Creating Application Definitions in Hana Cloud Platform Mobile Services

Applicable Releases:
HANA Cloud Platform Mobile Services

Version 1.0 – March 2015
Document History

<table>
<thead>
<tr>
<th>Document Version</th>
<th>Authored By</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>Technology RIG</td>
<td>First release of this guide</td>
</tr>
</tbody>
</table>
# TABLE OF CONTENTS

1. Business Scenario ........................................................................................................ 4  
2. Background Information .............................................................................................. 4  
3. Prerequisites .................................................................................................................. 4  
4. Step-by-Step Procedure ..................................................................................................... 5  
    4.1 Creating Initial Application Definition ......................................................................... 5  
    4.2 Creating a Backend Configuration ............................................................................... 8  
    4.3 Creating Client Policies ............................................................................................. 12  
    4.4 Push Configuration .................................................................................................... 14  
    4.5 Uploading Client Resources ..................................................................................... 15  
    4.6 Offline Application Configuration ............................................................................. 16  
    4.7 Application Specific Settings .................................................................................. 17
Creating Application Definitions in Hana Cloud Platform Mobile Services

Set up your SAP Web IDE on HANA Cloud

1. BUSINESS SCENARIO
You have moved to the Hana Cloud Platform mobile services (HCPms) to manage your mobile applications in a cloud based platform. You already have access to the mobile services administration cockpit and you are ready to define your first application definition on the HCPms.

2. BACKGROUND INFORMATION
SAP HANA Cloud Platform is an in-memory cloud platform based on open standards. It provides access to a feature-rich, easy-to-use development environment in the cloud. The platform includes a comprehensive set of services for integration, enterprise mobility, collaboration, and analytics.

SAP HANA Cloud Platform enables you to rapidly build, deploy, and manage cloud-based enterprise applications that complement and extend your SAP or non-SAP solutions, either on-premise or on-demand. As a Platform-as-a-Service operated by SAP, the product frees you from any infrastructure and IT costs and offers state-of-the-art quality of service, availability, scalability, and multitenancy.

3. PREREQUISITES
You need to have an account on the Hana Cloud Platform (HCP). The productive landscape is available on a regional basis, where each region represents the location of a data center:
- Europe, the central region, available on hana.ondemand.com
- United States, available on us1.hana.ondemand.com
- Asia-Pacific, available on ap1.hana.ondemand.com

Along with the HCP you need to have access to the mobile service component of HCP. If your company has already licensed the mobile service then you can start with your corporate version.

If you want to try out the mobile services you can get a trial account. Go to: http://hanatrial.ondemand.com to get a trial account.

Once you sign up for a trial account you can follow this blog for setting up your trial account:
http://scn.sap.com/community/developer-center/mobility-platform/blog/2014/12/18/how-to-enable-hana-cloud-platform-mobile-services-trial
4. **STEP-BY-STEP PROCEDURE**

The following sections provide a detailed step-by-step procedure on how to create application definition in the HCPms.

4.1 **Creating Initial Application Definition**

1. Log on to your HCPms administration cockpit. It should look similar to the screen shot below:

![Screen Shot of HCPms Administration Cockpit](image1)

2. Click on the Applications option. You will get a list of the defined application in the left column and if you choose an application the basic info will be on the right hand side of the screen.

![Screen Shot of Applications Section](image2)
3. Press the + sign to create a new application definition

4. You will get the following popup to start the application definition. The required fields are marked with an asterisk (*). Fill in the required fields and press the Save button when you are finished. Details of what should be filled in the screen are provide in the following table.
Creating Application Definitions in Hana Cloud Platform Mobile Services

1. Set up your SAP Web IDE on HANA Cloud

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application ID</td>
<td>Unique identifier for the application, in reverse-domain notation. This is the application or bundled identifier that the application developer assigns or generates. The administrator uses the Application ID to register the application with.</td>
</tr>
<tr>
<td>Version</td>
<td>Displays the read-only version that is set by the developer of the application.</td>
</tr>
<tr>
<td>Name</td>
<td>The name: Can contain only alphanumeric characters, spaces, underscores (_), and periods (.). Can be up to 80 characters long.</td>
</tr>
<tr>
<td>Type</td>
<td>Application type. Native – native applications, including Android, BlackBerry, iOS, Windows Mobile 8, and Windows 8. Hybrid – Kapsel container-based applications.</td>
</tr>
<tr>
<td>Description</td>
<td>(Optional) The description: Can contain alphanumeric characters. Can contain most special characters, except percent signs (%) and ampersands (&amp;). Can be up to 255 characters long.</td>
</tr>
<tr>
<td>Vendor</td>
<td>(Optional) The vendor name: Can contain only alphanumeric characters, spaces, underscores (_), and periods (.). Can be up to 255 characters long.</td>
</tr>
<tr>
<td>Security Configuration</td>
<td>• The security configuration supports these options. Change the value only if you require something other than the default: • None – (Default) for anonymous authentication. No authentication challenge is sent; requests are processed anonymously. • Form – for SAML-based SSO authentication. • Basic – for HTTP-Basic (username and password) authentication.</td>
</tr>
</tbody>
</table>

4. Once you save your definition you will get a screen that looks something like this. You can then continue to the next step defining the backend configuration.
4.2 Creating a Backend Configuration

1. You can create the backend configuration from the application definition screen that was shown in the previous steps by pressing on the Backend icon.

