Common Tools for SQL data warehousing and   
SAP Data Warehouse Cloud

ANA369

Exercises / Solutions  
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# Select your group ID number

| Explanation | Screenshot |
| --- | --- |
| 1. Go to your browser and follow this link to Google Sheets:   <https://docs.google.com/spreadsheets/d/1J42glepJ5elAyXTNxGB1kATXhImDZQwL8D-2ao2IIoE/edit?usp=sharing> |  |
| 1. In the sheet identify the next free GROUP ID from the list A free column shows No in Column C with a green background color.   example 001 |  |
|
| 1. Copy the **EMAIL** address and the **GROUP ID** to your notes and keep it safe. You will need it for the exercise. |  |
| 1. Set the dropdown box in Column C to **Yes** |  |
| 1. Check the result in Column C. It must show Yes with a red background to indicate that this number is taken by you. |  |

# System access information

Given your selected GROUP ID and EMAIL address, you can use the following login details to get access to the systems.

The ### represents your GROUP ID. Hence, throughout the document replace the ### with your GROUP ID.

**SAP Data Warehouse Cloud**

URL: <https://dwc-teched2020.eu10.hcs.cloud.sap>

User: sap-teched-ana369+###@sap.com

PW: Welcome2020!

**SAP Cloud Platform**

URL: <https://cockpit.eu10.hana.ondemand.com/trial/#/home/trial>

User: sap-teched-ana369+###@sap.com

PW: Welcome2020!

# Logon to data warehouse cloud and SPACE configuration

| Explanation | Screenshot |
| --- | --- |
| 1. Open Google Chrome in Incognito Mode |  |
| 1. Enter URL: <https://dwc-teched2020.eu10.hcs.cloud.sap> and press Enter |  |
|
| 1. Enter email address based on your GROUP ID  **SAP-TechEd-ANA369+###@sap.com**  (where ### represents your GROUP ID) |  |
| 1. Enter Password: **Welcome2020!** |  |
| 1. Click: **Log On** |  |
| 1. Welcome to SAP Data Warehouse Cloud |  |
| 1. Navigate to Space Management by clicking on the Space Management Icon in the Menu bar on the bottom left. |  |
| 1. Create your own space |  |
| 1. Name the space like your User **ANA369\_###**  and replace the ### with your GROUP ID. |  |
| 1. Reduce the size of your disk space to 0.1 GB by using the  Button |  |
| 1. **Save** your space settings |  |
| 1. Navigate to the **Member** Section |  |
| 1. Add your user to the space |  |
| 1. Search for your user 369\_###, select and add it |  |
| 1. **Close** the error message |  |
| 1. **Refresh** your browser session and you see your user was added to the space members |  |
| 1. **Navigate** to the space management overview |  |
| 1. Select the ANA369\_MASTER space |  |
| 1. Add your user to the space |  |
| 1. Search for your user 369\_###, select and add it |  |
| 1. **Close** the error message |  |
| 1. **Refresh** your browser session and you see your user was added to the space members |  |
| 1. Navigate to the Data Builder in the Menu bar |  |
| 1. Select the ANA369\_MASTER space |  |
| 1. **CAUTION!**  In case you do not see the ANA369\_MASTER space please refresh your browser window. |  |
| 1. In the Data Builder Overview select the **Views** Tab. |  |
| 1. **Select** the SOI\_MASTER and PRODUCT\_MASTER views |  |
| 1. **Share** these two views with the space you have just created by clicking the share  icon |  |
| 1. Enter your space name and select it from the dropdown list |  |
| 1. Klick on **Share** to share these two models with your space |  |
| 1. In the Data Builder Overview select the **Tables** Tab. |  |
| 1. **Select** the ProductTexts table |  |
| 1. Click on the **Edit** button |  |
| 1. The **ProductTexts** table is based on a remote connection and does not persist the data in the system. |  |
| 1. **Share** the table with the space you have just created by clicking the share  icon |  |
| 1. Enter your space name and select it from the dropdown list |  |
| 1. Klick on **Share** to share these two models with your space |  |
| 1. Go back to the space selection |  |
| 1. Select your own space **ANA369\_###**  where ### represents your GROUP ID |  |
| 1. Click on the tile  “**New Graphical View**” |  |
| 1. In the **Repository** on the left side you should now be able to see the **Shared Objects.** The table and the two views you have just shared. |  |

