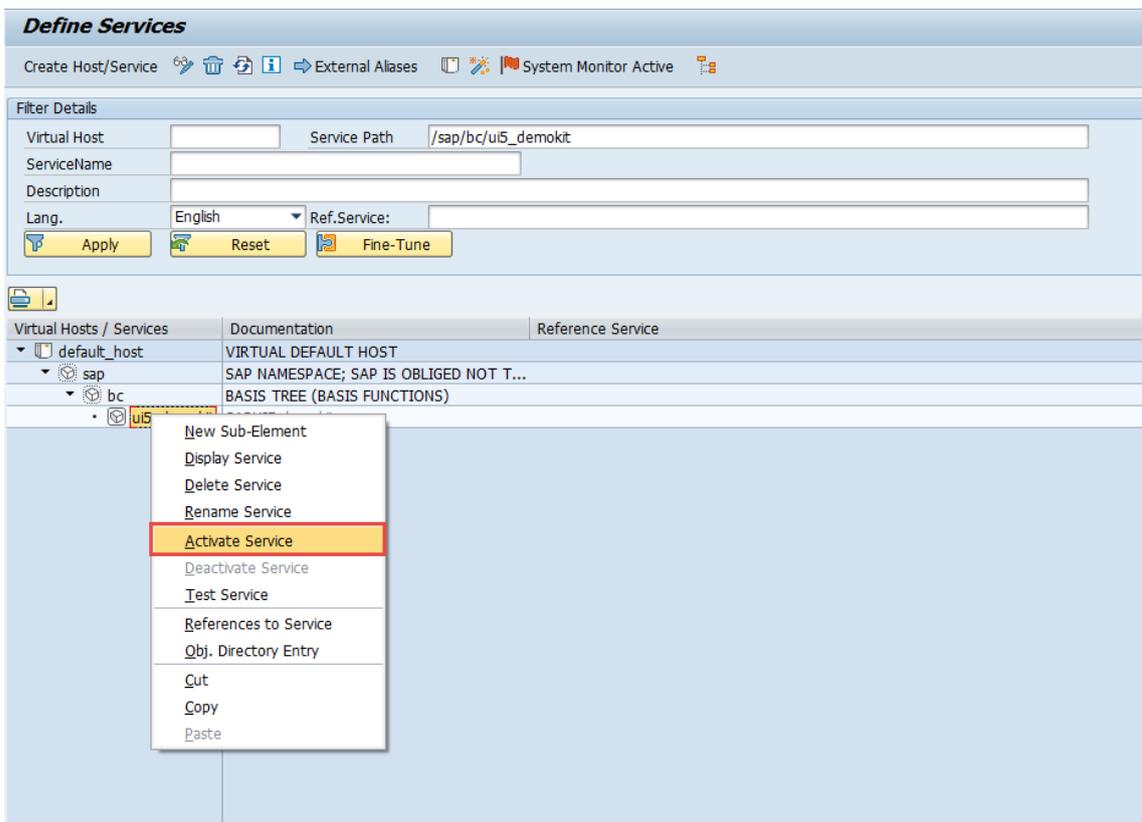


**Figure 78 – Activate the SICF service**

7. Click "Yes" button to activate the service.
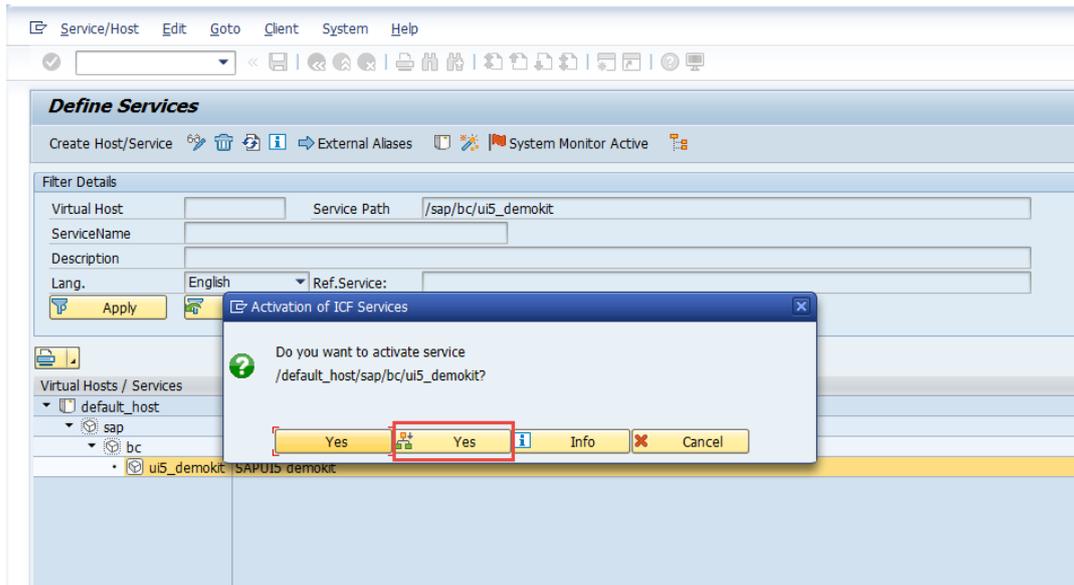


**Figure 79 – Activate the SICF service**

8. Add "sap-ushell-config-url=/sap/bc/ui5_demokit/test-resources/sap/ushell/demoapps/LaunchpadConfigFileExamples/EnableFiori2WithNotificationPreview.json" after the URL to reference the configuration file.
9. Refresh the browser, you will see the Notification button.
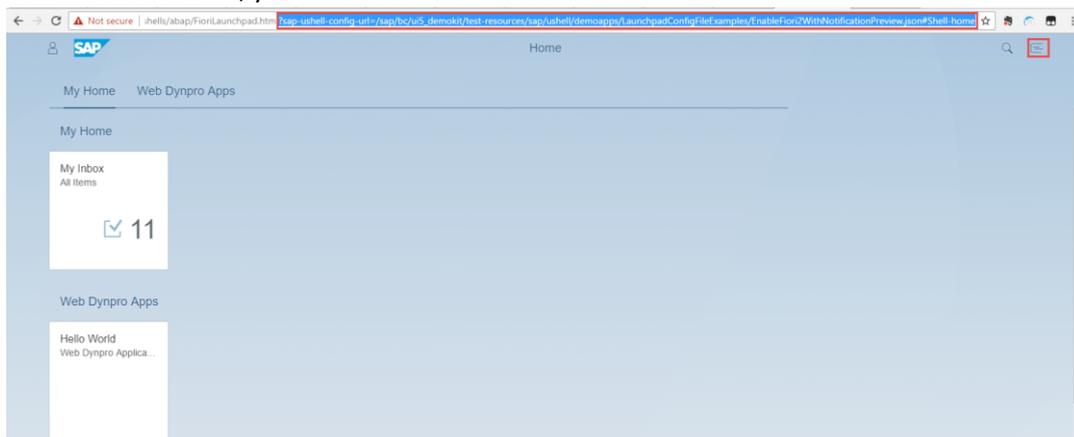


**Figure 80 – Reference configuration file in the URL**

| i Note | • Notifications enabled without preview: /sap/bc/ui5_demokit/test-resources/sap/ushell/demoapps/LaunchpadConfigFileExamples\EnableFiori2WithoutNotificationPreview.json<br>• Notifications