![Backend Configuration Screen](image)

2. Fill in the in the fields on the screen and press the Save button when you are done. The table below provides information on what goes in to each of the fields.

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backend URL</td>
<td>The URL (back-end connection, or service document) the application uses to access business data on the back-end system or service. The service document URL is the document destination you assigned to the service. Include a trailing slash to avoid triggering a redirection of the URL, and losing important HTTP header details.</td>
</tr>
</tbody>
</table>
| Authentication Type | • SAP HANA Cloud Platform uses HTTPS protocol to integrate into the existing security landscape without disruption.  
• No Authentication – Back end does not require any credentials for authentication. Your destination is provided direct access to the relevant on-premise service.  
• Basic Authentication – Enter user and password credentials to authentication.  
• Client Certification Authentication – Prepare a client certificate and get it signed by certification authority (CA) certificate of the SAP HANA Cloud Platform mobile services. The client certificate should be trusted by back-end system. Note: You must select Proxy Type=Internet, and your destination URL must be HTTPS. You also need to provide both keystore and truststore parameters. |
| User Name         | (Optional) The user name to access the back-end system.             |
| Password          | (Required if you set the user name; otherwise, optional) The password to access the back end. |
| Maximum Connections | • The number of back-end connections that are available for connection pooling for this application. The larger the pool, the larger the number of possible parallel connections to this specific connection. For primary endpoints, the default range is 1–199 connections. |
| Certificate Alias | If the back-end system requires mutual SSL authentication, enter the certificate alias name of the private key and technical user certificate defined in HANA Cloud Platform. The alias is located in smp_keystore. Otherwise, leave blank. |
Creating Application Definitions in Hana Cloud Platform Mobile Services

Set up your SAP Web IDE on HANA Cloud.

3. If you need more than one backend configured for your application or if you want to predefined backend connections you can define the backends outside of the application definition process. From the main menu in the Admin cockpit, click on the Connections link.
4. You will see a list of all the existing connections in the left column and in the right column; you will see the details of the selected connections. Press the + sign to create a new connection.

5. You will get a popup like the following.
6. The fields are the same as what you configured for the backend connection in the application definition. Refer to the table above for descriptions of the fields. Press the Save button to save your connection configuration.

7. To test your backend connections, from the connections screen, select the connection you want to test and press the Ping button. If the system can successfully reach the backend you will get a resulting page that looks like this:

![Ping Results](image)

NOTE: For the rest of the Application Configuration; not all the following configurations are required. Depending on the type of application and a plan of the application development itself, different configurations are required. The next steps will cover
4.3 Creating Client Policies

1. From the application definition screen click on the Client Policies button.

2. There are three different sections in the Client Policies screen. They are all independent so you can configure them individually.

3. The first of this is Defining Client Password Policy. The client password policy applies only to the application password used to unlock the DataVault during application initialization. It has nothing to do with SAP HANA Cloud Platform mobile services security profiles, or the back-end security systems. Password policies for back-end security systems are administered by customer information technology departments using native security administration tools.

4. Under Client Password Policy, select Enable Password Policy. Fill in the required fields. The following table describes the input fields.

<table>
<thead>
<tr>
<th>Property</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expiration Days</td>
<td>0</td>
<td>The number of days a password remains valid. The default value 0 means the password never expires.</td>
</tr>
<tr>
<td>Minimum Length</td>
<td>8</td>
<td>The minimum password length.</td>
</tr>
<tr>
<td>Retry Limit</td>
<td>20</td>
<td>The number of retries allowed when entering an incorrect password. After this number of retries, the client is locked out, the DataVault and all its contents are permanently deleted, the application is unusable, and encrypted application data is inaccessible.</td>
</tr>
<tr>
<td>Minimum Unique Characters</td>
<td>0</td>
<td>The minimum number of unique characters required in the password.</td>
</tr>
<tr>
<td>Lock Timeout</td>
<td>0</td>
<td>The number of seconds the DataVault may remain unlocked within an application, before the user must reenter his or her default password to continue using the application (similar to a screen-saver feature).</td>
</tr>
<tr>
<td>Password Properties:</td>
<td>See below</td>
<td>Required password policies.</td>
</tr>
</tbody>
</table>
5. The next part of the client policies is defining Enabling Client Logs Policy. The log policies you define here apply to all application registrations. You can override these settings for a specific registration.