# Logon to SAP Cloud Platform Web IDE and configuration

| Explanation | Screenshot |
| --- | --- |
| 1. Enter URL:   <https://cockpit.eu10.hana.ondemand.com/trial/#/home/trial>   and press Enter |  |
| 1. Enter email address based on your GROUP ID  **SAP-TechEd-ANA369+###@sap.com**  (where ### represents your GROUP ID) |  |
|
| 1. Enter Password: **Welcome2020!** |  |
| 1. Click: **Log On** |  |
| 1. You get to the welcome screen for the  **SAP Cloud Platform Trial** |  |
| 1. Click on  **Enter Your Trial Account** |  |
| 1. You are now in your  **SAP Cloud Platform Cockpit** |  |
| 1. Click on your **trial** subaccount |  |
| 1. You are now in your subaccount overview |  |
| 1. Click on **Subscriptions** in the menu on the left |  |
| 1. Search for **web ide** in your subscriptions |  |
| 1. Click on the **SAP Web IDE for SAP HANA Development** tile |  |
| 1. In the subscription overview you can see that the subscription for this service is not active |  |
| 1. Click on **Subscribe** |  |
| 1. The service is now starting and you see that the **Processing** started |  |
| 1. When finished you see an active subscription with the green **Subscribed** label |  |
| 1. You can now start your Web IDE by clicking on the  **Go to Application** link underneath the application description. |  |
| 1. Accept the Terms and Conditions by the clicking the checkbox |  |
| 1. And click the **Accept** button |  |
| 1. You now get to the welcome screen of SAP Web IDE |  |
| 1. Navigate to the preferences section  in the menu |  |
| 1. Select **Extensions** |  |
| 1. Search for **“EIM”** to find the SAP EIM Smart Data Integration extension |  |
| 1. **Enable** the Extension using the ON/OFF switch. |  |
| 1. Search for **“Database”** to find:  * SAP HANA Database Development Tools and * SAP HANA Database Explorer |  |
| 1. **Enable** both extensions using the ON/OFF switch. |  |
| 1. Then click **Save** on the bottom of the page |  |
| 1. Confirm using the **Refresh** button |  |
| 1. The Web IDE is now restarting |  |
| 1. Select **Cloud Foundry** in the menu on the left |  |
| 1. In the dropdown field **API Endpoint** select <https://api.cf.eu10.hana.ondemand.com> |  |
| 1. On the **“Log on to Cloud Foundry”** pop-up dialog please insert your email  **SAP-TechEd-ANA369+###@sap.com** (where ### represents your GROUP ID) and the password to confirm your login. |  |
| 1. The fields **Organization** and **Space** should then automatically be filled |  |
| 1. If not select the Organization **DW Cloud – PM\_teched2020-ANA369** |  |
| 1. And the Space  **teched2020-ANA369** |  |
| 1. Then **Save** these settings |  |
| 1. Select the development icon in the Web IDE menu |  |
| 1. There should not be any project in the workspace.  If so, please delete it. |  |

# Create a model and a database user in SAP data warehouse cloud

| Explanation | Screenshot |
| --- | --- |
| 1. In SAP Data Warehouse Cloud go to the Data Builder |  |
| 1. Select your space **ANA369\_###** (where ### represents your GROUP ID) |  |
|
| 1. Create a new graphical view |  |
| 1. In the **Repository** on the left open **Shared** **Objects** and **Views**.  Select **PRODUCT\_MASTER** (ANA369\_MASTER) and drag it to the canvas. |  |
| 1. In the properties give it the name **ANA369\_Product**  for both Business and Technical Name. |  |
| 1. Enable the Exposing flag from OFF to ON |  |
| 1. **Deploy** the view using the deploy button |  |
| 1. **Save** the view |  |
| 1. The **Deployment Status** should change to **Deployed** after a few moments. |  |
| 1. Create another new graphical view |  |
| 1. Use the second shared view **SOI\_MASTER** and drag it to the canvas |  |
| 1. In the properties give it the name **ANA369\_SalesOrderItems** for both Business and Technical Name. |  |
| 1. Select the type Analytical Dataset |  |
| 1. Enable the Exposing flag from OFF to ON |  |
| 1. **Deploy** the view using the deploy button |  |
| 1. **Save** the view |  |
| 1. Go to the main menu on the left hand side and select **Space Management** |  |
| 1. Go to the  **Database Access** Section |  |
| 1. Make your space data consumable by default and switch the toggle from OFF to **ON** |  |
| 1. Create a new Database User by clicking the **Create** button |  |
| 1. Give the Database User a name: **DBUSER**  and  check the boxes for  **Enable Data Ingestion**  **Enable Data Consumption**  and   **Enable HDI Consumption** |  |
| 1. Click **Create** to establish the database user |  |
| 1. On the next dialog note down all the information including password and the credentials for the User Provided Service |  |
| 1. Click on **Copy Full Credentials** on the bottom of the window |  |
| 1. Do not close this Dialog yet! |  |

# Create the user provided service in SAP cloud platform

| Explanation | Screenshot |
| --- | --- |
| 1. In the SAP Cloud Platform subaccount overview click on the **dev space** |  |
| 1. Open the **Service** submenu on the left hand side |  |
| 1. Select **Service Instances** in the menu |  |
| 1. Select  **Create User-Provided Service Instance**  in the drop-down box on the top right-hand side |  |
| 1. Enter the name **UPS\_ANA369\_###** as instance name and replace the ### with your GROUP ID. |  |
| 1. Take the content of the  from the database user in your Space in Data Warehouse Cloud. Paste it into the |  |
| 1. **Create** the user provided service |  |
| 1. Now you see an entry in the services instances overview table |  |
| 1. Change your browser window back to Data Warehouse Cloud and **close** the dialog. |  |
| 1. You can close the dialog in the space management now and see the created database user. |  |