enabled including preview: /sap/bc/ui5_demokit/test-resources/sap/ushell/demoapps/LaunchpadConfigFileExamples\EnableFiori2WithNotificationPreview.json |
|---|---|

As we have finish the configuration, we will test the Notification next.

| | |
|---|---|
| **i**<br><br>**Note** | • Before testing, please make sure the following two notes have been applied in your system:<br>  2370445 – Push notification is not sent<br>  2417986 – Notifications not displayed |

## Test the Demo Notification Provider IWNGW_DEMO1

1. Run transaction code /N/IWNGW/BEP_DEMO.
2. Enter the Provider ID "ZIWNGW_DEMO1".
3. Enter the user that you want to send notification.
4. Click "Execute" button.
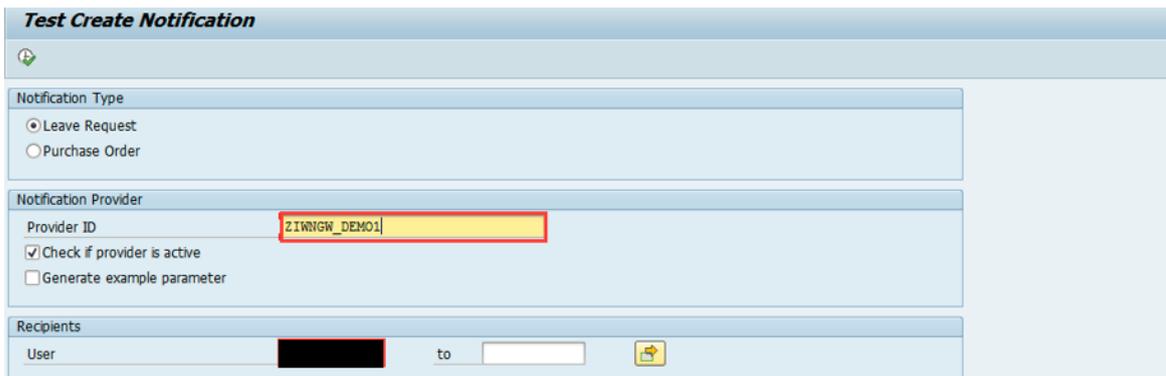
**Figure 81 – Run transaction code /N/IWNGW/BEP_DEMO**

