

PUBLIC

# **Common Tools for SQL data warehousing and SAP Data Warehouse Cloud**

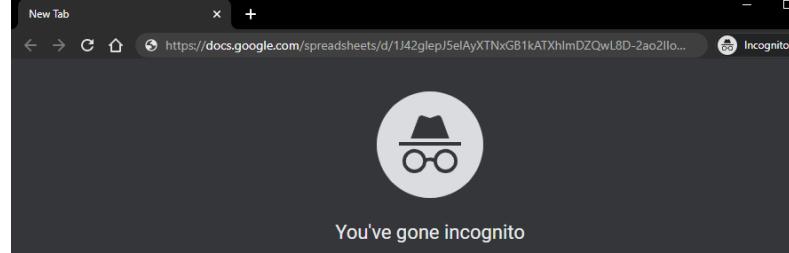
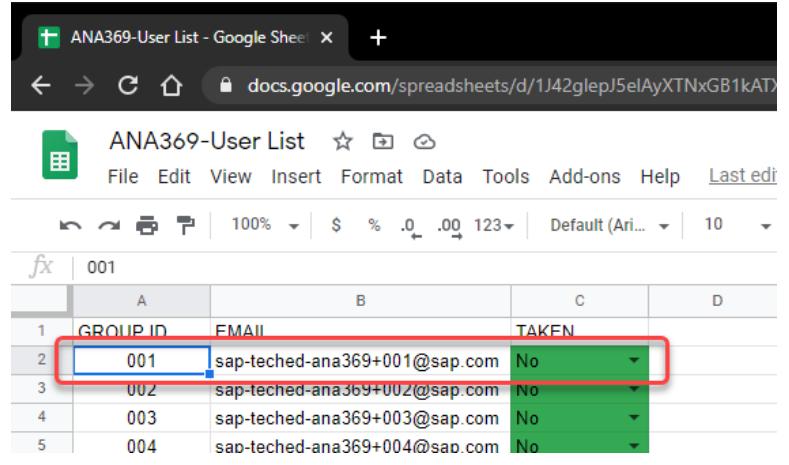
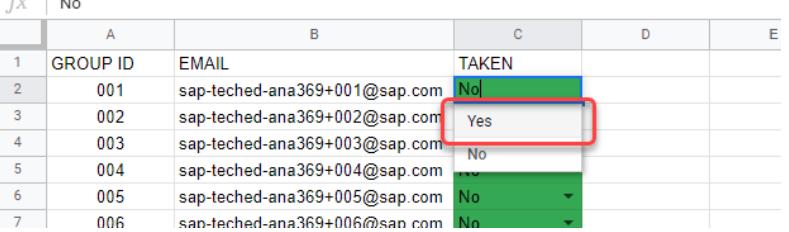
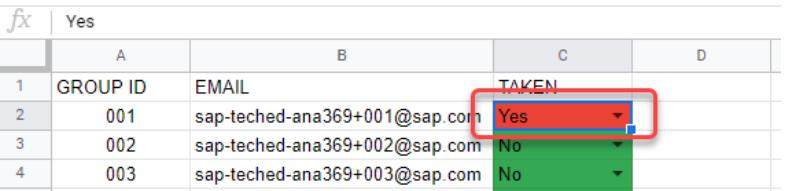
## **ANA369**

Exercises / Solutions  
Klaus-Peter Sauer, Axel Meier / SAP SE

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## SELECT YOUR GROUP ID NUMBER

| Explanation                                                                                                                                                                                                                                                                                        | Screenshot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                               |       |   |   |   |   |          |          |       |       |   |     |                               |     |                               |    |     |                               |    |     |                               |     |                               |    |   |     |                               |                               |    |  |   |     |                               |    |  |  |   |     |                               |    |  |  |   |     |                               |    |  |  |
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| <p>1. Go to your browser and follow this link to Google Sheets:</p> <p><a href="https://docs.google.com/spreadsheets/d/1J42glepJ5elAyXTNxGB1kATXhImDZQwl8D-2ao2lloE/edit?usp=sharing">https://docs.google.com/spreadsheets/d/1J42glepJ5elAyXTNxGB1kATXhImDZQwl8D-2ao2lloE/edit?usp=sharing</a></p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                               |       |   |   |   |   |          |          |       |       |   |     |                               |     |                               |    |     |                               |    |     |                               |     |                               |    |   |     |                               |                               |    |  |   |     |                               |    |  |  |   |     |                               |    |  |  |   |     |                               |    |  |  |
| <p>2. In the sheet identify the next free GROUP ID from the list<br/>A free column shows <b>No</b> in Column C with a green background color.</p> <p>example 001</p>                                                                                                                               |  <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>GROUP ID</td> <td>EMAIL</td> <td>TAKEN</td> <td></td> </tr> <tr> <td>2</td> <td>001</td> <td>sap-teched-ana369+001@sap.com</td> <td>No</td> <td></td> </tr> <tr> <td>3</td> <td>002</td> <td>sap-teched-ana369+002@sap.com</td> <td>No</td> <td></td> </tr> <tr> <td>4</td> <td>003</td> <td>sap-teched-ana369+003@sap.com</td> <td>No</td> <td></td> </tr> <tr> <td>5</td> <td>004</td> <td>sap-teched-ana369+004@sap.com</td> <td>No</td> <td></td> </tr> </tbody> </table>                                                                                                                                                                                                                                                                                    |                               | A     | B | C | D | 1 | GROUP ID | EMAIL    | TAKEN |       | 2 | 001 | sap-teched-ana369+001@sap.com | No  |                               | 3  | 002 | sap-teched-ana369+002@sap.com | No |     | 4                             | 003 | sap-teched-ana369+003@sap.com | No |   | 5   | 004                           | sap-teched-ana369+004@sap.com | No |  |   |     |                               |    |  |  |   |     |                               |    |  |  |   |     |                               |    |  |  |
|                                                                                                                                                                                                                                                                                                    | A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | B                             | C     | D |   |   |   |          |          |       |       |   |     |                               |     |                               |    |     |                               |    |     |                               |     |                               |    |   |     |                               |                               |    |  |   |     |                               |    |  |  |   |     |                               |    |  |  |   |     |                               |    |  |  |
| 1                                                                                                                                                                                                                                                                                                  | GROUP ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | EMAIL                         | TAKEN |   |   |   |   |          |          |       |       |   |     |                               |     |                               |    |     |                               |    |     |                               |     |                               |    |   |     |                               |                               |    |  |   |     |                               |    |  |  |   |     |                               |    |  |  |   |     |                               |    |  |  |
| 2                                                                                                                                                                                                                                                                                                  | 001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | sap-teched-ana369+001@sap.com | No    |   |   |   |   |          |          |       |       |   |     |                               |     |                               |    |     |                               |    |     |                               |     |                               |    |   |     |                               |                               |    |  |   |     |                               |    |  |  |   |     |                               |    |  |  |   |     |                               |    |  |  |
| 3                                                                                                                                                                                                                                                                                                  | 002                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | sap-teched-ana369+002@sap.com | No    |   |   |   |   |          |          |       |       |   |     |                               |     |                               |    |     |                               |    |     |                               |     |                               |    |   |     |                               |                               |    |  |   |     |                               |    |  |  |   |     |                               |    |  |  |   |     |                               |    |  |  |
| 4                                                                                                                                                                                                                                                                                                  | 003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | sap-teched-ana369+003@sap.com | No    |   |   |   |   |          |          |       |       |   |     |                               |     |                               |    |     |                               |    |     |                               |     |                               |    |   |     |                               |                               |    |  |   |     |                               |    |  |  |   |     |                               |    |  |  |   |     |                               |    |  |  |
| 5                                                                                                                                                                                                                                                                                                  | 004                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | sap-teched-ana369+004@sap.com | No    |   |   |   |   |          |          |       |       |   |     |                               |     |                               |    |     |                               |    |     |                               |     |                               |    |   |     |                               |                               |    |  |   |     |                               |    |  |  |   |     |                               |    |  |  |   |     |                               |    |  |  |
| <p>3. Copy the <b>EMAIL</b> address and the <b>GROUP ID</b> to your notes and keep it safe. You will need it for the exercise.</p>                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                               |       |   |   |   |   |          |          |       |       |   |     |                               |     |                               |    |     |                               |    |     |                               |     |                               |    |   |     |                               |                               |    |  |   |     |                               |    |  |  |   |     |                               |    |  |  |   |     |                               |    |  |  |
| <p>4. Set the dropdown box in Column C to <b>Yes</b></p>                                                                                                                                                                                                                                           |  <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>GROUP ID</td> <td>EMAIL</td> <td>TAKEN</td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>001</td> <td>sap-teched-ana369+001@sap.com</td> <td>No</td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>002</td> <td>sap-teched-ana369+002@sap.com</td> <td>Yes</td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>003</td> <td>sap-teched-ana369+003@sap.com</td> <td>No</td> <td></td> <td></td> </tr> <tr> <td>5</td> <td>004</td> <td>sap-teched-ana369+004@sap.com</td> <td>No</td> <td></td> <td></td> </tr> <tr> <td>6</td> <td>005</td> <td>sap-teched-ana369+005@sap.com</td> <td>No</td> <td></td> <td></td> </tr> <tr> <td>7</td> <td>006</td> <td>sap-teched-ana369+006@sap.com</td> <td>No</td> <td></td> <td></td> </tr> </tbody> </table> |                               | A     | B | C | D | E | 1        | GROUP ID | EMAIL | TAKEN |   |     | 2                             | 001 | sap-teched-ana369+001@sap.com | No |     |                               | 3  | 002 | sap-teched-ana369+002@sap.com | Yes |                               |    | 4 | 003 | sap-teched-ana369+003@sap.com | No                            |    |  | 5 | 004 | sap-teched-ana369+004@sap.com | No |  |  | 6 | 005 | sap-teched-ana369+005@sap.com | No |  |  | 7 | 006 | sap-teched-ana369+006@sap.com | No |  |  |
|                                                                                                                                                                                                                                                                                                    | A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | B                             | C     | D | E |   |   |          |          |       |       |   |     |                               |     |                               |    |     |                               |    |     |                               |     |                               |    |   |     |                               |                               |    |  |   |     |                               |    |  |  |   |     |                               |    |  |  |   |     |                               |    |  |  |
| 1                                                                                                                                                                                                                                                                                                  | GROUP ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | EMAIL                         | TAKEN |   |   |   |   |          |          |       |       |   |     |                               |     |                               |    |     |                               |    |     |                               |     |                               |    |   |     |                               |                               |    |  |   |     |                               |    |  |  |   |     |                               |    |  |  |   |     |                               |    |  |  |
| 2                                                                                                                                                                                                                                                                                                  | 001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | sap-teched-ana369+001@sap.com | No    |   |   |   |   |          |          |       |       |   |     |                               |     |                               |    |     |                               |    |     |                               |     |                               |    |   |     |                               |                               |    |  |   |     |                               |    |  |  |   |     |                               |    |  |  |   |     |                               |    |  |  |
| 3                                                                                                                                                                                                                                                                                                  | 002                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | sap-teched-ana369+002@sap.com | Yes   |   |   |   |   |          |          |       |       |   |     |                               |     |                               |    |     |                               |    |     |                               |     |                               |    |   |     |                               |                               |    |  |   |     |                               |    |  |  |   |     |                               |    |  |  |   |     |                               |    |  |  |
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| 6                                                                                                                                                                                                                                                                                                  | 005                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | sap-teched-ana369+005@sap.com | No    |   |   |   |   |          |          |       |       |   |     |                               |     |                               |    |     |                               |    |     |                               |     |                               |    |   |     |                               |                               |    |  |   |     |                               |    |  |  |   |     |                               |    |  |  |   |     |                               |    |  |  |
| 7                                                                                                                                                                                                                                                                                                  | 006                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | sap-teched-ana369+006@sap.com | No    |   |   |   |   |          |          |       |       |   |     |                               |     |                               |    |     |                               |    |     |                               |     |                               |    |   |     |                               |                               |    |  |   |     |                               |    |  |  |   |     |                               |    |  |  |   |     |                               |    |  |  |
| <p>5. Check the result in Column C. It must show <b>Yes</b> with a red background to indicate that this number is taken by you.</p>                                                                                                                                                                |  <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>GROUP ID</td> <td>EMAIL</td> <td>TAKEN</td> <td></td> </tr> <tr> <td>2</td> <td>001</td> <td>sap-teched-ana369+001@sap.com</td> <td>Yes</td> <td></td> </tr> <tr> <td>3</td> <td>002</td> <td>sap-teched-ana369+002@sap.com</td> <td>No</td> <td></td> </tr> <tr> <td>4</td> <td>003</td> <td>sap-teched-ana369+003@sap.com</td> <td>No</td> <td></td> </tr> </tbody> </table>                                                                                                                                                                                                                                                                                                                                                                                  |                               | A     | B | C | D | 1 | GROUP ID | EMAIL    | TAKEN |       | 2 | 001 | sap-teched-ana369+001@sap.com | Yes |                               | 3  | 002 | sap-teched-ana369+002@sap.com | No |     | 4                             | 003 | sap-teched-ana369+003@sap.com | No |   |     |                               |                               |    |  |   |     |                               |    |  |  |   |     |                               |    |  |  |   |     |                               |    |  |  |
|                                                                                                                                                                                                                                                                                                    | A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | B                             | C     | D |   |   |   |          |          |       |       |   |     |                               |     |                               |    |     |                               |    |     |                               |     |                               |    |   |     |                               |                               |    |  |   |     |                               |    |  |  |   |     |                               |    |  |  |   |     |                               |    |  |  |
| 1                                                                                                                                                                                                                                                                                                  | GROUP ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | EMAIL                         | TAKEN |   |   |   |   |          |          |       |       |   |     |                               |     |                               |    |     |                               |    |     |                               |     |                               |    |   |     |                               |                               |    |  |   |     |                               |    |  |  |   |     |                               |    |  |  |   |     |                               |    |  |  |
| 2                                                                                                                                                                                                                                                                                                  | 001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | sap-teched-ana369+001@sap.com | Yes   |   |   |   |   |          |          |       |       |   |     |                               |     |                               |    |     |                               |    |     |                               |     |                               |    |   |     |                               |                               |    |  |   |     |                               |    |  |  |   |     |                               |    |  |  |   |     |                               |    |  |  |
| 3                                                                                                                                                                                                                                                                                                  | 002                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | sap-teched-ana369+002@sap.com | No    |   |   |   |   |          |          |       |       |   |     |                               |     |                               |    |     |                               |    |     |                               |     |                               |    |   |     |                               |                               |    |  |   |     |                               |    |  |  |   |     |                               |    |  |  |   |     |                               |    |  |  |
| 4                                                                                                                                                                                                                                                                                                  | 003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | sap-teched-ana369+003@sap.com | No    |   |   |   |   |          |          |       |       |   |     |                               |     |                               |    |     |                               |    |     |                               |     |                               |    |   |     |                               |                               |    |  |   |     |                               |    |  |  |   |     |                               |    |  |  |   |     |                               |    |  |  |

