How to Setup Notifications in Fiori 2.0 Step-by-Step for 1809
SAP S/4HANA 1809 - Part 2

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Abstract

Chapter 4 - Configuring Notification Provider

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Chapter 4
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.

**Note**
1. 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”.

![Display IMG view](image)

Figure 1 – 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 2 – Enter the Backend System Alias](image2.png)

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

![Figure 3 – Backend System Alias successfully maintained](image3.png)

11. Execute “Enter the Notification Hub RFC Destination”.

![Figure 4 – Display IMG view](image4.png)
12. Enter the RFC destination that points to the Notification Hub system. The RFC destination is created in the Backend system. If you are in Embedded scenario, please Enter “None” here.

Figure 5 – Enter the Notification Hub RFC Destination

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

Figure 6 – Notification Hub RFC Destination successfully maintained

14. Execute “Create bgRFC Destination”.

Figure 7 – Display IMG view
15. After executing, the screen will display as below:

![Configuration of RFC Connections](image1)

Figure 8 – Create bgRFC Destination

16. Click “Create” button.

![Configuration of RFC Connections](image2)

Figure 9 – Create bgRFC Destination

17. Enter the exact name IWNGW_BGRFC and choose connection type 3.

18. Click “Save” button.

![RFC Destination](image3)

Figure 10 – Create bgRFC Destination
19. Open “Special Options” tab.
20. Select “Classic with bgRFC”.

![Select Protocol](image1.png)

**Figure 11 – Select Protocol**

21. Read the warning message and click the “Yes” button.

![Warning Message](image2.png)

**Figure 12 – Read the warning message**
22. Click “Save” button.

Figure 13 – Create bgRFC Destination

23. Click “Connection Test”.

Figure 14 – Test connection

24. Make sure the connection works well.

Figure 15 – Test connection
25. Execute “Register RFC Destination for Background Processing”.

Figure 16 – Display IMG view


Figure 17 – Define Inbound Dest.
27. Click “Create” button.

![bgRFC Configuration screen]

Figure 18 – 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. Starting with SAP NetWeaver Application Server for ABAP 7.52 or by implementing the SAP Note 2445314 on SAP NetWeaver Application Server for ABAP 7.50 and 7.51 we can use any character as prefix for IWNGW_BEP_OUT_BGRFC.

![Configure Inbound Destination screen]

Figure 19 – Add prefix
30. Click “Save” button.

![bgRFC Configuration](image)

Figure 20 – Save the changes

31. Execute “Create bgRFC Supervisor Destination”.

![Display IMG](image)

Figure 21 – Display IMG view
32. Click “Define Supervisor Dest.” tab.

![Image of bgRFC Configuration]

**Figure 22 – Define Supervisor Dest.**

33. Click “Create” button.

![Image of bgRFC Configuration with Create Supervisor Destination highlighted]

**Figure 23 – Create Supervisor Destination**
34. Enter the Destination Name “BGRFC_SUPERVISOR”.
35. Enter the User Name “BgRFC_user”.
36. Select “Create User”.

Figure 24 – Create Supervisor Destination

37. Select “Generate Password”.
38. Click “Save” button.

Figure 25 – Generate password
39. Click “Save” button.

Register and Activate Notification Provider

There are many Notification providers to provide the notifications, for example smart business alert, workflow and so on. 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”.
2. The SAP delivered standard notification provider will display, in this guide, we will use the demo notification provider /IWNGW/DEMO and the workflow notification provider SAP_BUSINESS_WORKFLOW, we will register these two providers in the next steps.

![Backend Notification Provider Registration](image)

**Figure 28 – Display the notification provider list**

3. Go back to previous page and Execute “Manage Notification Providers”.

![Display IMG](image)

**Figure 29 – Display IMG view**
4. Click “New Entries” button.

Figure 30 – Create a new entry

5. Enter “/IWNGW/DEMO”.

6. Activate it and save.

Figure 31 – Activate the Notification Provider

7. Click “Save” button.

8. Repeat the above steps to activate the notification provider SAP_BUSINESS_WORKFLOW.

Figure 32 – Activate notification providers
Enable Workflow and Task to Push Notifications

**Note**

To enable Push Notification for Workflows, we need to activate them in two steps:

1. Activate the SAP Business Workflow Notification provider.
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 double check the configuration in previous chapter again to activate Notification Provider SAP_BUSINESS_WORKFLOW successfully.

