

Analyzing Missing Data in the NetWeaver Mobile Client



Applies to:

SAP NetWeaver Mobile 7.10. For more information, visit the [Mobile homepage](#).

Summary

Sometimes, it so happens that the required data is not present in the mobile device. This can happen due to several reasons. This article explains the various steps to trouble-shoot, analyze and find out the reason why data could be missing on the client device. Wherever possible, steps to get the missing data are also specified.

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Focus

This document describes details about analyzing missing data in the NetWeaver Mobile Client.

The intended audience for the document is:

- Development consultants
- Middleware developers
- NetWeaver Mobile Administrators

Business Scenario

A customer using SAP NetWeaver Mobile 7.1 has to work with logical devices every time and it has to be ensured that the devices have all the relevant data so that they can work independently when they are not connected to DOE. However, sometimes the required data is not present in the mobile client and it is difficult to determine the reason why it is not present.

Analyzing Missing Data in the NetWeaver Mobile Client

Introduction

Sometimes, it so happens that the expected data is not present on the client device. In most cases, this happens due to inconsistencies in the business data or in the data / distribution model. However, it is possible to determine the exact reason for this using the various tools provided by NetWeaver Mobile. This document explains the step by step procedure to determine the reason for the missing data.

Steps for Analysis

Checking the Device State

- In the NW Mobile Administration and Monitoring Portal, in the 'Device Administration' screen, check if the device is enabled. DOE distributes data only to devices that are in 'enabled' state. To get the data, enable the device from the Device Administration screen of the NW Mobile Administration and Monitoring Portal.

Checking the Device's Outbound Queue

- From the NW Mobile Administration and Monitoring Portal's Device Administration screen, check if the missing data object instances are present in the outbound queue of the device. If it is present, synchronize the device with DOE to get the data.

Checking the DMSWCV Assignment

- From the NW Mobile Administration and Monitoring Portal's Device Administration screen, check if any DMSWCV (that distributes the missing data object instances) is assigned to the device. If no relevant DMSWCV is assigned, assign the corresponding MCD to the device and synchronize with DOE. This will automatically assign the DMSWCV associated with the application (MCD).
- If the DMSWCV is assigned, check if the DMSWCV is operational. The DMSWCV will become operational once the application is successfully installed on the device.

Checking the Device's Subscriptions

- Click on the 'View Subscriptions' link from the Device Administration screen of the NetWeaver Mobile Administration and Monitoring portal. This will show the subscriptions for all data objects that will get distributed to the device.
- If the data object is listed in the subscriptions list, check if the subscription is valid for the device. If the subscription is valid, check if the missing data matches the subscription. In case the data is

incorrect, correct the same in the backend system and trigger a delta load. Once the correct data reaches DOE, it will get distributed to the appropriate device(s).

- If the subscription is not valid, correct the corresponding subscription generation data object instance and/or the single/multi valued attributes for the device to reflect the correct subscription for the device. Once the subscriptions are updated, wait till the RR queues are complete (Queue Monitoring screen in the NW Mobile Administration and Monitoring Portal). Once the RR queues are complete, the correct data will be available in the pending extracts / outbound queue of the device (if synchronous extract is enabled for the data object).
- If the data object is not listed in the subscriptions list, there can be two cases:
 - The data object is not distributed via a direct rule – it is a part of the dependency hierarchy. In this case, proceed to the step ‘Checking the Dependency Hierarchy’ below.
 - Check if the distribution rule for this data object is active. If it is not active, activate the same from the Distribution Rule Administration screen of the NetWeaver Mobile Administration and Monitoring portal. Once the distribution rule is activated, wait till the RR queues are complete (Queue Monitoring screen). Once the RR queues are complete, the correct data will be available in the pending extracts / outbound queue of the device (if synchronous extract is enabled for the data object).

Checking the Consolidated Data Store (CDS)

- Open the CDS table for this data object from the DOE workbench (SDOE_WB transaction) and check if the required data is present in the CDS.
- If the required data is present in the CDS, proceed to the step ‘Checking the Dependency Hierarchy’ below.
- If the required data is not present in the CDS, the same has to be sent from the backend by triggering delta download / key push / instance push. Once this is done, wait till the backend queues and the flow queues are fully processed (transaction SMQ2 (or) Queue Monitoring screen from the NW Mobile Administration and Monitoring Portal).
- Now, if the data is present in the CDS, synchronize the device after the RR processing is complete and the data is present in the outbound queue (if the data object is not synchronous extract enabled, you can trigger extract from the Device Administration screen). Check the device again. If not, check the backend system to determine why the data was not sent to DOE.
- Once the data is present in the CDS, verify if the instance matches the subscription pattern for the device. If it does not satisfy the subscription pattern, the data will not be sent to the device. The data will be sent to the device only when the subscription for the device matches the data.

Checking RR Processing

- Check if any RR queues are running for this data object and wait till they are complete. Once the RR queues are complete, the data will be present in the ‘pending extract’ section / outbound queue of the device. If not, proceed as below.
- Get the extract key of the data object instance that is expected in the device. Also, get the device id of the device in which the data is missing.
- Open the Association Table (AT) for this data object using the ‘View Metadata’ option of the corresponding Data Distribution Model in the DOE workbench.
- Check if there is any entry for the extract key - device id pair in the AT.
 - If there is an entry with status ‘I’, then check if any instances of this data object are pending for extract. If they are, then trigger extract for the device.
 - If there is an entry with status ‘O’, then the data has already been sent to the client via synchronization or is present in the outbound queue of the device. If it is present in the

outbound queue, then synchronize with DOE to get the data. Also, wait until all extract queues for this data object are complete (Queue Monitoring) to see the data in the outbound queue.

- If there is an entry with status 'D', then the data has been marked for deletion from the device since the instance is no more valid for this device. Check if the data object subscription is valid for this device.

Checking the Dependency Hierarchy

- If the data object is not distributed to the device via a direct rule / is a part of a dependency hierarchy, then start from the dependency in which the current data object is involved and proceed up the hierarchy. Follow the steps below for each level until the root data object of the dependency hierarchy is reached.
- From the Dependency screen in the DOE workbench, note down the source data object, target data object, source node, target node, source attribute and the target attribute of the dependency.
- Using the above information, determine the instances of the leading data object corresponding to the following data object instance. Check if any of the leading data object instances are valid for this device, by checking the leading data object's AT (from View Metadata section). *For example:* If instances of the 'product' data object (following data object) are sent to the device based on the line items in the 'sales order' data object instances (leading data object), then, if a product data object instance is missing, check if any corresponding 'sales order' data object instances are being sent to the device.
- If a leading data object instance is valid for the device, use the previous described procedure depending on the status of the AT entry.
- If none of the leading data object instances are valid for the device, repeat the entire evaluation for the leading data object instances. The following data object instances will get distributed only if any of the leading data object instances are distributed to the device.
- If the corresponding leading data object instances are determined – and found that they are not distributed, use the above procedure to analyze why the leading data object instances were not sent to the device. Once the relevant leading data object instances become valid for the device, the following data object instances will also be automatically sent. You can then synchronize the device to get all the data.

Related Content

SAP Help on creating SAP NW Mobile Applications from the ground up:

http://help.sap.com/saphelp_nwmobile71/helpdata/en/45/3dfd65cdf34c2fe10000000a1553f6/frameset.htm

More articles related to SAP NW Mobile:

<http://www.sdn.sap.com/irj/scn/articles-mobile-all>

Blogs discussing Mobile:

<http://www.sdn.sap.com/irj/scn/weblogs?blog=/weblogs/topic/15>

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