## 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>

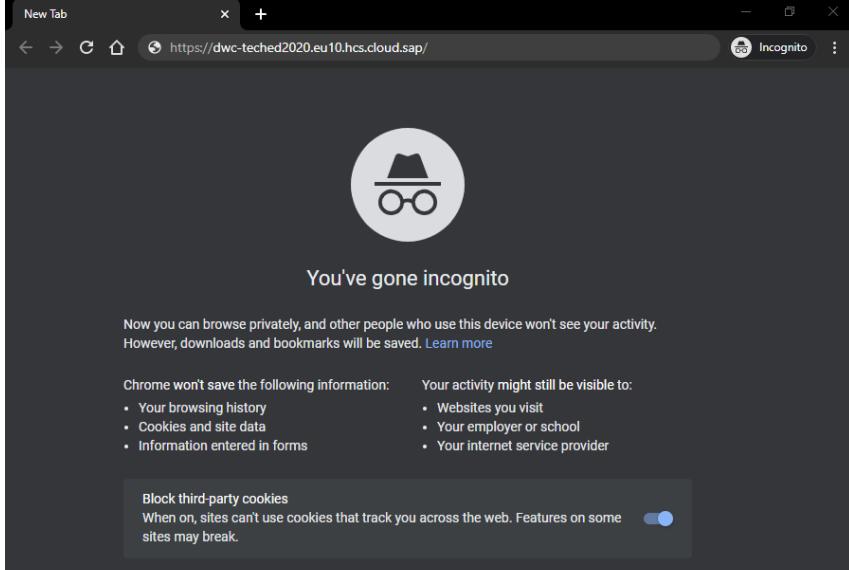
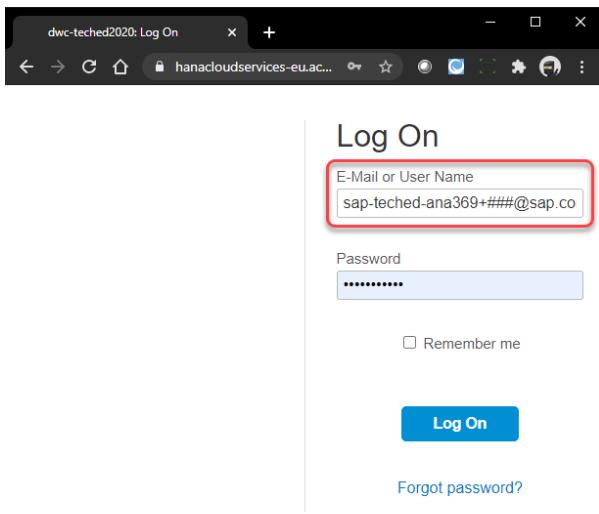
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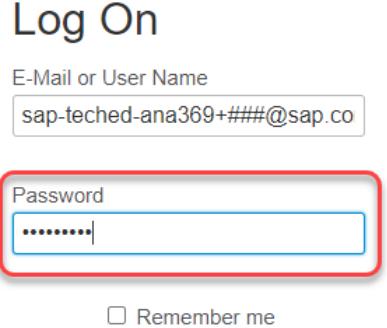
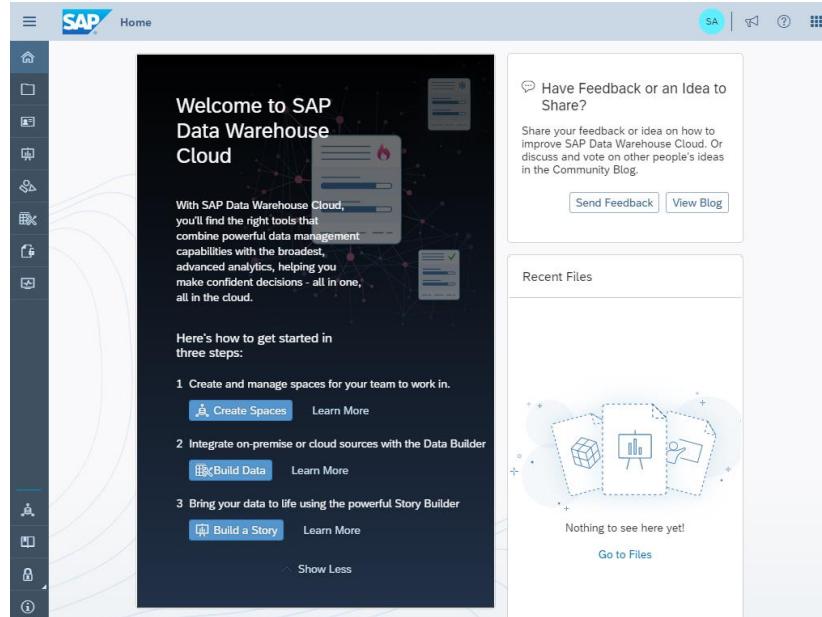
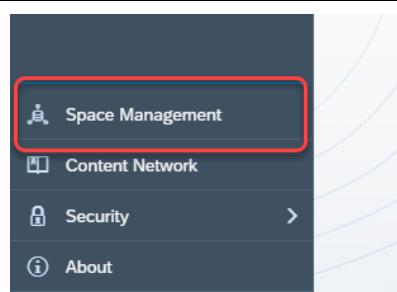
PW: Welcome2020!

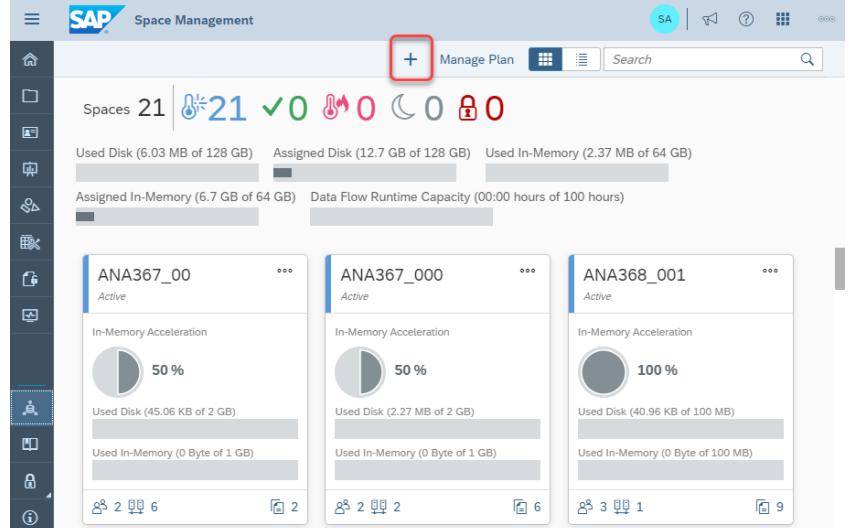
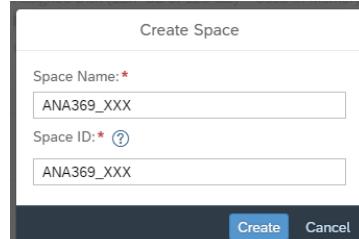
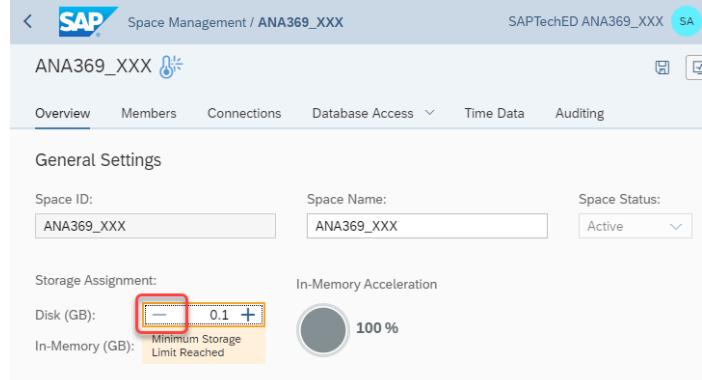
**PLEASE DO NOT CHANGE THE PASSWORD!**

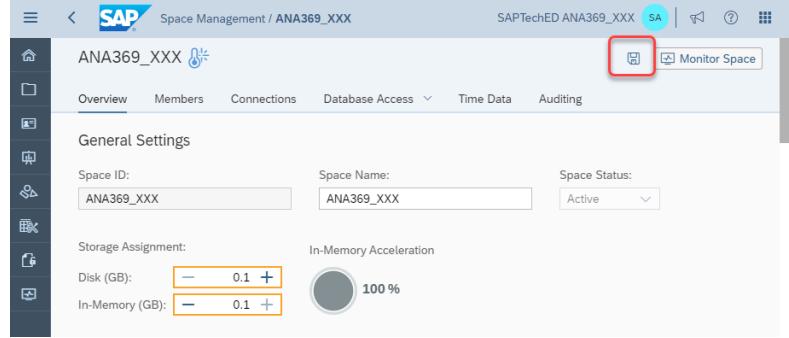
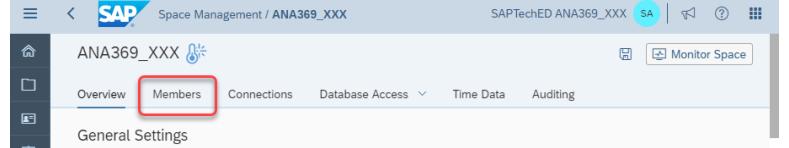
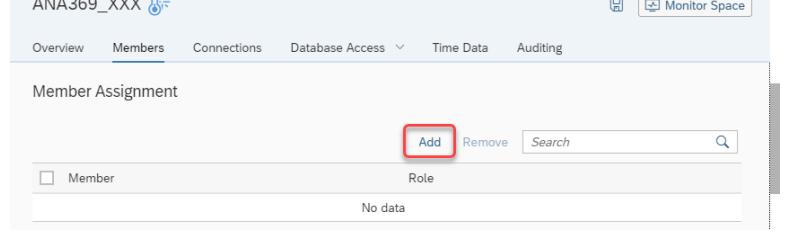
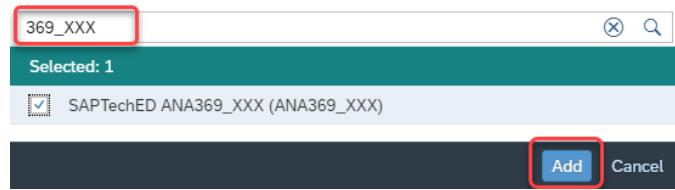
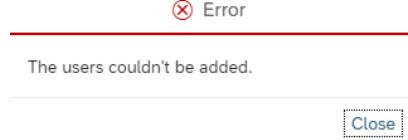
Other people might want to use the same account once you are done with the exercise.

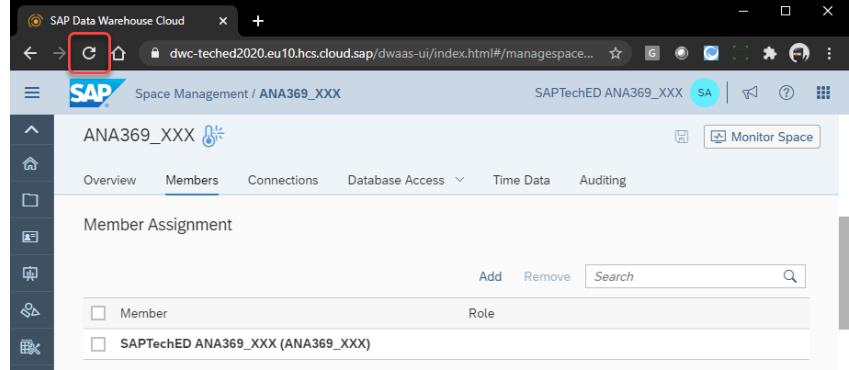
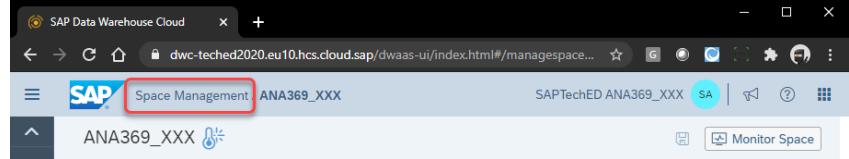
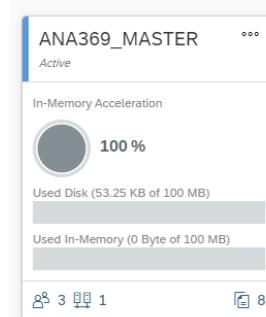
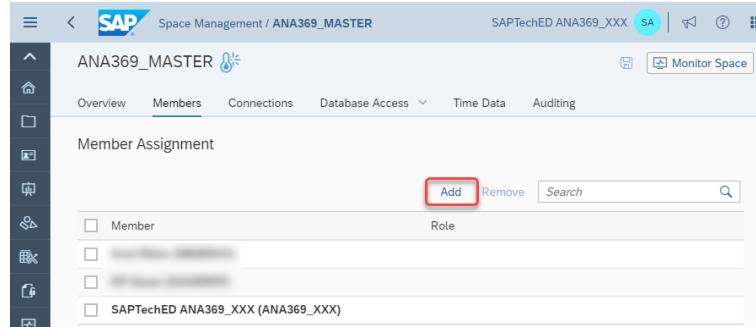
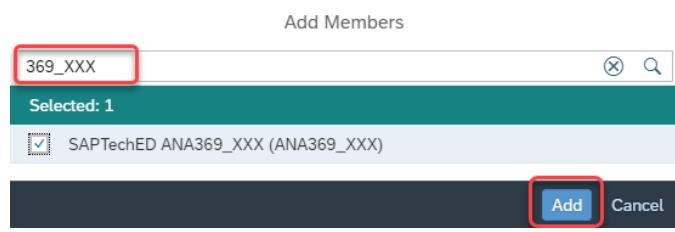
**LOGON TO DATA WAREHOUSE CLOUD AND SPACE CONFIGURATION**

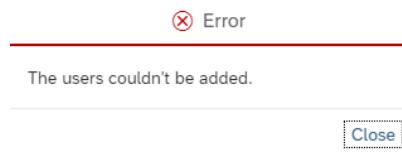
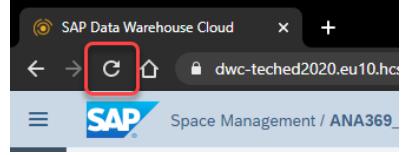
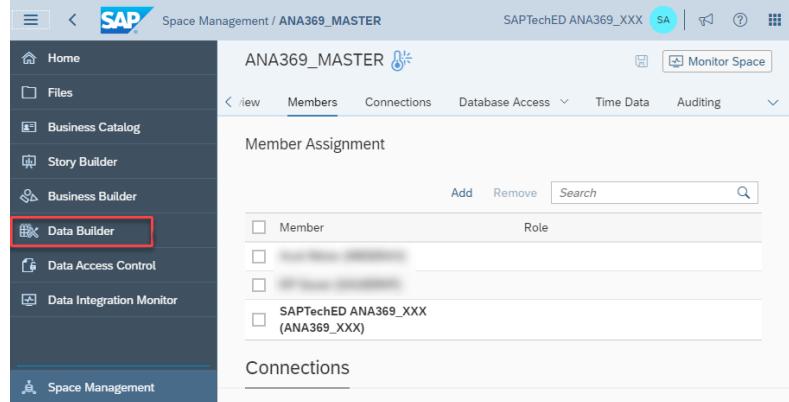
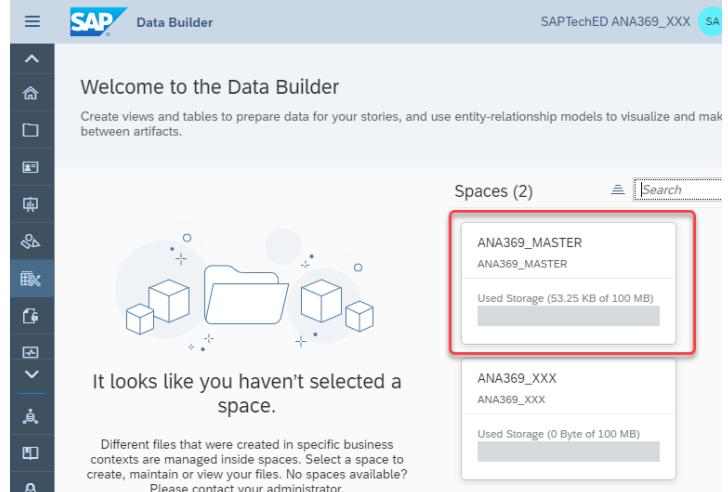
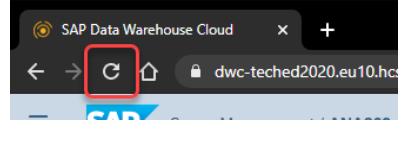
| Explanation                                                                                                                      | Screenshot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Open Google Chrome in Incognito Mode                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 2. Enter URL: <a href="https://dwc-teched2020.eu10.hcs.cloud.sap">https://dwc-teched2020.eu10.hcs.cloud.sap</a> and press Enter  |  <p>The screenshot shows a Google Chrome window in Incognito mode. The address bar displays the URL <a href="https://dwc-teched2020.eu10.hcs.cloud.sap/">https://dwc-teched2020.eu10.hcs.cloud.sap/</a>. The page content includes a circular profile icon with a hat and glasses, the text "You've gone incognito", and a message about private browsing. It also lists information saved by Chrome and a setting to block third-party cookies.</p> |
| 3. Enter email address based on your GROUP ID<br><b>SAP-TechEd-ANALOGUE@sap.com</b><br>(where ANALOGUE represents your GROUP ID) |  <p>The screenshot shows the SAP HANA Cloud Services logon page. The "E-Mail or User Name" field is highlighted with a red box and contains the value "sap-teched-analogue@sap.com". The "Password" field contains several dots. There is a "Remember me" checkbox and a "Log On" button. Below the logon form, there is a link "Forgot password?" and the SAP HANA Cloud Services logo at the bottom.</p>                                          |