![Display Customizing of Push Notifications](image)

**Figure 33** – Run transaction code SWF_PUSH_NOTIF1

4. Click “Change” button to change to edit mode.

![Change Customizing of Push Notifications](image)

**Figure 34** – Switch to edit mode

5. If the workflow or task doesn’t exist, please Click “Create New Entry” button.

![Change Customizing of Push Notifications](image)

**Figure 35** – Create a new entry

6. Choose the task or the workflow step or the scenario activity that you want to create notifications for.
   - For a task, we do not need to maintain Version and Step.
   - For a workflow, we have to maintain Workflow Step. A version can be specified or left blank so that notifications are generated irrespective of the task/workflow version.
7. Set the “Active” flag.
8. Optional: You can group tasks to be executed at the same time. If you want the notifications for a task to be grouped on the notifications UI, set the “Groupable” flag.

9. As the demo workflow is already in the list, I do not need to create an entry for it.

Figure 36 – Create a new entry

10. Click “Actions” and Enter an Action Text.
   a) If you have set the Groupable flag, enter an Action Text for Mass Execution.
   b) Optional: By default, actions can be executed directly from push notifications. If you want to prevent them from being executable, select the Hidden checkbox.
   c) Configure the style of the button, only when the style is setting for the button, it will turn green.

Figure 37 – Create a new entry
11. Configure the text to be displayed in the notification.

12. The Action button have three status:
   a) The first one is blank, that means this step is not a user decision step, it is not possible to display action buttons in Fiori notification.
   b) The second one is grey, that means the action buttons need to be maintained.
   c) The third one is green, that means the action button is already maintained.
Schedule the Workflow background Job to send notification

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 SAP_WORKFLOW_DEADLINE to send notifications. From SAP S/4HANA 1709, we will use the job repository to schedule the job.

1. Run transaction code SJOBREPO to check the job status, if it is activated, please skip this section.

![Figure 40 – Transaction SJOBREPO](image1)

2. Run transaction code SE38 to run the report R_JR_UTIL_1.

![Figure 41 – Transaction SE38](image2)
3. Click the “Show Job Repository State”.

**Figure 42 – Show Job Repository State**

4. The following page will display.

**Figure 43 – Show Job Repository State**

5. Press “Change Job Repository State”

**Figure 44 – Activate Job Repository**

6. Press “Yes”.

**Figure 45 – Activate Job Repository**
7. It is activated successfully, and the default user is DDIC. But it will take a few minutes to schedule the background jobs.

8. Run transaction code SJOBREPO again after a few minutes, the jobs are scheduled.

Change the Step-User of Job Repository

DDIC is the default user of job repository, so the job SAP_WORKFLOW_PUSH_NOTIFICATION and SAP_WORKFLOW_DEADLINE will be scheduled by DDIC. In S/4HANA 1809 we need to change DDIC to other generic user to avoid RFC issues. In the future release, we may change this system design.

1. Run transaction code SJOBREPO_STEPUSER in backend system and press “Create and assign step user”.

Figure 46 – Activate Job Repository

Figure 47 – Check Job status

Figure 48 – Transaction SJOBREPO_STEPUSER
2. Input the user name, we called it SAP\_BATCH, but it can be anything you like. Then SAP system will create a system user called SAP\_BATCH which will be used to schedule the background job. (If you get any error, please apply the note: 2670570 - SJOBREPO Step User Changes)

![Figure 49 – Create and assign a default job user](image1)

3. Now the default user is set successfully.

![Figure 50 - Create and assign a default job user](image2)
4. Next, run transaction code SU01 to create a same user in the **Frontend system**.

![Figure 51 – Transaction SU01](image1)

5. Set the Last name.

![Figure 52 – Create user](image2)

6. Set the user type to “System”.
7. Deactivate the password.
8. Set the validity Period from 01.01.1900 to 31.12.9999.

![Figure 53 – Create user](image3)

9. Assign the RFC role to this user. In my system, it is called ZRFCACL, it may be different in your system. As the Fiori Launchpad is already configured, there must be an RFC role in your Frontend system.