5. After executing, the screen will display as below:
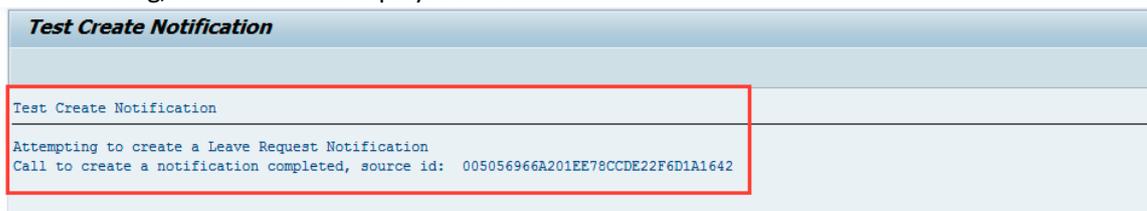
**Figure 80 – Create Notification successfully**

6. Login to Fiori Launchpad, you will see the badge count.
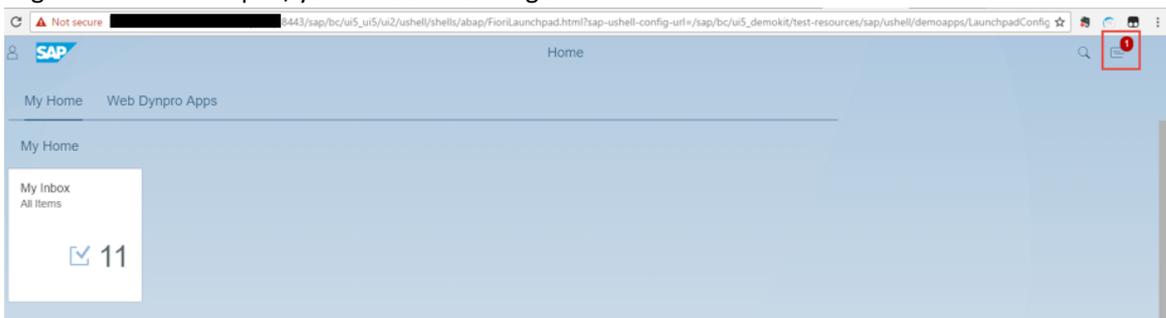
**Figure 82 – Check Notification in Launchpad**

7. Click Notification icon to open the Notification list, you will see the notifications you created just now.
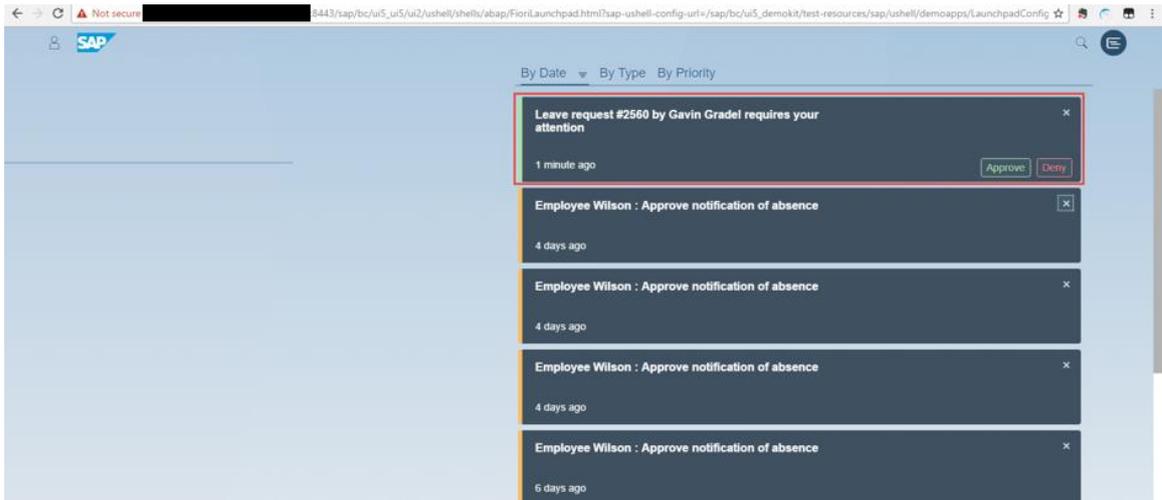