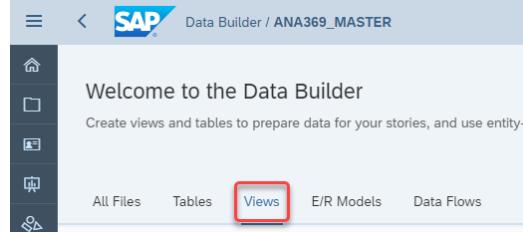
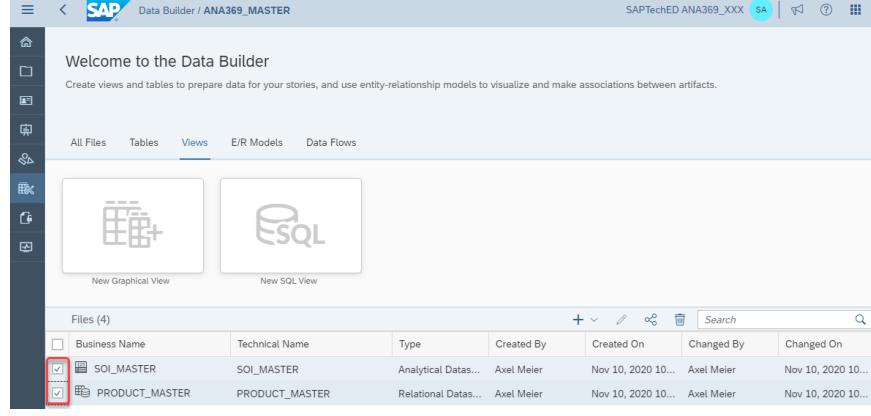
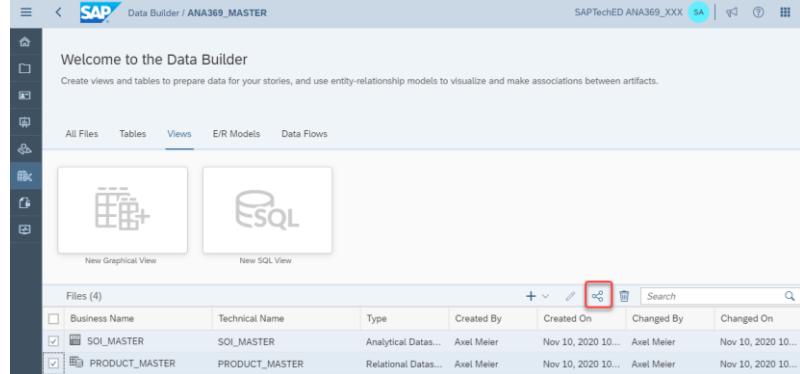
| Explanation                                                                                                  | Screenshot                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4. Enter Password:<br><b>Welcome2020!</b>                                                                    |  <p>The screenshot shows the SAP Log On page. The 'Password' input field is highlighted with a red box. The text 'Welcome2020!' is entered into the field.</p>                                                                                                                                                 |
| 5. Click: <b>Log On</b>                                                                                      |  <p>The screenshot shows the SAP Log On page with the 'Log On' button highlighted in blue.</p>                                                                                                                                                                                                                  |
| 6. Welcome to SAP Data Warehouse Cloud                                                                       |  <p>The screenshot shows the SAP Data Warehouse Cloud Home page. It features a central banner with the text 'Welcome to SAP Data Warehouse Cloud' and three steps to get started: 'Create Spaces', 'Build Data', and 'Build a Story'. To the right, there's a feedback section and a 'Recent Files' area.</p> |
| 7. Navigate to Space Management by clicking on the Space Management Icon in the Menu bar on the bottom left. |  <p>The screenshot shows the SAP Data Warehouse Cloud menu bar at the bottom. The 'Space Management' icon, which looks like a storage unit, is highlighted with a red box.</p>                                                                                                                                |

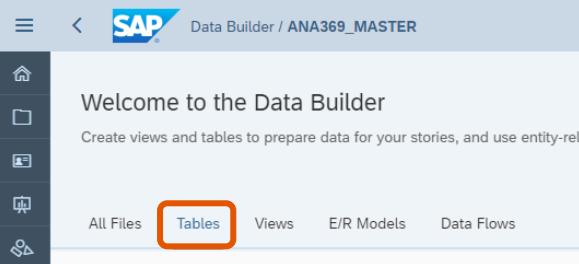
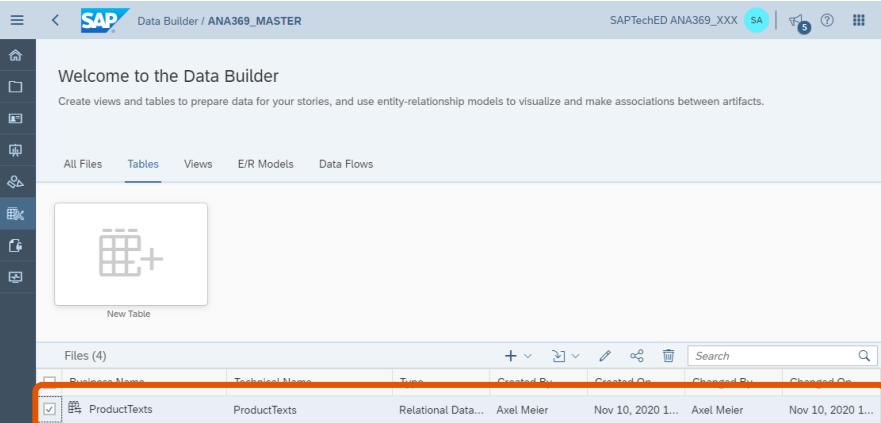
| Explanation                                                                                                                                              | Screenshot                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 8. Create your own space                                                                                                                                 |    |
| 9. Name the space like your User <b>ANA369_###</b> and replace the <b>###</b> with your GROUP ID.                                                        |    |
| 10. Reduce the size of your disk space to 0.1 GB by using the  Button |  |

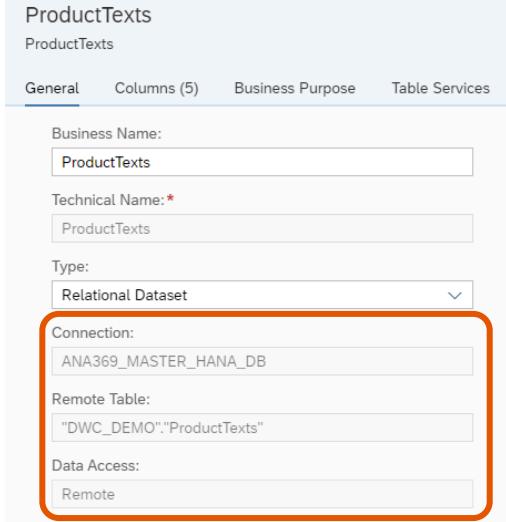
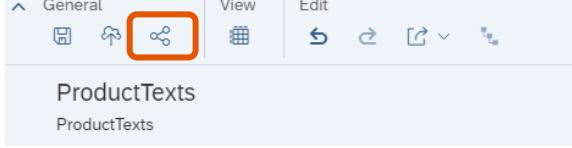
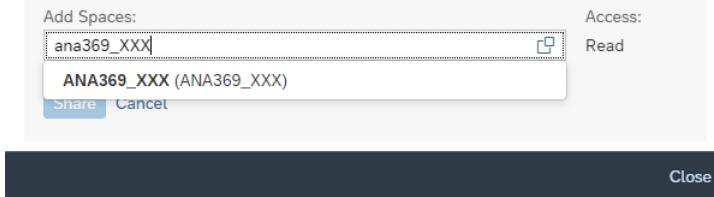
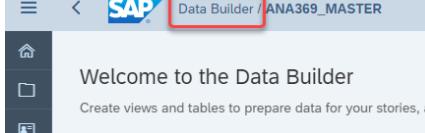
| Explanation                                                                                                                     | Screenshot                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 11. Save your space settings                                                                                                    |    |
| 12. Navigate to the Member Section                                                                                              |    |
| 13. Add your user to the space                                                                                                  |   |
| 14. Search for your user 369_###, select and add it                                                                             |  |
| 15. In case you see this error message come up, then Close the error message<br><br>If you do not see it continue with Step 17. |   |

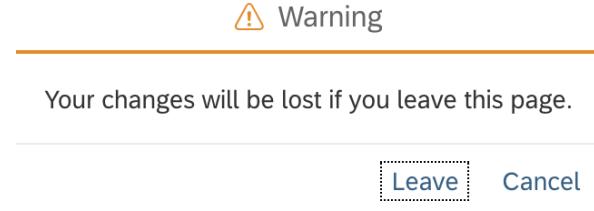
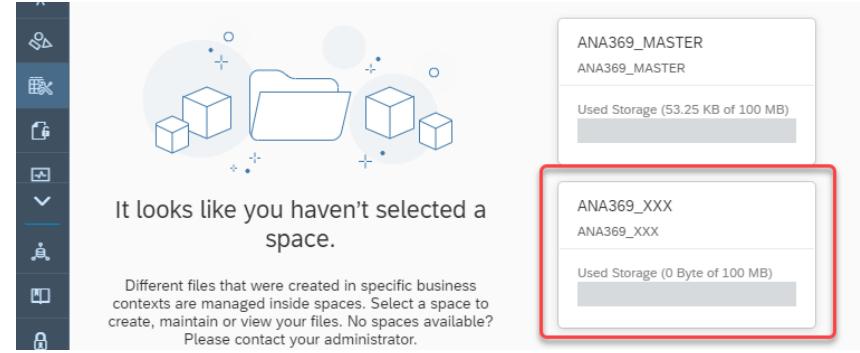
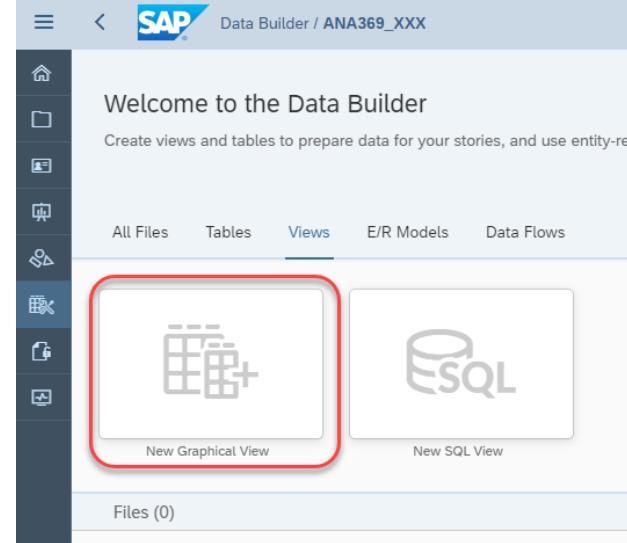
| Explanation                                                                           | Screenshot                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 16. Refresh your browser session and you see your user was added to the space members |  <p>The screenshot shows the SAP Data Warehouse Cloud interface for Space Management. The title bar says "Space Management / ANA369_XXX". The main area is titled "Member Assignment". It shows a table with two rows: "Member" and "SAPTechED ANA369_XXX (ANA369_XXX)". There are "Add" and "Remove" buttons at the bottom.</p>                                                                  |
| 17. Navigate to the space management overview                                         |  <p>The screenshot shows the SAP Data Warehouse Cloud interface for Space Management. The title bar says "Space Management / ANA369_XXX". The main area is titled "ANA369_XXX".</p>                                                                                                                                                                                                               |
| 18. Select the ANA369_MASTER space                                                    |  <p>The screenshot shows the SAP Data Warehouse Cloud interface for Space Management. The title bar says "Space Management / ANA369_MASTER". The main area is titled "ANA369_MASTER". It displays various metrics like In-Memory Acceleration (100%), Used Disk, and Used In-Memory.</p>                                                                                                          |
| 19. Add your user to the space                                                        |  <p>The screenshot shows the SAP Data Warehouse Cloud interface for Space Management. The title bar says "Space Management / ANA369_MASTER". The main area is titled "Member Assignment". It shows a table with one row: "SAPTechED ANA369_XXX (ANA369_XXX)". There is an "Add" button at the top right.</p>                                                                                    |
| 20. Search for your user 369_###, select and add it                                   |  <p>The screenshot shows the SAP Data Warehouse Cloud interface for Space Management. The title bar says "Space Management / ANA369_MASTER". A modal dialog is open titled "Add Members". It has a search input field with "369_XXX" and a list below it with one item: "SAPTechED ANA369_XXX (ANA369_XXX)". At the bottom are "Add" and "Cancel" buttons, both highlighted with red boxes.</p> |

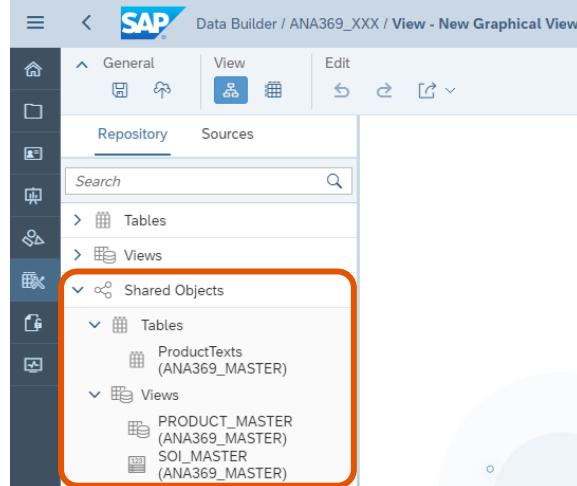
| Explanation                                                                                                                                            | Screenshot                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>21. In case you see this error message come up, then <b>Close</b> the error message<br/>If you do not see it continue with Step 23.</p>             |  <p>The users couldn't be added.</p> <p style="text-align: right;"><b>Close</b></p> |
| <p>22. <b>Refresh</b> your browser session and you see your user was added to the space members</p>                                                    |                                                                                     |
| <p>23. Navigate to the Data Builder in the Menu bar</p>                                                                                                |                                                                                   |
| <p>24. In case the Space selection screen comes up, please select the ANA369_MASTER space (optional)</p>                                               |                                                                                  |
| <p>25. <b>CAUTION!</b><br/>In case you do not see the ANA369_MASTER space please refresh your browser window.<br/>Otherwise continue with Step 27.</p> |                                                                                   |

| Explanation                                                                               | Screenshot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                |                     |            |                    |            |                    |            |                                     |            |            |                     |            |                    |            |                    |                                     |                |                |                     |            |                    |            |                    |                          |               |                |      |            |            |            |            |
|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------------------|------------|--------------------|------------|--------------------|------------|-------------------------------------|------------|------------|---------------------|------------|--------------------|------------|--------------------|-------------------------------------|----------------|----------------|---------------------|------------|--------------------|------------|--------------------|--------------------------|---------------|----------------|------|------------|------------|------------|------------|
| 26. In the Data Builder Overview select the <b>Views</b> Tab.                             |  <p>The screenshot shows the SAP Data Builder interface with the title bar "Data Builder / ANA369_MASTER". Below the title bar is a navigation bar with icons for Home, Back, Forward, and Help. The main area is titled "Welcome to the Data Builder" with the sub-instruction "Create views and tables to prepare data for your stories, and use entity-relationship models to visualize and make associations between artifacts." Below this, there are tabs for "All Files", "Tables", "Views" (which is highlighted with a red box), "E/R Models", and "Data Flows".</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                |                     |            |                    |            |                    |            |                                     |            |            |                     |            |                    |            |                    |                                     |                |                |                     |            |                    |            |                    |                          |               |                |      |            |            |            |            |
| 27. Select the SOI_MASTER and PRODUCT_MASTER views                                        |  <p>The screenshot shows the SAP Data Builder interface with the "Views" tab selected. The main area displays two view icons: "New Graphical View" and "New SQL View". Below these icons is a table titled "Files (4)" showing four entries:</p> <table border="1"> <thead> <tr> <th>Business Name</th> <th>Technical Name</th> <th>Type</th> <th>Created By</th> <th>Created On</th> <th>Changed By</th> <th>Changed On</th> </tr> </thead> <tbody> <tr> <td><input checked="" type="checkbox"/></td> <td>SOI_MASTER</td> <td>SOI_MASTER</td> <td>Analytical Datas...</td> <td>Axel Meier</td> <td>Nov 10, 2020 10...</td> <td>Axel Meier</td> <td>Nov 10, 2020 10...</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>PRODUCT_MASTER</td> <td>PRODUCT_MASTER</td> <td>Relational Datas...</td> <td>Axel Meier</td> <td>Nov 10, 2020 10...</td> <td>Axel Meier</td> <td>Nov 10, 2020 10...</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Business Name</td> <td>Technical Name</td> <td>Type</td> <td>Created By</td> <td>Created On</td> <td>Changed By</td> <td>Changed On</td> </tr> </tbody> </table> | Business Name  | Technical Name      | Type       | Created By         | Created On | Changed By         | Changed On | <input checked="" type="checkbox"/> | SOI_MASTER | SOI_MASTER | Analytical Datas... | Axel Meier | Nov 10, 2020 10... | Axel Meier | Nov 10, 2020 10... | <input checked="" type="checkbox"/> | PRODUCT_MASTER | PRODUCT_MASTER | Relational Datas... | Axel Meier | Nov 10, 2020 10... | Axel Meier | Nov 10, 2020 10... | <input type="checkbox"/> | Business Name | Technical Name | Type | Created By | Created On | Changed By | Changed On |
| Business Name                                                                             | Technical Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Type           | Created By          | Created On | Changed By         | Changed On |                    |            |                                     |            |            |                     |            |                    |            |                    |                                     |                |                |                     |            |                    |            |                    |                          |               |                |      |            |            |            |            |
| <input checked="" type="checkbox"/>                                                       | SOI_MASTER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | SOI_MASTER     | Analytical Datas... | Axel Meier | Nov 10, 2020 10... | Axel Meier | Nov 10, 2020 10... |            |                                     |            |            |                     |            |                    |            |                    |                                     |                |                |                     |            |                    |            |                    |                          |               |                |      |            |            |            |            |
| <input checked="" type="checkbox"/>                                                       | PRODUCT_MASTER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | PRODUCT_MASTER | Relational Datas... | Axel Meier | Nov 10, 2020 10... | Axel Meier | Nov 10, 2020 10... |            |                                     |            |            |                     |            |                    |            |                    |                                     |                |                |                     |            |                    |            |                    |                          |               |                |      |            |            |            |            |
| <input type="checkbox"/>                                                                  | Business Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Technical Name | Type                | Created By | Created On         | Changed By | Changed On         |            |                                     |            |            |                     |            |                    |            |                    |                                     |                |                |                     |            |                    |            |                    |                          |               |                |      |            |            |            |            |
| 28. Share these two views with the space you have just created by clicking the share icon |  <p>The screenshot shows the SAP Data Builder interface with the "Views" tab selected. The main area displays two view icons: "New Graphical View" and "New SQL View". Below these icons is a table titled "Files (4)" showing four entries. A red box highlights the "Share" icon in the toolbar above the table.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                |                     |            |                    |            |                    |            |                                     |            |            |                     |            |                    |            |                    |                                     |                |                |                     |            |                    |            |                    |                          |               |                |      |            |            |            |            |
| 29. Enter your space name and select it from the dropdown list                            |  <p>The screenshot shows a "Share 2 Models" dialog box. It has fields for "Add Spaces:" containing "ana369_XXX" and "Access:" set to "Read". Below these fields are "Share" and "Cancel" buttons. At the bottom right is a "Close" button.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                |                     |            |                    |            |                    |            |                                     |            |            |                     |            |                    |            |                    |                                     |                |                |                     |            |                    |            |                    |                          |               |                |      |            |            |            |            |