![Figure 54 – Assign RFC role](image4)
10. Run transaction code PFCG to check the authorization data for the RFC role.

![Display Roles](image)

**Figure 55 – Check authorization data**

12. Make sure both authorization object S_RFC and S_RFCACL are included. For security reason, you may restrict some field for example the system ID and client, that is fine.

![Display Role: Authorizations](image)

**Figure 56 – Check authorization data**
Set the navigation target for work item

After setting the target system, when double-clicking a notification in Fiori Launchpad, it will navigate directly to the corresponding work item in My Inbox.

1. Run transaction code /N/IWFND/MAINT_SERVICE and check the system alias for the service “TASKPROCESSING” version 2.

![Figure 57 – Check the system alias for my inbox](image)

2. Run transaction code SWPA then click “Further Settings”.

![Figure 58 – Transaction SWPA](image)
3. Switch to edit mode.

![Image of configuration settings]

**Figure 59 – Set SAP_Origin**

4. Click “New Entries”.

![Image of new entries being added]

**Figure 60 – Set SAP_Origin**

5. Set the system alias for the parameter SAP_Origin.

![Image of configured system alias]

**Figure 61 – Set SAP_Origin**
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.

**Note**  
1. The configuration in this chapter should be performed in the **Hub system**.

Enable Notification in Fiori Launchpad

1. Run transaction PFCG to edit the role, I reuse the role for notification end user.

   ![Transaction PFCG](image62)

   **Figure 62 – Transaction PFCG**

2. Select “SAP Fiori Tile Catalog” in the Menu tab.

   ![Assign catalog](image63)

   **Figure 63 – Assign catalog**
3. Input the catalog /UI2/CONFIG\_NOTIFICATION.

![Figure 64 – Assign catalog](image1)

4. Save the configuration and make sure this role is assigned to the end user.

![Figure 65 – Assign catalog](image2)
As we have finished the configuration, we will test the Notification. This is done in the **Backend system**.

Test the Demo Notification Provider /IWNGW/DEMO

1. Run transaction code /N/IWNGW/BEP_DEMO.
2. Enter the Provider ID “/IWNGW/DEMO”.
3. Enter the user that you want to send notification.
4. Click “Execute” button.

![Image of Test Create Notification interface]

**Figure 66 – Run transaction code /N/IWNGW/BEP_DEMO**

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

![Image of Test Create Notification interface with successful notification creation]

**Figure 67 – Create Notification successfully**

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

![Image of Fiori Launchpad with notification badge]

**Figure 68 – Check Notification in Launchpad**

7. Also, we can test the notification service directly in browser to retrieve the notifications: https://<host>:<port>/sap/opu/odata4/iwngw/notification/default/IWNGW/notification_srv/0001/Notifications?
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. I will test two steps, one is step 48 which is an Activity task without action buttons, the other one is step 53 which is a user decision task with action buttons. Please make sure this demo workflow task has been assigned to the test user.

1. Run transaction code SWXF.
2. Click “Save” button. It will generate a real workflow item, we can find it in the transaction code SWBP and Fiori My inbox.

![Create Notification of Absence](image1)

Figure 69 – Create Notification

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

![Check Notification in Launchpad](image2)

Figure 70 – Check Notification in Launchpad
4. Click Notification icon to open the Notification list, you will see the notifications you created just now.

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

6. Press “Reject” to trigger the workflow step 53 (this is a standard behavior of the workflow WS30000015) if there is no button, please run transaction code SBWP in backend system to reject the work item.

Figure 71 – Open the Notification list

Figure 72 – Create a new notification
7. A new work item is generated and a new notification is created.

Figure 73 – Create a new notification

8. This is a user decision step, so there is an action button.

Figure 74 – Receive a user decision task with action button enabled

9. (Optional) we can turn on the preview, click the User icon to open the Me Area.

Figure 75 – Personalize the notification
10. Click the “Settings”.
11. Click “Show Preview in Home Page”.