**Figure 83 – Open the Notification list**

## Test the SAP Business Workflow Notification Provider

In this section, I will use the demo workflow WS30000015 to test the SAP Business Workflow Notification Provider. Please make sure this demo workflow task has been assigned to the test user.

1. Run transaction code SWXF.
2. Click "Save" button.
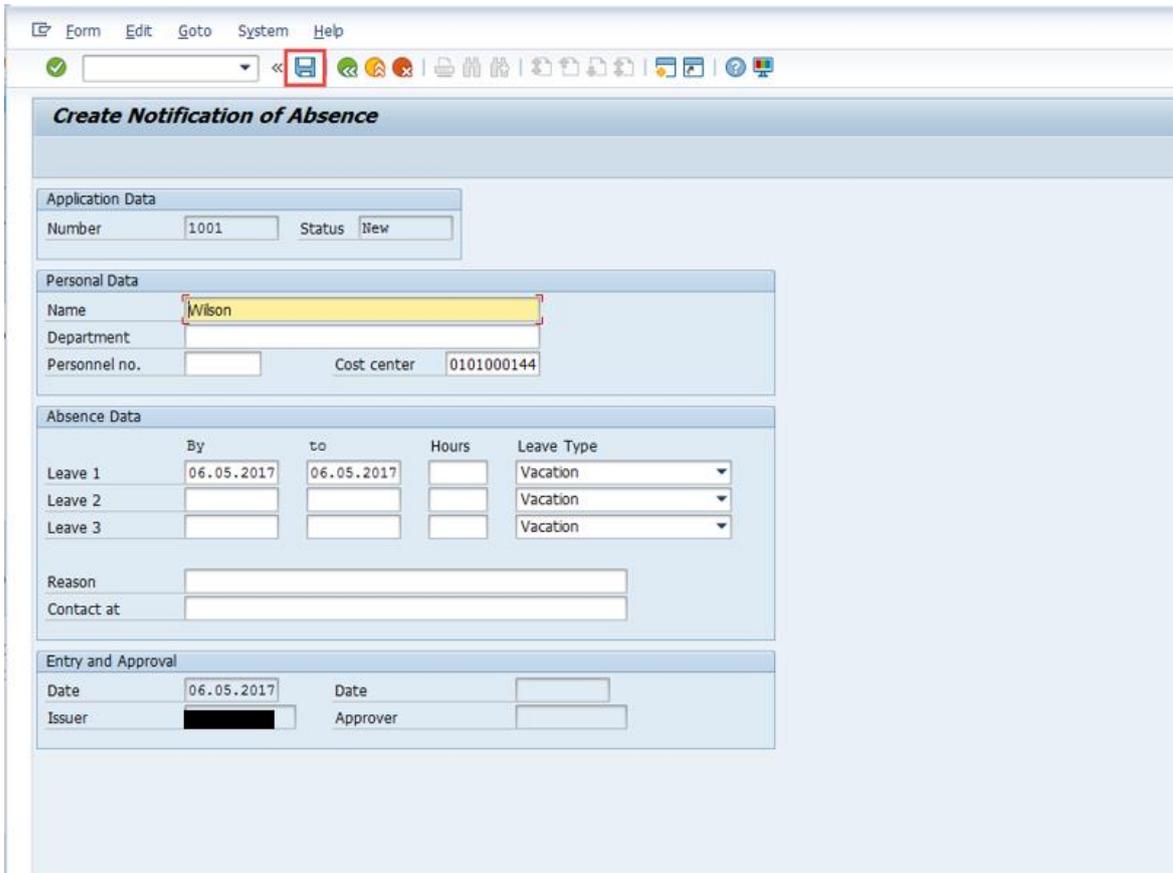


**Figure 84 – Create Notification**

3. Login to Fiori Launchpad, you will see the badge count.