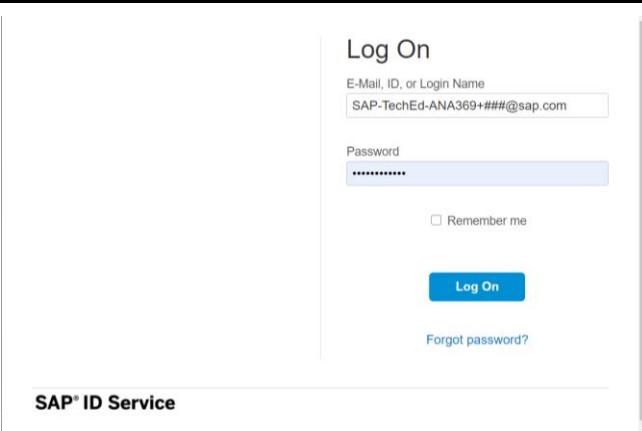
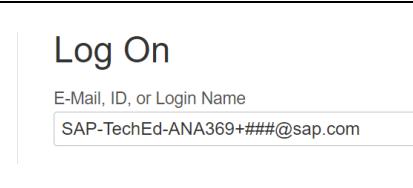
| Explanation                                                         | Screenshot                                                                           |
|---------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 30. Click on <b>Share</b> to share these two models with your space |    |
| 31. In the Data Builder Overview select the <b>Tables</b> Tab.      |    |
| 32. Select the ProductTexts table                                   |   |
| 33. Click on the <b>Edit</b> button                                 |  |

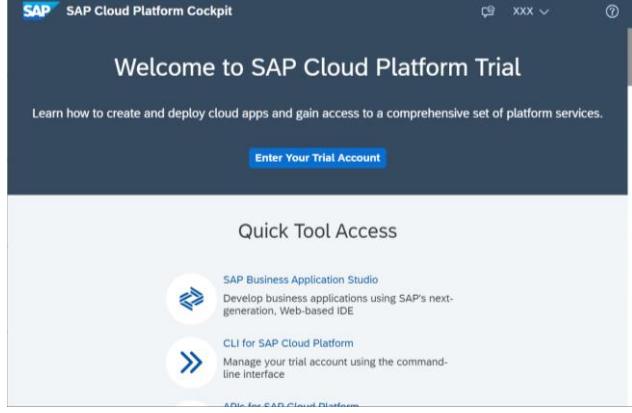
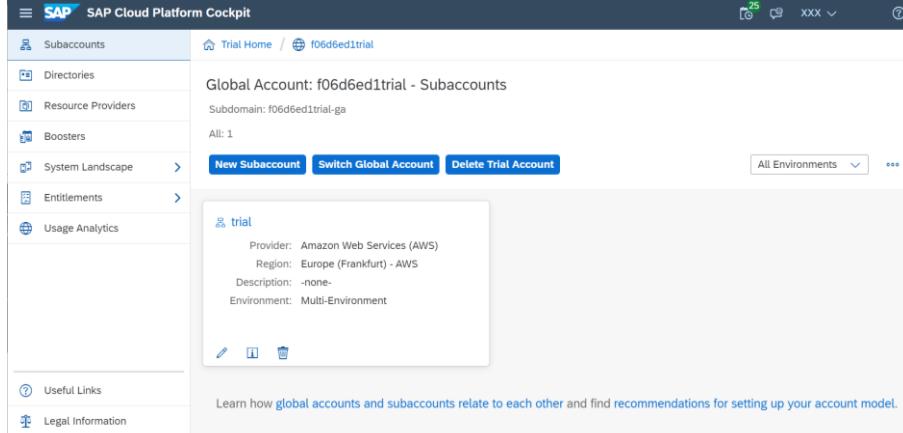
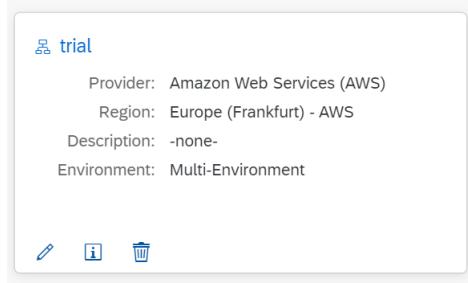
| Explanation                                                                                                    | Screenshot                                                                           |
|----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 34. The <b>ProductTexts</b> table is based on a remote connection and does not persist the data in the system. |    |
| 35. Share the table with the space you have just created by clicking the share icon                            |   |
| 36. Enter your space name and select it from the dropdown list                                                 |  |
| 37. Click on Share to share these two models with your space                                                   |  |
| 38. Go back to the space selection                                                                             |  |

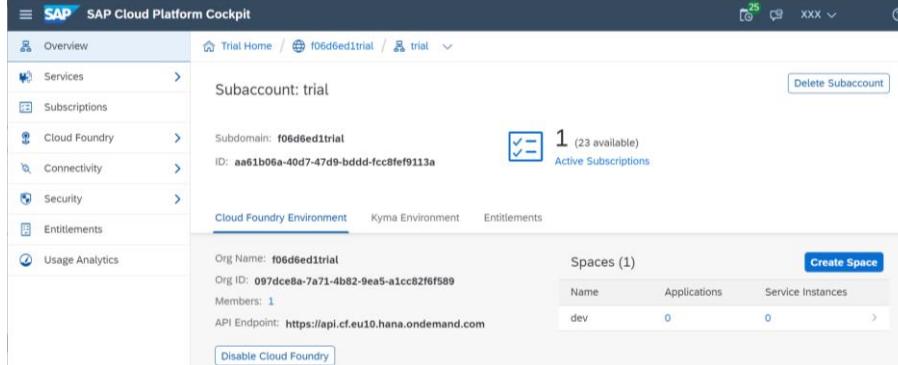
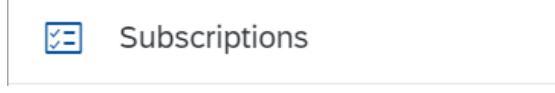
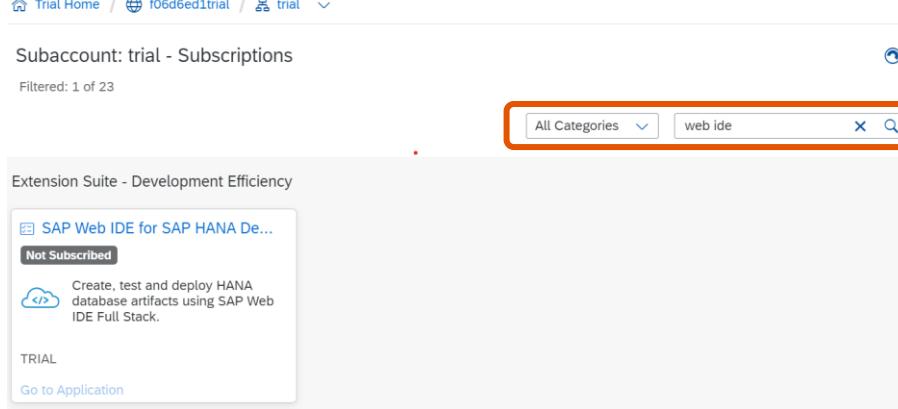
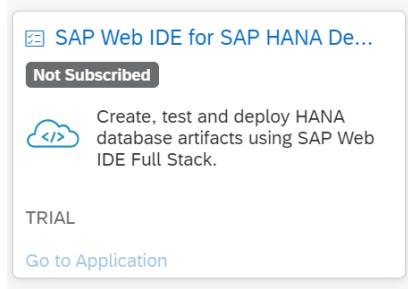
| Explanation                                                                          | Screenshot                                                                           |
|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 39. In case that warning appears, click on <b>Leave</b>                              |    |
| 40. Select your own space<br><b>ANA369_###</b><br>where ### represents your GROUP ID |    |
| 41. Click on the tile "New Graphical View"                                           |  |

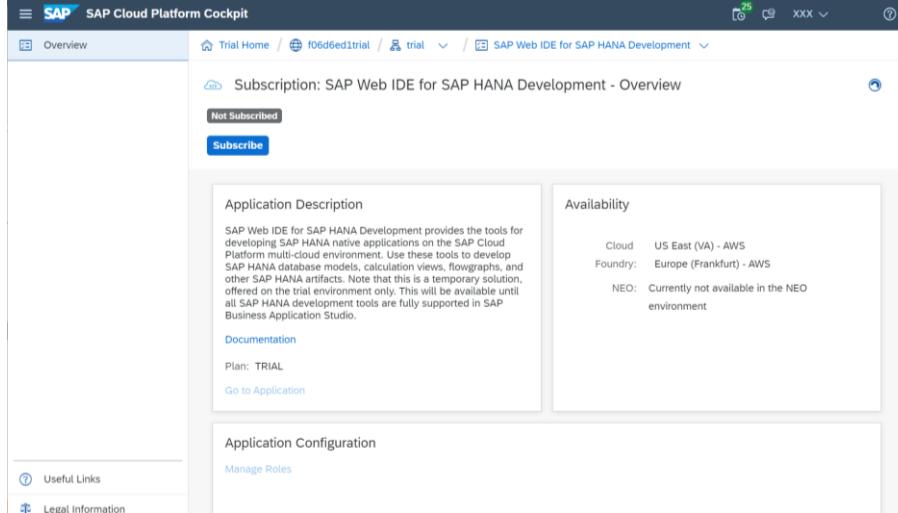
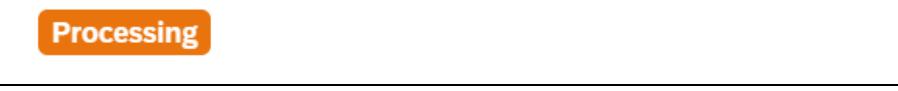
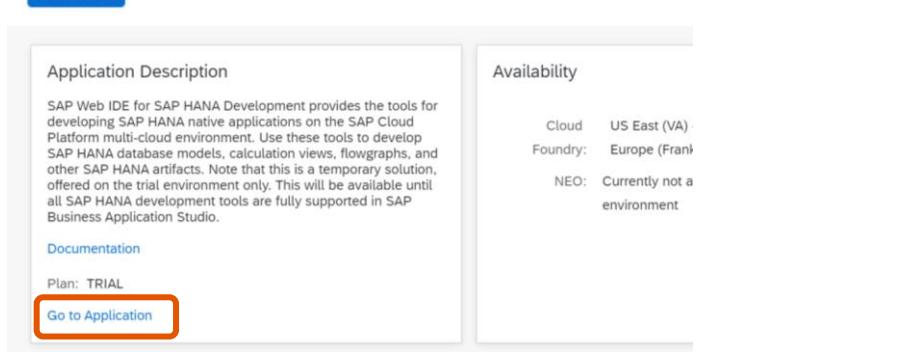
| Explanation                                                                                                                                                     | Screenshot                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| <p>42. In the <b>Repository</b> on the left side you should now be able to see the <b>Shared Objects</b>. The table and the two views you have just shared.</p> |  |

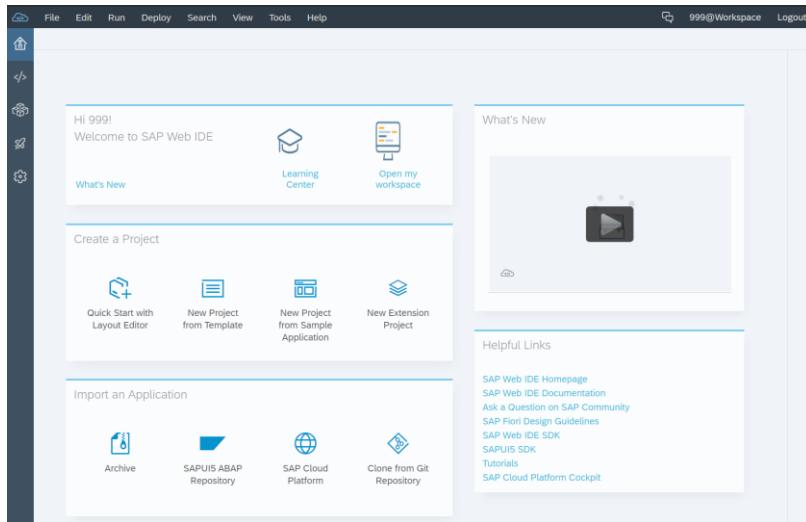
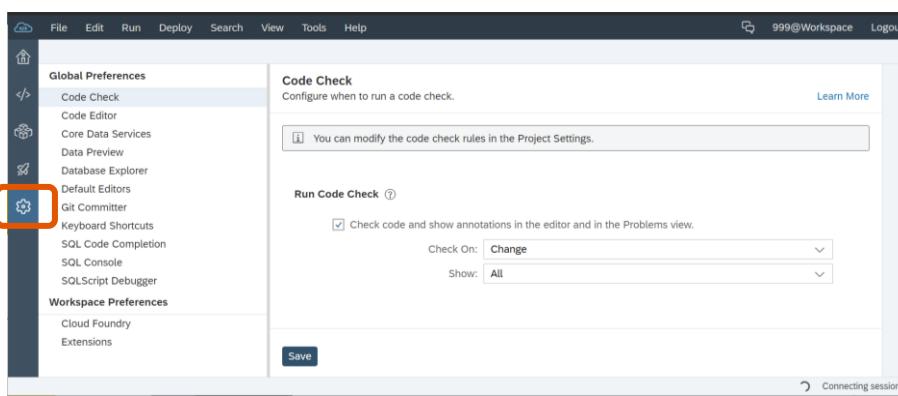
## LOGON TO SAP CLOUD PLATFORM WEB IDE AND CONFIGURATION