# Clone, configure and Build the web ide project

| Explanation | Screenshot |
| --- | --- |
| 1. Go back to the Web IDE and select the development icon in the menu |  |
| 1. Right mouse click on **Workspace**  click on **Git**  and  **Clone** **Repository** |  |
| 1. Enter the following URL:   <https://github.com/d031643/ANA369.git> |  |
| 1. **Clone** the repository |  |
| 1. It takes a moment to import and the following message comes up |  |
| 1. Choose **Commit and Push** |  |
| 1. **Cancel** the next dialog |  |
| 1. You should find the project named:  **ANA369**  You can open the project and the folders  **db > cfg > DWC**  and find these files within the file tree. |  |
| 1. Right mouse click on **ANA369**  click on **Edit**  and  **Rename** |  |
| 1. Please use the name **ANA369\_###** and replace the ### with your GROUP ID. |  |
| 1. Right mouse click on the project **ANA369\_###**  click on **Project**  and  **Project Settings** |  |
| 1. Select **Cloud Foundry** in the Project settings menu |  |
| 1. Select the default settings which you have set before. |  |
| 1. Click **Save** |  |
| 1. Right mouse click on the **mta.yaml** file and select **Open Code Editor**. |  |
| 1. In line 1: extend the ID with your GROUP ID  before: **ANA369**  after: **ANA369\_###**  where ### is your GROUP ID |  |
| 1. In line 18: replace **\_xxx** with your GROUP ID  before: schema: ANA369\_Schema\_xxx  after: schema: ANA369\_Schema\_###  where ### is your GROUP ID |  |
| 1. **Save** your changes in the mta.yaml file |  |
| 1. Now you can **build** your HDI container.  Right mouse click on the **db** module  Select **Build** and select **Build** again |  |
| 1. This process takes a few moments. Please be patient. You can follow the progress in the log window on the bottom right.  The success message:  ***'Build of /ANA369\_###/db completed successfully'***  should appear after a while |  |

# Learn what artifacts are in your project – Work in progress

| Explanation | Screenshot |
| --- | --- |
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|  |  |
|  |  |
|  |  |

Web IDE Show CalcView and Flowgraph

Zugriff über hdbrole

# Assign HDI container to your space and extend your model

| Explanation | Screenshot |
| --- | --- |
| 1. Go back to Data Warehouse Cloud.  In the main menu on the left-hand side and select **Space Management**. |  |
| 1. Select your own **ANA369\_###** space, where ### is your GROUP ID |  |
| 1. Select   **Database Access > HDI Containers**   from the top-level menu |  |
| 1. **Add** the HDI container you have just created to your space using the    button. |  |
| 1. Search for the session ID ANA369 |  |
| 1. Identify the container your GROUP ID ### |  |
| 1. Select **Add** to connect the container to your space. |  |
| 1. The HDI Container can now be used in the modeling. |  |
| 1. Navigate to the Data Builder in the Menu bar |  |
| 1. Create a new graphical view |  |
| 1. Under the Sources tab you find the HDI container you have just connected and the Calculation View which is allowed to be accessed by the consumption role in Web IDE. |  |
| 1. Drag it to the canvas and click  **Import and Deploy**  when the pop-up comes up. |  |
| 1. Create a new graphical view by clicking the **deploy** button. |  |
| 1. Give it the name  **HDI CalcView** and  **save** it |  |
| 1. Switch from Sources to the **Repository** objects and open the tables of the shared objects |  |
| 1. **Join** it with ProductTexts table by dragging it onto the canvas over the Synonym\_CalcView and click **Join** |  |
| 1. Click on the Join operator     and check in the mapping that the PRODUCTID is mapped in both tables |  |
| 1. Select the HDI CalcView |  |
| 1. Change the Type from Relational Dataset to **Analytical Dataset** in the properties pan on the right |  |
| 1. Scroll down to the Attributes and change the following attributes to measures:  GROSSAMOUNT NETAMOUNT TAXAMOUNT QUANTITY  by clicking on the context menu icon  at each item. |  |
| 1. Now you see them in the Measures section |  |
| 1. **Deploy** the view using the deploy button |  |
| 1. The **Deployment Status** should change to **Deployed** after a few moments. |  |
| 1. Check the preview on the HDI CalcView |  |
| 1. If you scroll to the right you will find the product texts for short, medium and long description. |  |

# Build a dashboard using the integrated sap analytics cloud system – Work in progress

| Explanation | Screenshot |
| --- | --- |
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|  |  |
|  |  |