**Figure 85 – Check Notification in Launchpad**

4. Click Notification icon to open the Notification list, you will see the notifications you created just now.
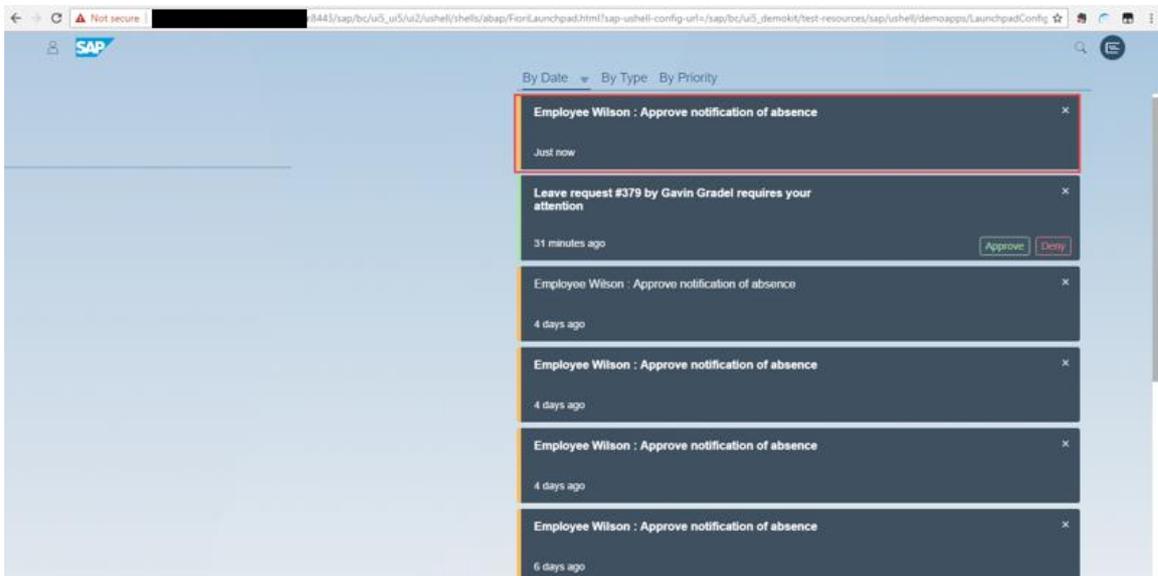


**Figure 86 – Open the Notification list**

5. Click the item, it will navigate to My Inbox to open the item.
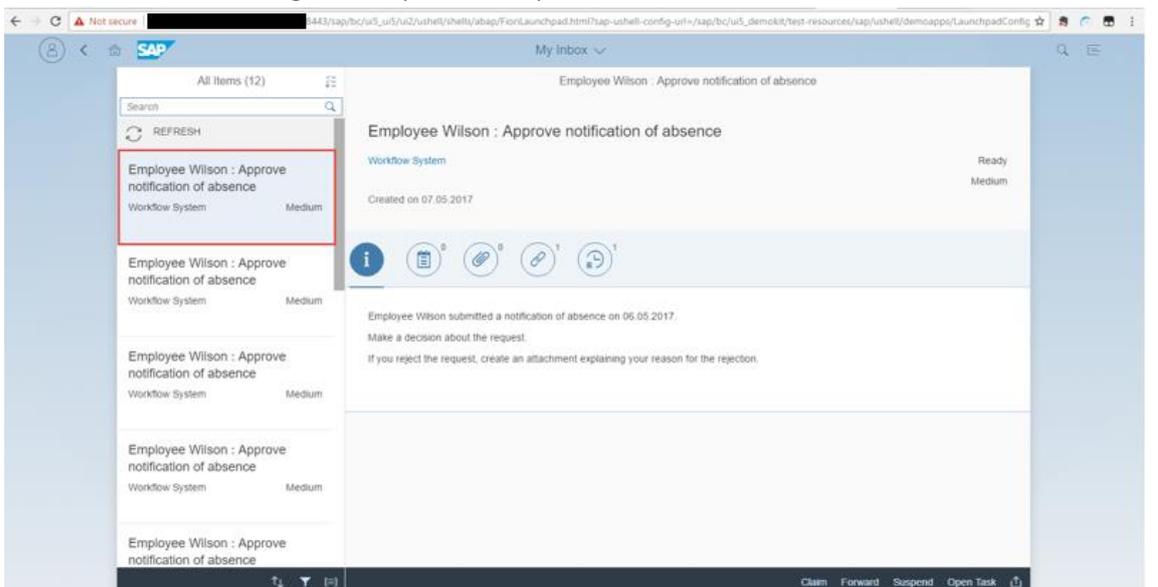


**Figure 87 – Open the task in My Inbox**