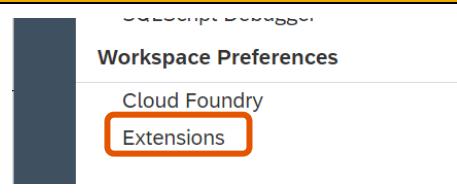
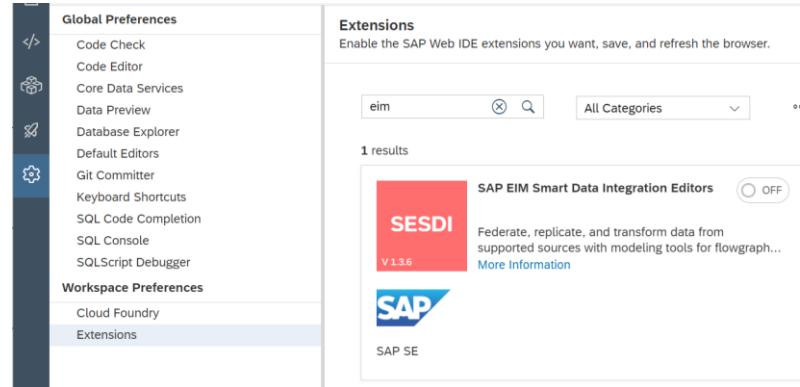
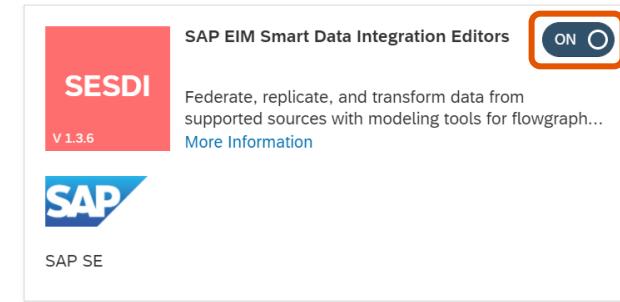
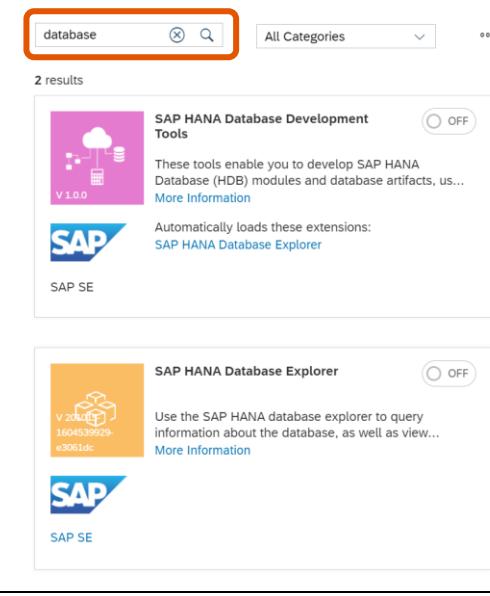
| Explanation                                                                                                                                                                              | Screenshot                                                                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| <p>1. Enter URL:<br/> <a href="https://cockpit.eu10.hana.ondemand.com/trial/#/home/trial">https://cockpit.eu10.hana.ondemand.com/trial/#/home/trial</a><br/>         and press Enter</p> |  |
| <p>2. Enter email address based on your GROUP ID<br/> <b>SAP-TechEd-ANA369+###@sap.com</b><br/>         (where ### represents your GROUP ID)</p>                                         |   |
| <p>3. Enter Password:<br/> <b>Welcome2020!</b></p>                                                                                                                                       |   |

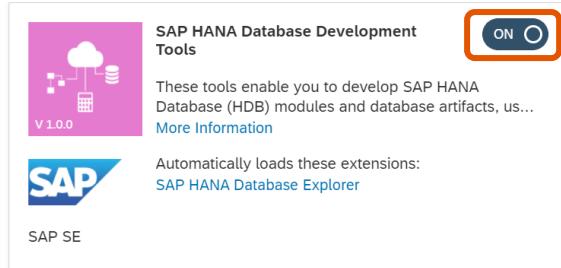
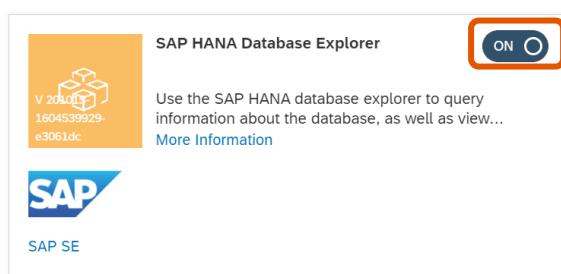
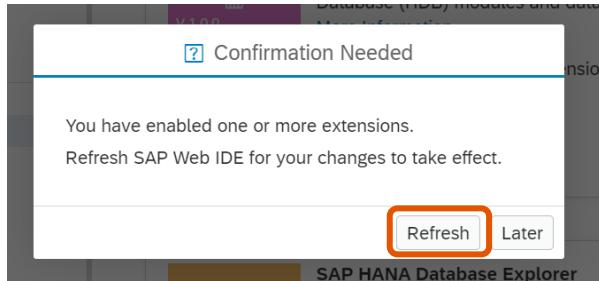
| Explanation                                                              | Screenshot                                                                           |
|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 4. Click: <b>Log On</b>                                                  |     |
| 5. You get to the welcome screen for the <b>SAP Cloud Platform Trial</b> |    |
| 6. Click on <b>Enter Your Trial Account</b>                              |     |
| 7. You are now in your <b>SAP Cloud Platform Cockpit</b>                 |  |
| 8. Click on your <b>trial</b> subaccount                                 |  |

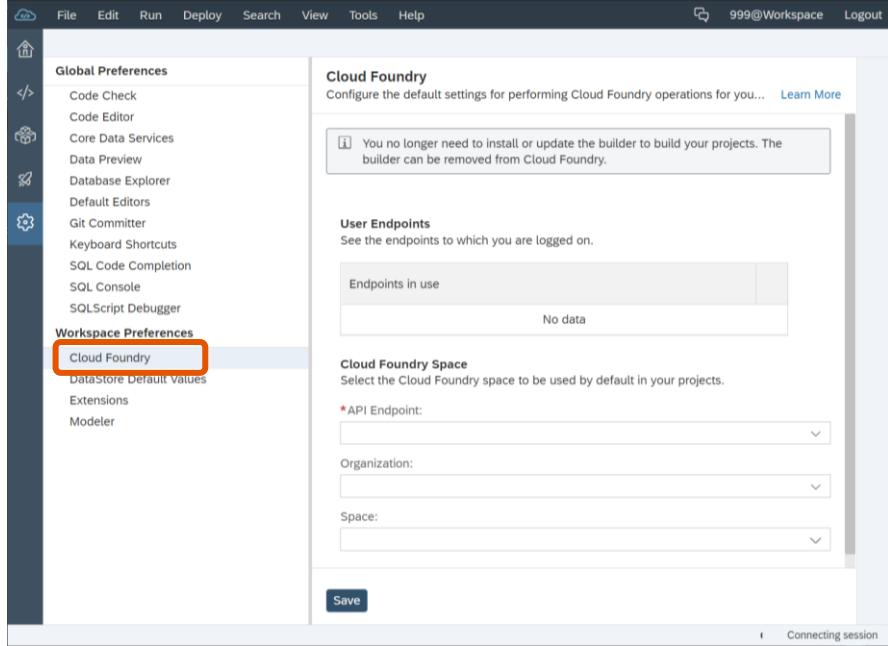
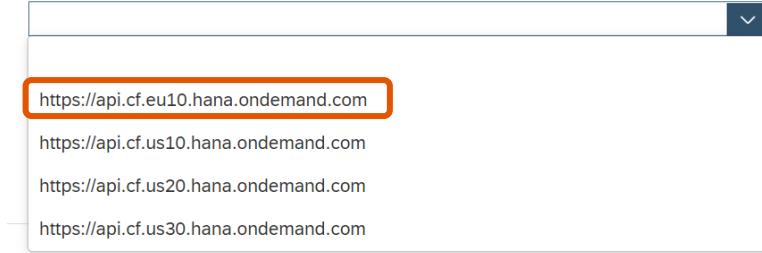
| Explanation                                                       | Screenshot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9. You are now in your subaccount overview                        |  <p>The screenshot shows the SAP Cloud Platform Cockpit Subaccount Overview page. The left sidebar includes links for Overview, Services, Subscriptions, Cloud Foundry, Connectivity, Security, Entitlements, and Usage Analytics. The main area displays the subaccount details: Subdomain: f06d6ed1trial, ID: aa61b06a-40d7-47d9-bddd-fcc8fef9113a, and Active Subscriptions (1 available). It also shows Cloud Foundry Environment, Kyma Environment, and Entitlements sections. Below these, there's an Org Name section with Org ID: 097dceba-7a71-4b82-9ea5-a1cc82f6f589, Members: 1, and API Endpoint: https://api.cf.eu10.hana.ondemand.com.</p> |
| 10. Click on <b>Subscriptions</b> in the menu on the left         |  <p>The screenshot shows the SAP Cloud Platform Cockpit Subscriptions page. The left sidebar has a checked 'Subscriptions' link. The main area displays the subaccount details: Subaccount: trial - Subscriptions, Filtered: 1 of 23. A search bar at the top right contains 'All Categories' and 'web ide' with a magnifying glass icon.</p>                                                                                                                                                                                                                                                                                                            |
| 11. Search for <b>web ide</b> in your subscriptions               |  <p>The screenshot shows the SAP Cloud Platform Cockpit Subscriptions search results for 'web ide'. It lists one result: SAP Web IDE for SAP HANA Development, which is marked as 'Not Subscribed'. The result includes a description: 'Create, test and deploy HANA database artifacts using SAP Web IDE Full Stack.' and a 'TRIAL' status. A 'Go to Application' button is present.</p>                                                                                                                                                                                                                                                               |
| 12. Click on the <b>SAP Web IDE for SAP HANA Development</b> tile |  <p>The screenshot shows a detailed view of the SAP Web IDE for SAP HANA Development tile from the previous step. It shows the same information: 'Not Subscribed', 'Create, test and deploy HANA database artifacts using SAP Web IDE Full Stack.', 'TRIAL', and a 'Go to Application' button.</p>                                                                                                                                                                                                                                                                                                                                                      |

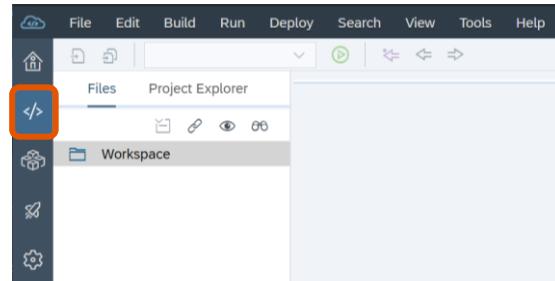
| Explanation                                                                                                                 | Screenshot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13. In the subscription overview you can see that the subscription for this service is not active                           |  <p>The screenshot shows the SAP Cloud Platform Cockpit interface. The top navigation bar includes 'Overview', 'Trial Home', 'f06d6ed1trial / trial', and 'SAP Web IDE for SAP HANA Development'. The main content area is titled 'Subscription: SAP Web IDE for SAP HANA Development - Overview'. A large button labeled 'Subscribe' is visible. Below it, there are two sections: 'Application Description' and 'Availability'. The 'Application Description' section contains a detailed description of SAP Web IDE for SAP HANA Development. The 'Availability' section shows the following details: Cloud: US East (VA) - AWS; Foundry: Europe (Frankfurt) - AWS; NEO: Currently not available in the NEO environment.</p> |
| 14. Click on <b>Subscribe</b>                                                                                               |  <p>A large blue button with the word 'Subscribe' in white text.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 15. The service is now starting and you see that the <b>Processing</b> started                                              |  <p>The word 'Processing' is displayed in an orange rounded rectangle.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 16. When finished you see an active subscription with the green <b>Subscribed</b> label                                     |  <p>The 'Subscription: SAP Web IDE for SAP HANA Development - Overview' page is shown again. The status is now 'Subscribed'. A green button labeled 'Unsubscribe' is present. The 'Application Configuration' section contains a link 'Manage Roles'.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 17. You can now start your Web IDE by clicking on the <b>Go to Application</b> link underneath the application description. |  <p>The 'Subscription: SAP Web IDE for SAP HANA Development - Overview' page is shown again. The status is 'Subscribed'. The 'Application Configuration' section contains a link 'Manage Roles'. The 'Application Description' section has a link 'Go to Application' which is highlighted with a red box.</p>                                                                                                                                                                                                                                                                                                                                                                                                                |

| Explanation                                                                                                                                           | Screenshot                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 18. Accept the Terms and Conditions by clicking the checkbox<br><br> | <p>Legal Disclaimers for SAP Cloud Platform</p> <p>We have updated our legal documents. To access and use SAP Cloud Platform, please read and accept the documents below:</p> <p>Terms and Conditions</p> <p><input checked="" type="checkbox"/> I acknowledge that I have read <a href="#">SAP's Privacy Statement</a> *</p> <p>*Required</p> <p><b>Accept</b></p> <p>SAP® ID Service</p> |
| 19. And click the <b>Accept</b> button                                                                                                                |                                                                                                                                                                                                                                                                                                           |
| 20. You now get to the welcome screen of SAP Web IDE                                                                                                  |                                                                                                                                                                                                                                                                                                         |
| 21. Navigate to the preferences section  in the menu               |                                                                                                                                                                                                                                                                                                        |

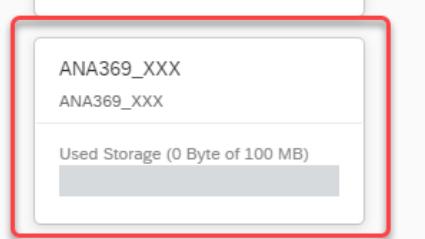
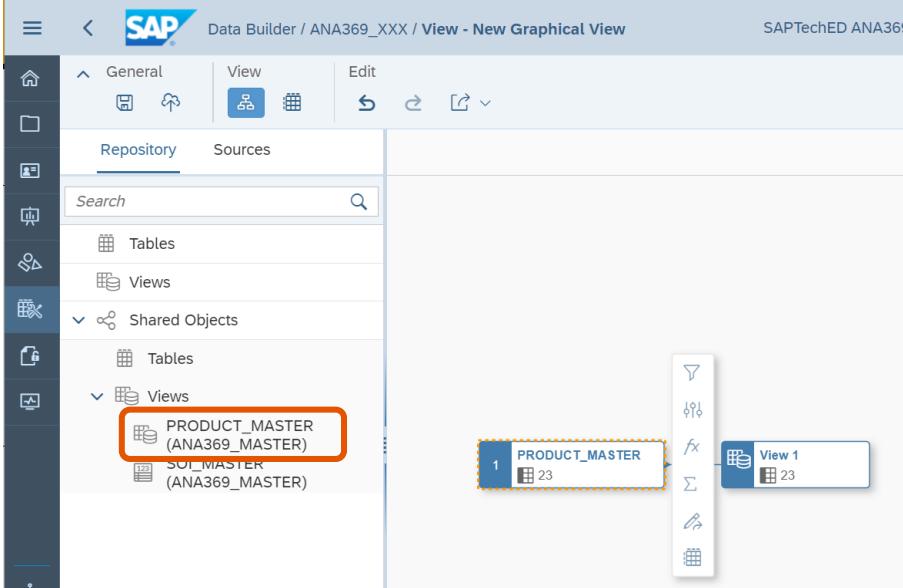
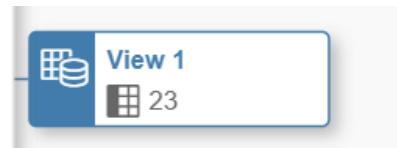
| Explanation                                                                                                     | Screenshot                                                                           |
|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 22. Select <b>Extensions</b>                                                                                    |    |
| 23. Search for “EIM” to find the SAP EIM Smart Data Integration extension                                       |    |
| 24. Enable the Extension using the ON/OFF switch.                                                               |   |
| 25. Search for “Database” to find:<br>- SAP HANA Database Development Tools and<br>- SAP HANA Database Explorer |  |

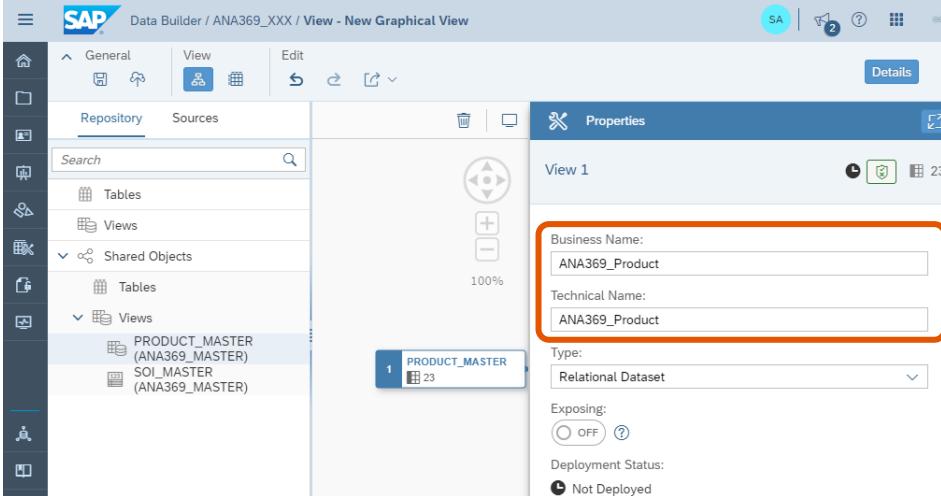
| Explanation                                          | Screenshot                                                                                                                                                               |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 26. Enable both extensions using the ON/OFF switch.  | <br> |
| 27. Then click <b>Save</b> on the bottom of the page |                                                                                       |
| 28. Confirm using the <b>Refresh</b> button          |                                                                                      |
| 29. The Web IDE is now restarting                    |                                                                                      |