7. Select the log level in Log Type.

8. Select the time period after which logs to be deleted from the database. As a default, log files exist for 7 days from the date of creation in the database. Log level definitions are described in the table below.

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Path</td>
<td>For tracing execution flow. Used, for example, in the context of entering and leaving a method, looping, and branching operations. (Not applicable to the Offline logging component.)</td>
</tr>
<tr>
<td>Debug</td>
<td>For debugging purposes, includes extensive and low level information.</td>
</tr>
<tr>
<td>Info</td>
<td>Informational text, used mostly for echoing what has been performed.</td>
</tr>
</tbody>
</table>
### Warn
The application can recover from the anomaly, and fulfill the task, but requires attention.

### Error
The application can recover from the error, but cannot fulfill the task due to the error.

### Fatal
The application cannot recover from the error, and the severe situation causes fatal termination.

9. Click Save to save the settings.
10. The third policy you can configure is the Usage Report Policy. Administrator can view reports based on three dimensions: device type and its version, operation system type and its version, and SDK type and its version. Administrator can enable developer-defined usage report collection in Mobile Services Cockpit. Usage reports are stored in the application-specific columns in the database. Flexible schema allows you to add columns and customize the tables.

12. Select Enable App Specific Upload to view developer defined usage information.
13. Enter the time period after which reports should be uploaded to the SAP HANA Cloud Platform mobile services.

#### 4.4 Push Configuration

1. The push listener service provided with SAP HCPms allows back-end systems to send native notifications to devices. Application developers must enable push notification code in applications to use this option.
   - **Android Push Notifications** - Configure Android push notifications for the selected application, to enable client applications to receive Google Cloud Messaging (GCM) notifications.
   - **Apple Push Notifications** - Configure Apple push notifications for the selected application, to enable client applications to receive APNS notifications.
BlackBerry Push Notifications - Configure BlackBerry push notifications for the selected application, to enable client applications to receive BES/BIS notifications.

Windows Push Notifications - Configure Windows push notification services (WNS) for the selected application, to enable the back-end servers connected with SAP HCPms to send toast, tile, badge, and raw updates to Windows desktop and tablet application users.

Windows Phone Push Notifications
Configure Microsoft push notification services (MPNS) for the selected application, to enable the back-end servers connected with HCPms to send toast, tile, badge, and raw updates to Windows phone users running mobile applications. Go to https://eclipse.org/downloads/.

2. In the Application Configuration choose the Push configuration button.

3. For the details of what to configure for each specific push notification please refer to the online documentation page: https://help.saphana.ondemand.com/hana_cloud_platform_mobile_services/frameset.htm?82864e6309d84aed9566436b766e63ef.html
You can get the details for each of the Push notification types there.

4.5 Uploading Client Resources

1. Upload client resources, or resource bundles, for the selected application. Resource bundles are containers used by applications to download dynamic configurations, styles, or content from the SAP HCPms.

2. Resource bundle guidelines:
   - Supportability the resource bundle can be of any type (.pdf, .xls, .xml, etc.) with no restrictions.
   - Size the resource bundle can be of any size, with no restrictions. For best performance, a maximum of 1MB is recommended.
Creating Application Definitions in Hana Cloud Platform Mobile Services Set up your SAP Web IDE on HANA Cloud

- Default resource bundle: the first resource bundle uploaded is considered to be the default. After that, you can upload additional versions of the bundle, but only one can be the default. You can delete obsolete resource bundle versions.

3. Click on the Client Resources button from the application configuration screen.

4. You can find additional information on Client Resources in the online documentation here: https://help.hana.ondemand.com/hana_cloud_platform_mobile_services/frameset.htm?f54ce45999d143ea8357210d580f0268.html

4.6 Offline Application Configuration

To work offline, an application must initialize an offline store, which stores data that the application can access when it is offline. SAP HANA Cloud Platform mobile services provide an Offline OData Service that moves data between the back end and the client offline store.

The server retrieves data from an OData producer that is running in a back end and creates the initial database on the client. The server updates the client database based on deltas with the back end. Deltas between the back-end data and the client data are computed by the back end or by the server.

1. The back-end connection settings determine how SAP HANA Cloud Platform mobile services creates the initial offline store database on the client, and how it processes requests for updates from the back end. Define offline back-end connection settings for an application by importing a configuration (.ini) file prepared by a developer.
2. Select the Offline Configuration button in the application configuration.

![Offline Configuration button](image)

3. Click the Import button. In the following popup, browse to or enter the path to the offline configuration file

![Upload File](image)

4.7 Application Specific Settings

1. The application specific settings apply only to Hybrid (kapsel) applications.
2. Click on App Specific Settings button in the application definition screen
3. To import a new application or update an existing application version, click Upload Kapsel
   - In the dialog, navigate to the directory.
   - Select the hybrid app package, and confirm.

4. New version information appears for the uploaded Kapsel app for each mobile platform. You cannot change this information.

That concluded the steps to do application configuration in the Hana Cloud platform mobile services.