Figure 76 – Personalize the notification

12. Go Back to Home Page, the preview will display.

Figure 77 – Personalize the notification

13. For the end user, we also provide the following features to personalize the notifications:
   1) Choose the notification types you want to see in your Notifications area. For example, if you prefer not see any leave requests in the notifications area, you can turn them off.
   2) Choose whether or not to be notified by a popup alert whenever you receive a high-priority notification.
   3) Set specific notification types to always be flagged as high priority notifications, regardless of the default priority level determined by the backend system.
1. Notification icon is not visible
   1) The catalog /UI2/CONFIG_NOTIFICATION is not assigned to the end user. (The configuration file referenced in note 2363449 is not available now) [page 53].

2. Demo notification doesn’t work.
   1) Notification provider /IWNGW/DEMO is not activated. [page 41].
   2) Run transaction code SBGRFCMON in backend system and there are some RFC errors, the reason could be:
      a. The user doesn’t exist in the Frontend system.
      b. The user doesn’t have enough RFC authorization in Frontend system [page 50].
      c. The Frontend system doesn’t trust the backend system [page 13, 16].

3. Demo notification works but the SAP Workflow notification doesn’t work. (Demo notification works fine, it means that Notification channel is configured correctly, the issue resides in the workflow side)
   1) The workflow or task doesn’t send the notification
      a. Run Transaction code SBWP in backend system.
      b. Select the work item to display the log:

   ![Figure 79 – check workflow log](image)
c. The following log will display, if not, the reason could be:
   - Notification provider SAP_BUSINESS_WORKFLOW is not activated [page41].
   - Task or Workflow Step is not activated in transaction code SWF_PUSH_NOTIF1 [page42].
   - Job SAP_WORKFLOW_PUSH_NOTIFICATION and SAP_WORKFLOW_DEADLINE is not scheduled in transaction code SJOBREPO [page45].

![Figure 80 – check workflow log](image)

2) Run transaction code SBGRFCMON in backend system to check if there is any RFC error, the reason could be:
   a. DDIC is used to send the notification [page47].
   b. The user doesn’t exist in frontend system [page49].
   c. The user has no RFC authorization in the Frontend system [page50].

![Figure 81 – monitor bgRFC](image)

4. Action Button doesn’t display in the Notification area
   1) The task or workflow step is not a user decision step.
   2) The action buttons are not maintained in transaction code SWF_PUSH_NOTIF1.
   3) Cache issue. Please refresh the cache in transaction code /N/IWNGW/H_CLEAR_CACHE in hub system. (For higher version, there should be no cache issue: 2497870 - Push notification: Automatic cache refresh)

5. While clicking the item in the notification area, it could not be navigated to the correct item in My inbox
   1) SAP_Origin is not set correctly in backend system[page51].
      a. Open Fiori Launchpad.
      b. Press “F12” to open the Chrome developer tool.
      c. Open the notification area, the following request will exist in the Network trace.
      d. Click the “Preview”.
      e. SAP_Origin is missing in the NavigationTargetParams.
This is an example, there are only two parameters and the “SAP_Origin” is missing.

Figure 82 – check the HTTP response
This is the correct one, there two more parameters: “InstanceID” and “SAP_Origin”.

Figure 83 – Expected results
Appendix

How to Find the Help guide

This guide is mainly focus on how to configure notification, so I could not cover all the information here. If you want to explore more regarding the notification, help portal is the best. But the link to the help portal is not stable, so I will show you how to find the guide.

1. How to find ABAP Notification Channel guide
   1) Open the website https://help.sap.com/.
   2) Search SAP_GWFND.
   3) All the information is in the “Notification Channel” section.

Figure 84 – help.sap.com

Figure 85 – Notification Channel guide
2. **How to Find workflow notification guide**

   2) Search SAP Business Workflow.
   3) Find “System Administrator” in the “Role Documentation”.

4) Find “Enabling Push Notifications” in the “System Administrator”.

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**Figure 86 – Notification guide**

**Figure 87 – Notification guide**
3. How to find Fiori Launchpad guide
   1) Open the website https://help.sap.com/.
   2) Search SAP Fiori Launchpad.
   3) Select the SAP_UI version.

Figure 88 – Select the SAP_UI version

4) Search the keyword “Notification”, there are three parts.

Figure 89 – Search the notification guide