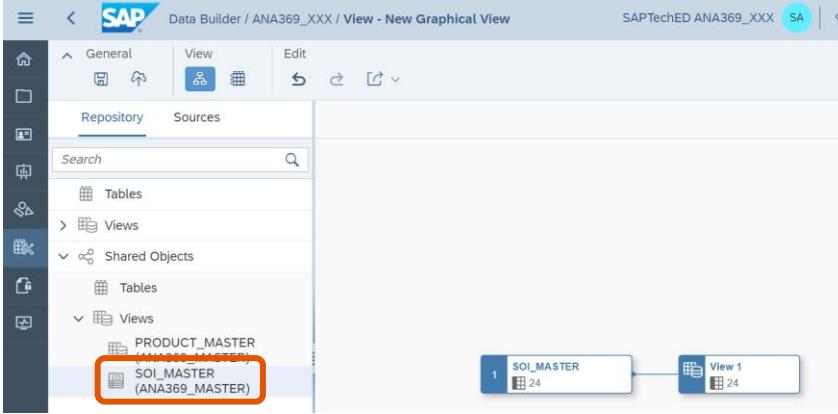
| Explanation                                                                                                                                                                                            | Screenshot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 30. Select <b>Cloud Foundry</b> in the menu on the left                                                                                                                                                |  <p>The screenshot shows the SAP Cloud Platform interface with the 'Global Preferences' sidebar open. Under 'Workspace Preferences', the 'Cloud Foundry' option is highlighted with a red box. The main panel displays the 'Cloud Foundry' configuration settings, including sections for 'User Endpoints' and 'Cloud Foundry Space'. A note at the top states: 'You no longer need to install or update the builder to build your projects. The builder can be removed from Cloud Foundry.'</p> |
| 31. In the dropdown field <b>API Endpoint</b> select <a href="https://api.cf.eu10.hana.ondemand.com">https://api.cf.eu10.hana.ondemand.com</a>                                                         | <p><b>Cloud Foundry Space</b><br/>Select the Cloud Foundry space to be used by default in your projects.</p> <p>* API Endpoint:</p>  <p>The screenshot shows a dropdown menu for selecting an API endpoint. The first option, <a href="https://api.cf.eu10.hana.ondemand.com">https://api.cf.eu10.hana.ondemand.com</a>, is highlighted with a red box.</p>                                                                                                                                     |
| 32. On the “ <b>Log on to Cloud Foundry</b> ” pop-up dialog please insert your email <b>SAP-TechEd-ANA369+###@sap.com</b> (where ### represents your GROUP ID) and the password to confirm your login. | <p><b>Log On to Cloud Foundry</b></p> <p>Endpoint: <a href="https://api.cf.eu10.hana.ondemand.com">https://api.cf.eu10.hana.ondemand.com</a></p> <p>E-mail: sap-teched-ana369+###@sap.com</p> <p>Password: *****</p> <p><b>Log On</b> <b>Cancel</b></p>                                                                                                                                                                                                                                                                                                                             |

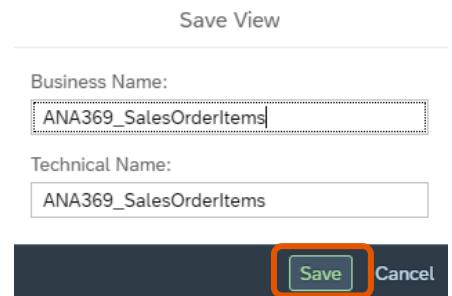
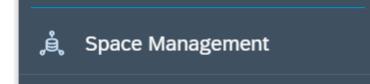
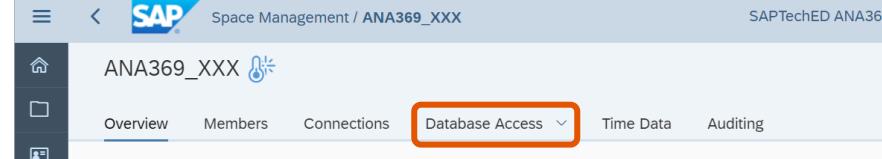
| Explanation                                                                                                                                | Screenshot                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 33. The fields <b>Organization</b> and <b>Space</b> should then automatically be filled                                                    | <p><b>Cloud Foundry Space</b><br/>Select the Cloud Foundry space to be used by default in your projects.</p> <p>* API Endpoint:<br/><input type="text" value="https://api.cf.eu10.hana.ondemand.com"/></p> <p>Organization:<br/><input type="text" value="DW Cloud - PM_teched2020-ANA369"/></p> <p>Space:<br/><input type="text" value="teched2020-ANA369"/></p> <p><b>Save</b></p> |
| 34. If not select the Organization<br><b>DW Cloud – PM_teched2020-ANA369</b>                                                               | <p>Organization:<br/><input type="text" value="DW Cloud - PM_teched2020-ANA369"/></p>                                                                                                                                                                                                                                                                                                |
| 35. And the Space<br><b>teched2020-ANA369</b>                                                                                              | <p>Space:<br/><input type="text" value="teched2020-ANA369"/></p>                                                                                                                                                                                                                                                                                                                     |
| 36. Then <b>Save</b> these settings                                                                                                        | <p><b>Save</b></p>                                                                                                                                                                                                                                                                                                                                                                   |
| 37. Select the development icon in the Web IDE menu<br> |                                                                                                                                                                                                                                                                                                  |
| 38. There should not be any project in the workspace. If so, please delete it.                                                             |                                                                                                                                                                                                                                                                                                                                                                                      |

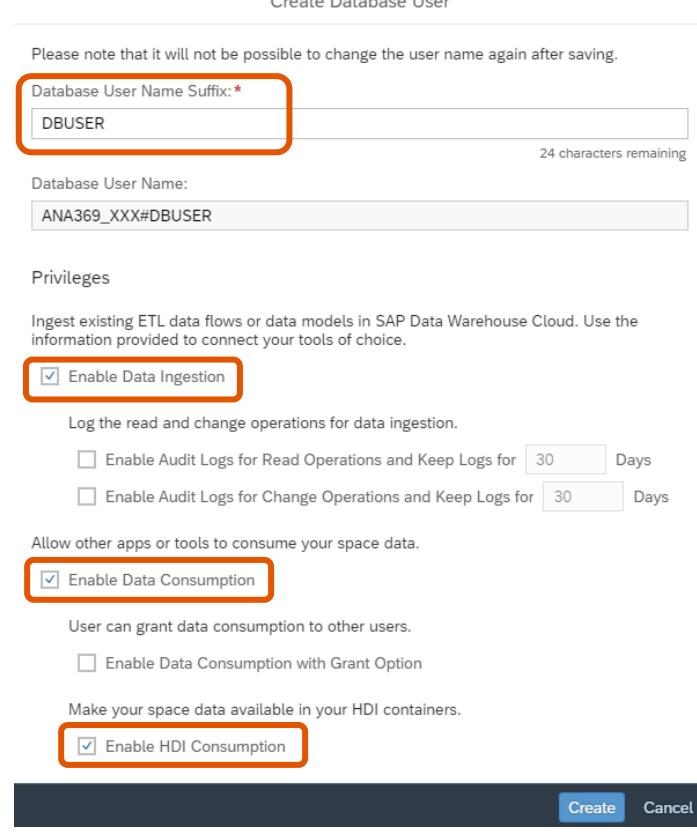
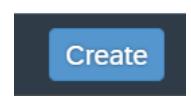
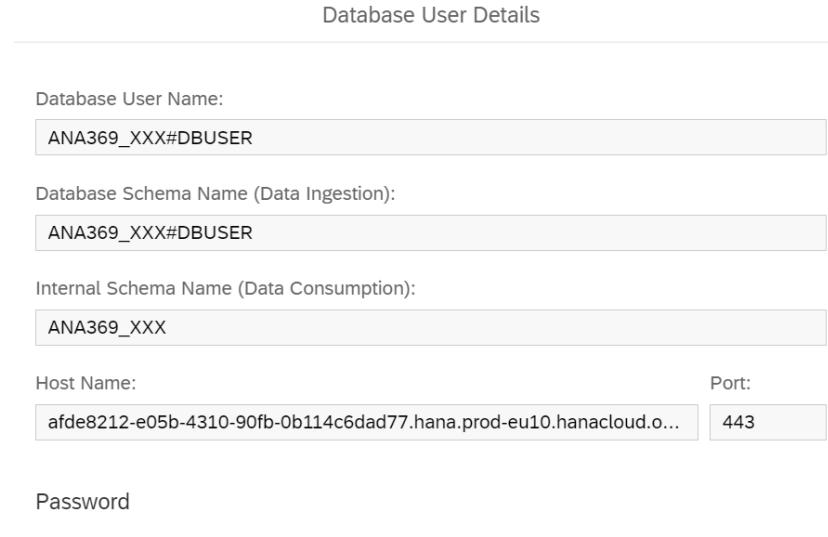
## CREATE A MODEL AND A DATABASE USER IN SAP DATA WAREHOUSE CLOUD

| Explanation                                                                                                                                                          | Screenshot                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 1. In SAP Data Warehouse Cloud go to the Data Builder                                                                                                                |    |
| 2. Select your space <b>ANA369_###</b> (where ### represents your GROUP ID)                                                                                          |     |
| 3. Create a new graphical view                                                                                                                                       |    |
| 4. In the <b>Repository</b> on the left open <b>Shared Objects</b> and <b>Views</b> .<br><br>Select <b>PRODUCT_MASTER</b> (ANA369_MASTER) and drag it to the canvas. |  |
| 5. Click on the <b>View 1</b> and the properties pane on the right will appear.                                                                                      |   |

| Explanation                                                                                              | Screenshot                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>6. In the properties give it the name <b>ANA369_Product</b> for both Business and Technical Name.</p> |                                                                                                                                                      |
| <p>7. Enable the Exposing flag from OFF to ON</p>                                                        | <p>Exposing:</p> <p>ON <input type="radio"/> <input type="radio"/> ?</p>                                                                                                                                                               |
| <p>8. Deploy the view using the deploy button</p>                                                        |                                                                                                                                                    |
| <p>9. Save the view</p>                                                                                  | <p>Save View</p> <p>Business Name: <input type="text" value="ANA369_Product"/></p> <p>Technical Name: <input type="text" value="ANA369_Product"/></p> <p><input type="button" value="Save"/> <input type="button" value="Cancel"/></p> |
| <p>10. The Deployment Status should change to <b>Deployed</b> after a few moments.</p>                   | <p>Deployment Status:</p> <p><input type="radio"/> Deployed</p>                                                                                                                                                                        |

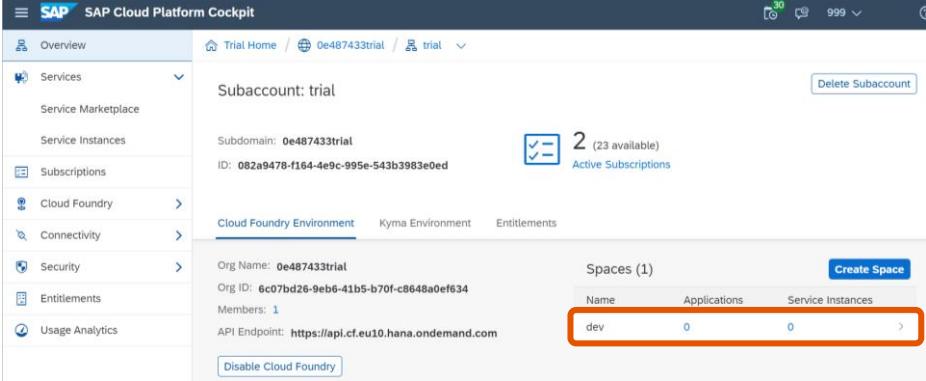
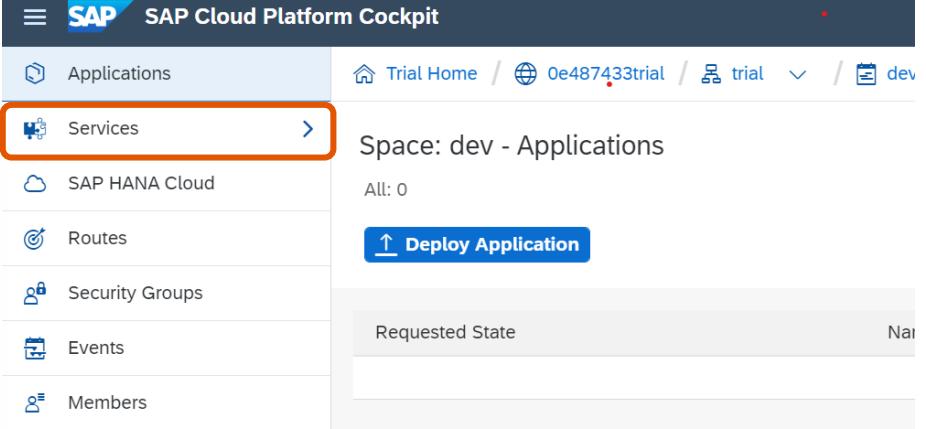
| Explanation                                                                                               | Screenshot                                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 11. Create another new graphical view                                                                     | <br>New Graphical View                                         |
| 12. Use the second shared view <b>SOI_MASTER</b> and drag it to the canvas                                |                                                              |
| 13. In the properties give it the name <b>ANA369_SalesOrderItem</b> for both Business and Technical Name. | Business Name:<br><input type="text" value="ANA369_SalesOrderItems"/><br>Technical Name:<br><input type="text" value="ANA369_SalesOrderItems"/> |
| 14. Select the type Analytical Dataset                                                                    | Type:<br><input type="text" value="Analytical Dataset"/>                                                                                        |
| 15. Enable the Exposing flag from OFF to ON                                                               | Exposing:<br><input checked="" type="radio"/> ON <input type="radio"/> OFF <input type="radio"/> ?                                              |
| 16. Deploy the view using the deploy button                                                               |                                                             |

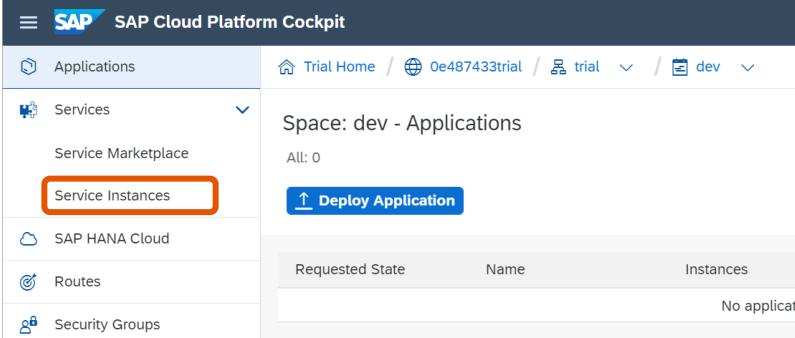
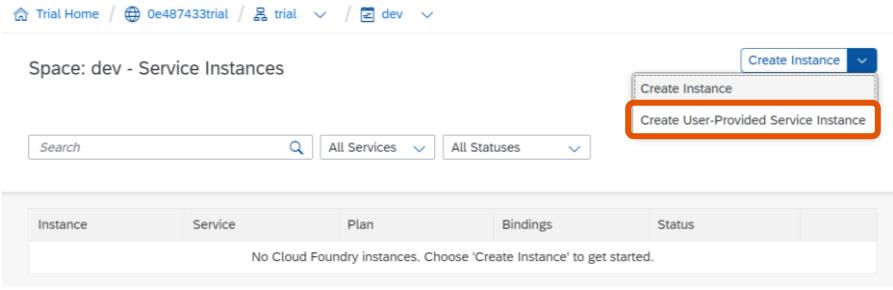
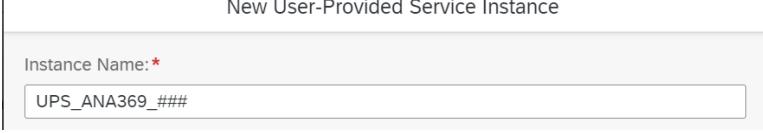
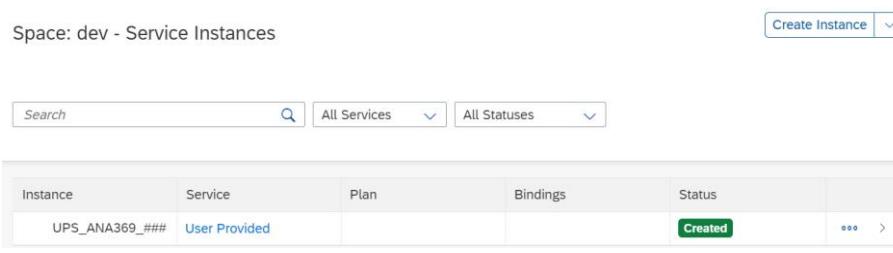
| Explanation                                                                                | Screenshot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                 |                  |                 |        |                                      |  |  |  |  |
|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------------|-----------------|--------|--------------------------------------|--|--|--|--|
| <b>17. Save the view</b>                                                                   |  <p>Save View</p> <p>Business Name:<br/>ANA369_SalesOrderItems</p> <p>Technical Name:<br/>ANA369_SalesOrderItems</p> <p><b>Save</b> <b>Cancel</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                    |                 |                  |                 |        |                                      |  |  |  |  |
| <b>18. Go to the main menu on the left hand side and select Space Management</b>           |  <p>Space Management</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |                 |                  |                 |        |                                      |  |  |  |  |
| <b>19. Go to the Database Access Section</b>                                               |  <p>SAP Space Management / ANA369_XXX</p> <p>ANA369_XXX</p> <p>Overview Members Connections <b>Database Access</b> Time Data Auditing</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    |                 |                  |                 |        |                                      |  |  |  |  |
| <b>20. Make your space data consumable by default and switch the toggle from OFF to ON</b> | <p>Database Users</p> <p>Ingest data from other apps or tools into SAP Data Warehouse Cloud or make your space data available by allowing other apps or tools to consume it. Create a database user and define privileges to combine the best of both worlds.</p> <p>Create Delete Edit Privileges Open Database Explorer Search</p> <table border="1"> <thead> <tr> <th>Database User Name</th> <th>Data Ingestion</th> <th>Data Consumption</th> <th>HDI Consumption</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td colspan="5">No database users have been created.</td> </tr> </tbody> </table> <p>Make your space data consumable by default. The models in the builders will automatically allow the data to be consumable.</p> <p><b>Default Consumption of Space Data:</b> <input checked="" type="radio"/> OFF</p> | Database User Name | Data Ingestion  | Data Consumption | HDI Consumption | Status | No database users have been created. |  |  |  |  |
| Database User Name                                                                         | Data Ingestion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Data Consumption   | HDI Consumption | Status           |                 |        |                                      |  |  |  |  |
| No database users have been created.                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                    |                 |                  |                 |        |                                      |  |  |  |  |
| <b>21. Create a new Database User by clicking the Create button</b>                        | <p>Database Users</p> <p>Ingest data from other apps or tools into SAP Data Warehouse Cloud or make your space data available by allowing other apps or tools to consume it. Create a database user and define privileges to combine the best of both worlds.</p> <p><b>Create</b> Delete Edit Privileges Open Database Explorer Search</p> <table border="1"> <thead> <tr> <th>Database User Name</th> <th>Data Ingestion</th> <th>Data Consumption</th> <th>HDI Consumption</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td colspan="5">No database users have been created.</td> </tr> </tbody> </table> <p>Make your space data consumable by default. The models in the builders will automatically allow the data to be consumable.</p> <p>Default Consumption of Space Data: <input checked="" type="radio"/> ON</p>  | Database User Name | Data Ingestion  | Data Consumption | HDI Consumption | Status | No database users have been created. |  |  |  |  |
| Database User Name                                                                         | Data Ingestion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Data Consumption   | HDI Consumption | Status           |                 |        |                                      |  |  |  |  |
| No database users have been created.                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                    |                 |                  |                 |        |                                      |  |  |  |  |

| Explanation                                                                                                                                                                                                              | Screenshot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>22. Give the Database User a name:<br/><b>DBUSER</b></p> <p>and</p> <p>check the boxes for<br/><b>Enable Data Ingestion</b></p> <p><b>Enable Data Consumption</b></p> <p>and</p> <p><b>Enable HDI Consumption</b></p> |  <p>Create Database User</p> <p>Please note that it will not be possible to change the user name again after saving.</p> <p>Database User Name Suffix: * <b>DBUSER</b></p> <p>Database User Name: <b>ANA369_XXX#DBUSER</b> 24 characters remaining</p> <p>Privileges</p> <p>Ingest existing ETL data flows or data models in SAP Data Warehouse Cloud. Use the information provided to connect your tools of choice.</p> <p><input checked="" type="checkbox"/> <b>Enable Data Ingestion</b></p> <p>Log the read and change operations for data ingestion.</p> <p><input type="checkbox"/> Enable Audit Logs for Read Operations and Keep Logs for <b>30</b> Days</p> <p><input type="checkbox"/> Enable Audit Logs for Change Operations and Keep Logs for <b>30</b> Days</p> <p>Allow other apps or tools to consume your space data.</p> <p><input checked="" type="checkbox"/> <b>Enable Data Consumption</b></p> <p>User can grant data consumption to other users.</p> <p><input type="checkbox"/> Enable Data Consumption with Grant Option</p> <p>Make your space data available in your HDI containers.</p> <p><input checked="" type="checkbox"/> <b>Enable HDI Consumption</b></p> <p><b>Create</b> <b>Cancel</b></p> |
| <p>23. Click <b>Create</b> to establish the database user</p>                                                                                                                                                            |  <p><b>Create</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <p>24. On the next dialog note down all the information including password and the credentials for the User Provided Service</p>                                                                                         |  <p>Database User Details</p> <p>Database User Name: <b>ANA369_XXX#DBUSER</b></p> <p>Database Schema Name (Data Ingestion): <b>ANA369_XXX#DBUSER</b></p> <p>Internal Schema Name (Data Consumption): <b>ANA369_XXX</b></p> <p>Host Name: <b>afde8212-e05b-4310-90fb-0b114c6dad77.hana.prod-eu10.hanacloud.o...</b> Port: <b>443</b></p> <p>Password</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| Explanation                                                           | Screenshot                                                                        |
|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| 25. Click on <b>Copy Full Credentials</b> on the bottom of the window |  |
| 26. Do not close this Dialog yet!                                     |                                                                                   |

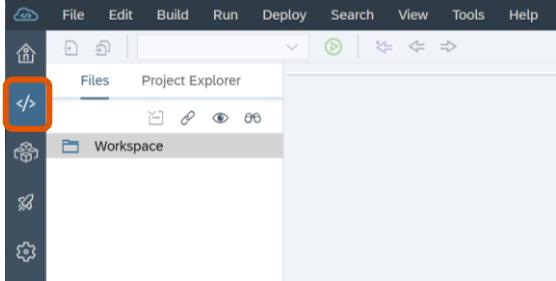
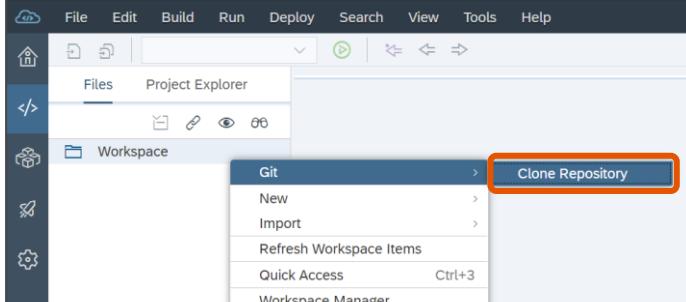
## CREATE THE USER PROVIDED SERVICE IN SAP CLOUD PLATFORM

| Explanation                                                                    | Screenshot                                                                           |
|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 1. In the SAP Cloud Platform subaccount overview click on the <b>dev space</b> |   |
| 2. Open the <b>Service</b> submenu on the left hand side                       |  |

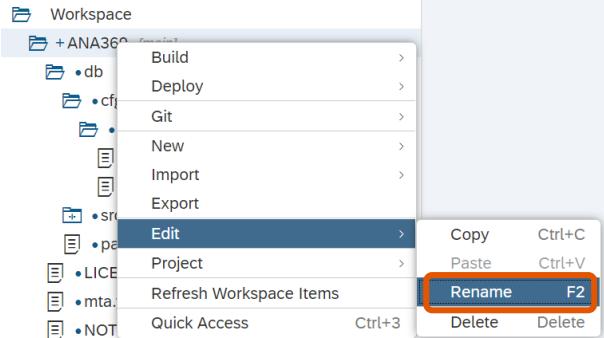
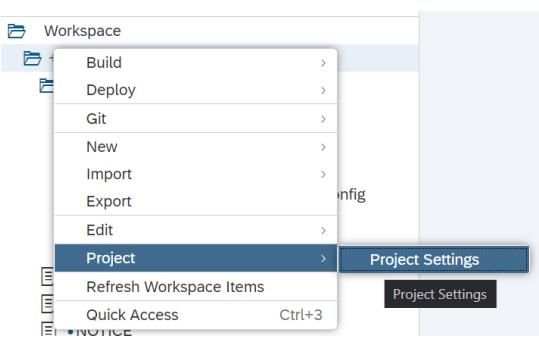
| Explanation                                                                                                                                      | Screenshot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |          |         |          |        |                |               |  |  |         |
|--------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|---------|----------|--------|----------------|---------------|--|--|---------|
| 3. Select <b>Service Instances</b> in the menu                                                                                                   |  <p>The SAP Cloud Platform Cockpit interface. The left sidebar has a dropdown menu with 'Services' selected. Under 'Services', 'Service Instances' is highlighted with a red box. Other options include 'Service Marketplace', 'SAP HANA Cloud', 'Routes', and 'Security Groups'. The main area shows 'Space: dev - Applications' with a table header for 'Requested State', 'Name', and 'Instances'. A message at the bottom says 'No applications'.</p>                                                                              |          |          |         |          |        |                |               |  |  |         |
| 4. Select <b>Create User-Provided Service Instance</b> in the drop-down box on the top right-hand side                                           |  <p>The SAP Cloud Platform Cockpit interface. The top navigation bar shows 'Trial Home / 0e487433trial / trial / dev'. The left sidebar shows 'Space: dev - Service Instances'. The main area shows a table with columns 'Instance', 'Service', 'Plan', 'Bindings', and 'Status'. A message at the bottom says 'No Cloud Foundry instances. Choose 'Create Instance' to get started.' On the right, there is a 'Create Instance' dropdown menu with 'Create User-Provided Service Instance' selected, highlighted with a red box.</p> |          |          |         |          |        |                |               |  |  |         |
| 5. Enter the name <b>UPS_ANA369_###</b> as instance name and replace the <b>###</b> with your GROUP ID.                                          |  <p>New User-Provided Service Instance dialog. The 'Instance Name:' field contains 'UPS_ANA369_###'.</p>                                                                                                                                                                                                                                                                                                                                                                                                                             |          |          |         |          |        |                |               |  |  |         |
| 6. Take the content of the <a href="#">Copy Full Credentials</a> from the database user in your Space in Data Warehouse Cloud. Paste it into the |  <p>Specify the parameters in JSON format:</p> <pre> 1  [ 2   "user": "ANA369_XXX#DBUSER", 3   "password": "874391T&amp;C#IG5", 4   "schema": "ANA369_XXX", 5   "tags": [ 6     "hana" 7   ], 8   "type": "procedure", 9   "procedure_schema": "ANA369_XXX\$TEC", 10  "procedure": "HDI_GRANTOR_FOR_CUPS" </pre> <p>Buttons: Create, Cancel</p>                                                                                                                                                                                      |          |          |         |          |        |                |               |  |  |         |
| 7. <b>Create</b> the user provided service                                                                                                       |  <p>A large blue 'Create' button.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |          |          |         |          |        |                |               |  |  |         |
| 8. Now you see an entry in the services instances overview table                                                                                 |  <p>Space: dev - Service Instances</p> <table border="1"> <thead> <tr> <th>Instance</th> <th>Service</th> <th>Plan</th> <th>Bindings</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>UPS_ANA369_###</td> <td>User Provided</td> <td></td> <td></td> <td>Created</td> </tr> </tbody> </table>                                                                                                                                                                                                                                    | Instance | Service  | Plan    | Bindings | Status | UPS_ANA369_### | User Provided |  |  | Created |
| Instance                                                                                                                                         | Service                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Plan     | Bindings | Status  |          |        |                |               |  |  |         |
| UPS_ANA369_###                                                                                                                                   | User Provided                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |          |          | Created |          |        |                |               |  |  |         |

| Explanation                                                                                        | Screenshot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                 |                        |                 |                        |        |                                     |                    |                |                  |                 |        |                                     |                   |           |           |           |        |
|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------------|-----------------|------------------------|--------|-------------------------------------|--------------------|----------------|------------------|-----------------|--------|-------------------------------------|-------------------|-----------|-----------|-----------|--------|
| <p>9. Change your browser window back to Data Warehouse Cloud and <b>close</b> the dialog.</p>     | <p>HDI Consumption</p> <p>To set up access via this database user, copy the credentials to your user-provided service. In case you can only copy the credentials without a password, make sure you add the password later.</p> <p>Credentials for User-Provided Service (Without Password):</p> <pre data-bbox="551 524 1205 636">],   "type": "procedure",   "procedure_schema": "ANA369_XXX\$TEC",   "procedure": "HDI_GRANTOR_FOR_CUPS" }</pre> <p><input type="button" value="Copy Credentials Without Password"/></p> <p><input style="border: 2px solid orange; border-radius: 50%; padding: 2px; margin-left: 10px;" type="button" value="Close"/></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                 |                        |                 |                        |        |                                     |                    |                |                  |                 |        |                                     |                   |           |           |           |        |
| <p>10. You can close the dialog in the space management now and see the created database user.</p> | <p>Database Users</p> <p>Ingest data from other apps or tools into SAP Data Warehouse Cloud or make your space data available by allowing other apps or tools to consume it. Create a database user and define privileges to combine the best of both worlds.</p> <table border="1" data-bbox="535 868 1433 1001"> <thead> <tr> <th data-bbox="796 868 862 889">Create</th> <th data-bbox="870 868 919 889">Delete</th> <th data-bbox="927 868 1025 889">Edit Privileges</th> <th data-bbox="1033 868 1188 889">Open Database Explorer</th> <th data-bbox="1196 868 1254 889">Search</th> </tr> </thead> <tbody> <tr> <td data-bbox="560 910 576 931"><input checked="" type="checkbox"/></td> <td data-bbox="592 910 723 931">Database User Name</td> <td data-bbox="903 910 1001 931">Data Ingestion</td> <td data-bbox="1017 910 1131 931">Data Consumption</td> <td data-bbox="1147 910 1262 931">HDI Consumption</td> <td data-bbox="1278 910 1343 931">Status</td> </tr> <tr> <td data-bbox="560 952 576 974"><input checked="" type="checkbox"/></td> <td data-bbox="592 952 739 974">ANA369_XXX#DBUSER</td> <td data-bbox="903 952 968 974">✓ Enabled</td> <td data-bbox="1017 952 1082 974">✓ Enabled</td> <td data-bbox="1147 952 1245 974">✓ Enabled</td> <td data-bbox="1262 952 1327 974">Active</td> </tr> </tbody> </table> | Create          | Delete                 | Edit Privileges | Open Database Explorer | Search | <input checked="" type="checkbox"/> | Database User Name | Data Ingestion | Data Consumption | HDI Consumption | Status | <input checked="" type="checkbox"/> | ANA369_XXX#DBUSER | ✓ Enabled | ✓ Enabled | ✓ Enabled | Active |
| Create                                                                                             | Delete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Edit Privileges | Open Database Explorer | Search          |                        |        |                                     |                    |                |                  |                 |        |                                     |                   |           |           |           |        |
| <input checked="" type="checkbox"/>                                                                | Database User Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Data Ingestion  | Data Consumption       | HDI Consumption | Status                 |        |                                     |                    |                |                  |                 |        |                                     |                   |           |           |           |        |
| <input checked="" type="checkbox"/>                                                                | ANA369_XXX#DBUSER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ✓ Enabled       | ✓ Enabled              | ✓ Enabled       | Active                 |        |                                     |                    |                |                  |                 |        |                                     |                   |           |           |           |        |

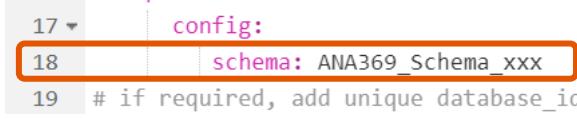
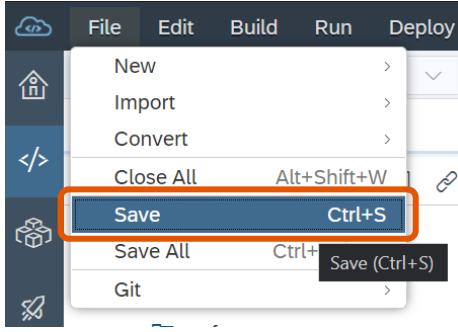
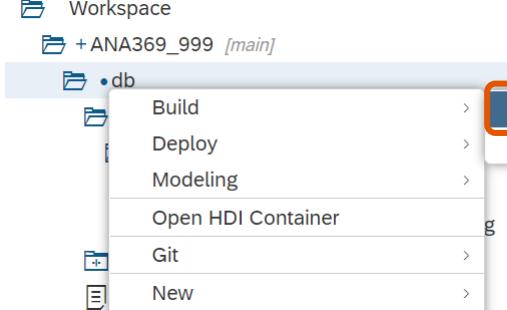
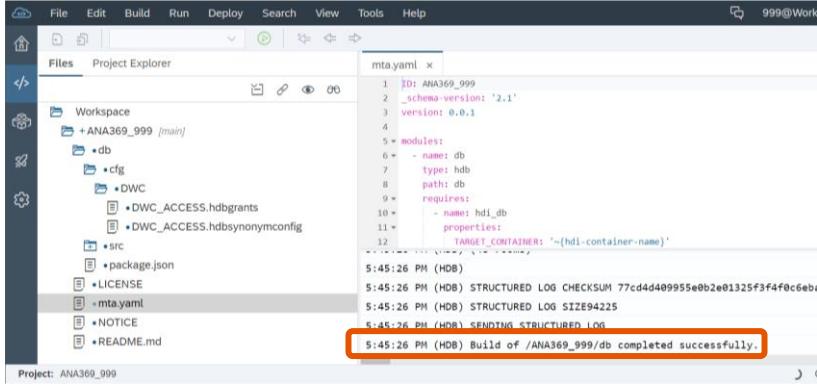
## CLONE, CONFIGURE AND BUILD THE WEB IDE PROJECT

| Explanation                                                                                                                                                    | Screenshot                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1. Go back to the Web IDE and select the development icon in the menu</p>  |                                                                                                                          |
| <p>2. Right mouse click on <b>Workspace</b> click on <b>Git</b> and <b>Clone Repository</b></p>                                                                |                                                                                                                         |
| <p>3. Enter the following URL:<br/> <a href="https://github.com/d031643/ANA369.git">https://github.com/d031643/ANA369.git</a></p>                              | <p>Clone Git Repository</p> <p>*URL <input type="text" value="https://github.com/d031643/ANA369.git"/></p> <p><input type="checkbox"/> Add configuration for Gerrit?</p> <p><b>Clone</b> <b>Cancel</b></p> |
| <p>4. <b>Clone</b> the repository</p>                                                                                                                          | <p><b>Clone</b></p>                                                                                                                                                                                        |

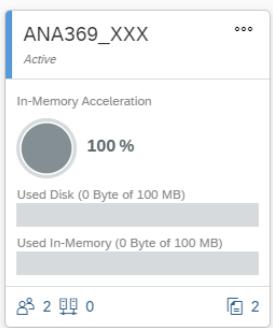
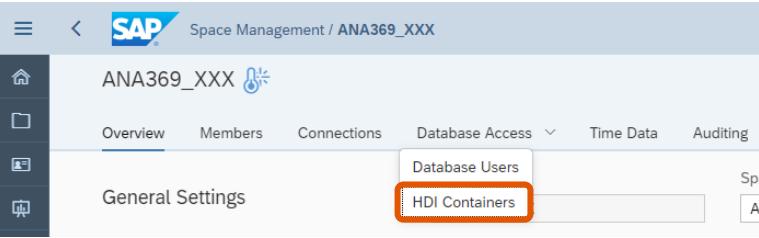
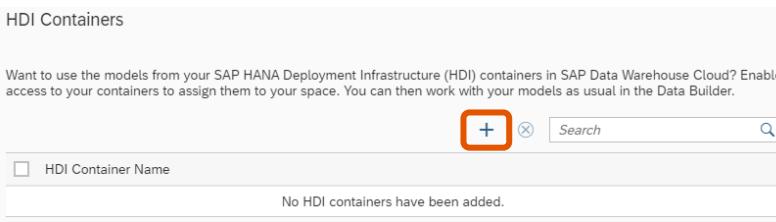
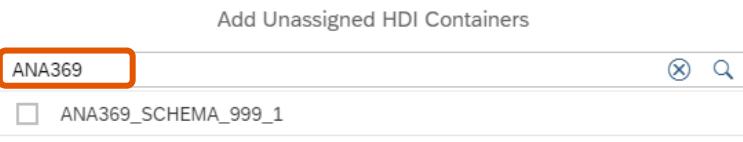
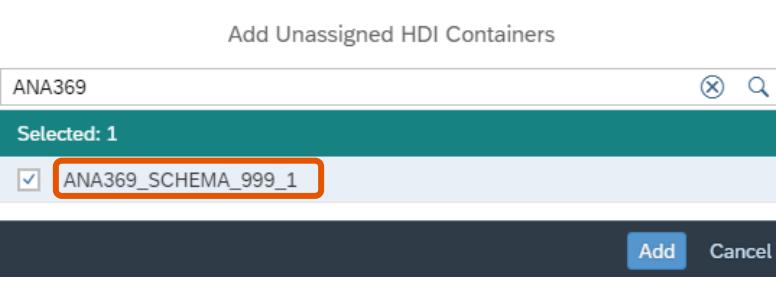
| Explanation                                                                                                                                                                      | Screenshot                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5. It takes a moment to import and the following message comes up                                                                                                                | <p>Git Ignore System Files</p> <p>We have automatically marked system files that should be ignored and untracked. To ignore and untrack these files, choose "Commit and Push" (recommended).</p> <p>Commit Descri... <input type="button" value="Ignore and Untrack S"/></p> <p><input type="button" value="Commit and Push"/> <input type="button" value="Do it later"/></p>                                                                              |
| 6. Choose <b>Commit and Push</b>                                                                                                                                                 | <p><input type="button" value="Commit and Push"/></p>                                                                                                                                                                                                                                                                                                                                                                                                      |
| 7. <b>Cancel</b> the next dialog                                                                                                                                                 | <p>Git User Information</p> <p>If you save your Git user information, your user name and e-mail address will be stored in the remote Git server and in your project settings. This cannot be undone.</p> <p>*Git E-mail Address: <input type="text" value="sap-teched-ana369+999@sap.com"/></p> <p>*Git User Name: <input type="text" value="999 SAP-TechEd-ANA369"/></p> <p><input type="button" value="Save"/> <input type="button" value="Cancel"/></p> |
| 8. You should find the project named: <b>ANA369</b><br><br>You can open the project and the folders<br><b>db &gt; cfg &gt; DWC</b><br>and find these files within the file tree. | <p>Files      Project Explorer</p> <pre> Workspace + ANA369 [main]   - db   - cfg   - DWC     - DWC_ACCESS.hdbgrants     - DWC_ACCESS.hdbsynonymconfig   - src   - package.json   - LICENSE   - mta.yaml   - NOTICE   - README.md </pre>                                                                                                                                                                                                                   |

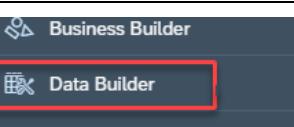
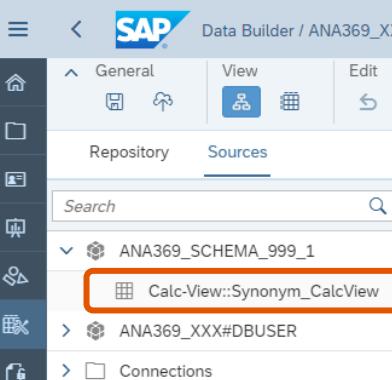
| Explanation                                                                                                                           | Screenshot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>9. Right mouse click on <b>ANA369</b><br/> click on <b>Edit</b><br/> and<br/> <b>Rename</b></p>                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <p>10. Please use the name <b>ANA369_###</b><br/> and replace the <b>###</b> with your<br/> GROUP ID.</p>                             | <p>Rename Project</p> <p>New Name: <input type="text" value="ANA369_###"/></p> <p><b>Rename</b> <b>Cancel</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <p>11. Right mouse click on the project<br/> <b>ANA369_###</b><br/> click on <b>Project</b><br/> and<br/> <b>Project Settings</b></p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p>12. Select <b>Cloud Foundry</b> in the Project<br/> settings menu</p>                                                              | <p>Project</p> <p>Project Types</p> <p>Git Repository</p> <p><b>Cloud Foundry</b> <span style="border: 1px solid red; padding: 2px;"> </span></p> <p>Beautifier</p> <p>JavaScript</p> <p>Code Checking</p> <p>JavaScript</p> <p>XML</p> <p><b>Cloud Foundry</b></p> <p>Select the default Cloud Foundry space for running your proj... <a href="#">Learn More</a></p> <p><span style="border: 1px solid #ccc; padding: 2px;">You no longer need to install or update the builder to build your projects. The builder can be removed from Cloud Foundry.</span></p> <p><b>Cloud Foundry Settings</b></p> <p><input checked="" type="radio"/> Use the default settings defined in the Workspace Preferences.</p> |

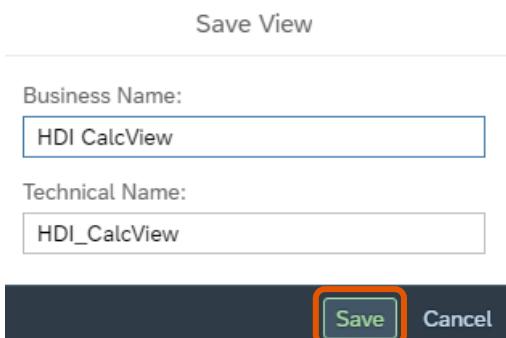
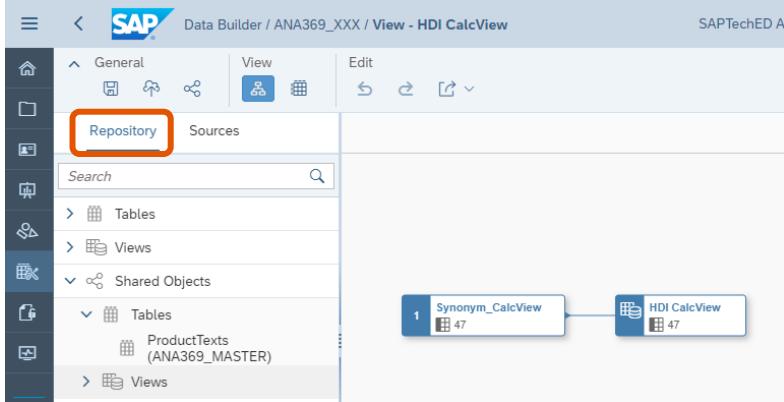
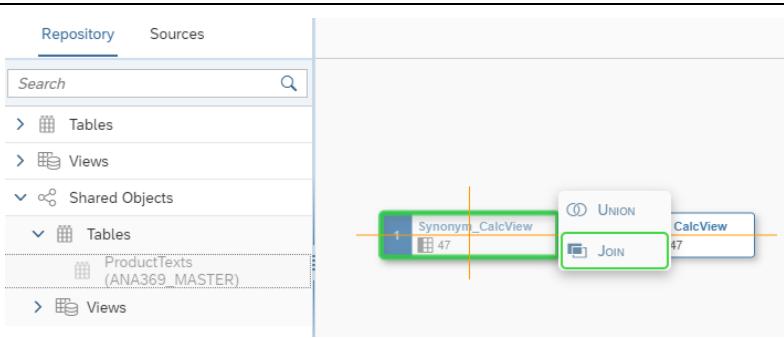
| Explanation                                                                                                                                              | Screenshot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13. Select the default settings which you have set before.                                                                                               | <p>Project<br/>Project Types<br/>Git Repository<br/>Cloud Foundry<br/>Beautifier<br/>JavaScript<br/>Code Checking<br/>JavaScript<br/>XML</p> <p>Cloud Foundry<br/>Select the default Cloud Foundry space for running your proj... <a href="#">Learn More</a></p> <p>You no longer need to install or update the builder to build your projects. The builder can be removed from Cloud Foundry.</p> <p>Cloud Foundry Settings</p> <p><input checked="" type="radio"/> Use the default settings defined in the Workspace Preferences.</p> <p>API Endpoint:<br/><a href="https://api.cf.eu10.hana.ondemand.com">https://api.cf.eu10.hana.ondemand.com</a></p> <p>Organization:<br/>DW Cloud - PM_teched2020-ANA369</p> <p>Space:<br/>teched2020-ANA369</p> <p><input type="radio"/> Use the following settings for this project.</p> <p>*API Endpoint:<br/><input type="text" value="https://api.cf.eu10.hana.ondemand.com"/></p> <p>Organization:<br/>DW Cloud - PM_teched2020-ANA369</p> <p>Space:<br/>teched2020-ANA369</p> |
| 14. Click <b>Save</b>                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 15. Right mouse click on the <b>mta.yaml</b> file and select <b>Open Code Editor</b> .                                                                   | <ul style="list-style-type: none"> <li>• package.json</li> <li>• LICENSE</li> <li>• mta.yaml</li> <li>• NOTICE</li> <li>• README</li> </ul> <p>Open MTA Editor</p> <p>Open Code Editor</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 16. In line 1:<br>extend the ID with your GROUP ID<br><br>before: <b>ANA369</b><br><br>after: <b>ANA369_###</b><br><br>where <b>###</b> is your GROUP ID | <pre> 1 ID: ANA369 2   _schema: com.sap.hdi.hdbcf: '2.1' 3   version: 0.0.1 4 5   modules: 6     - name: db 7       type: hdb 8       path: db 9       requires: 10      - name: hdi_db 11        properties: 12          TARGET_CONTAINER: '{hdi-container-name}' 13        resources: 14          - name: hdi_db 15            parameters: 16              config: 17                schema: ANA369_Schema_xxx 18                # if required, add unique database_id: 19                #   database_id: 20                properties: 21                  hdi-container-name: '\${service-name}' 22                  type: com.sap.xs.hdi-container 23 24      - name: DB_MODULE 25        type: org.cloudfoundry.existing-service 26        parameters: 27          service-name: UPS_ANA369_MASTER </pre>                                                                                                                                                                                                            |

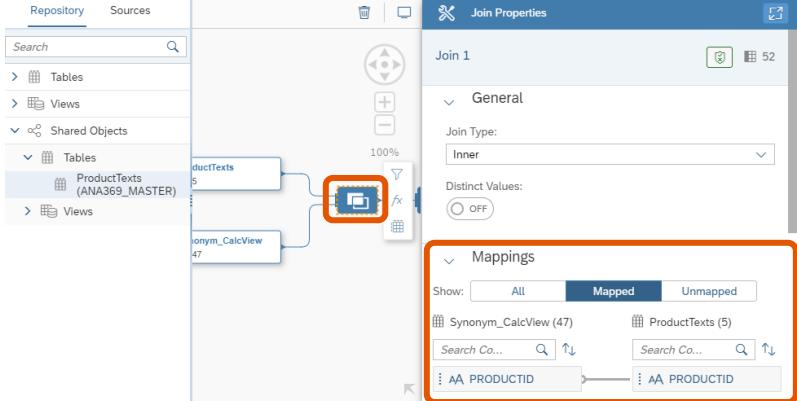
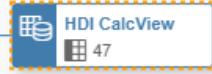
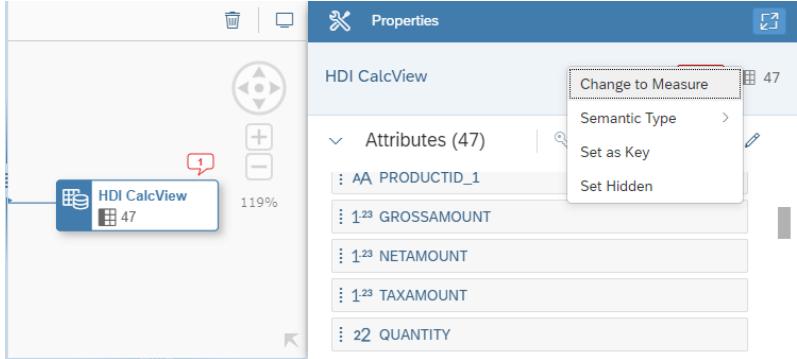
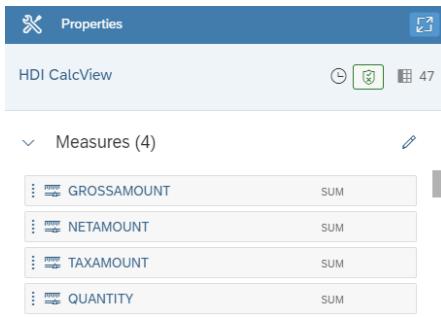
| Explanation                                                                                                                                                                                                                                                           | Screenshot                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>17. In line 18:<br/>replace <code>_xxx</code> with your GROUP ID<br/><br/>before: schema:<br/><code>ANA369_Schema_xxx</code><br/><br/>after: schema:<br/><code>ANA369_Schema_###</code><br/><br/>where <code>###</code> is your GROUP ID</p>                       |  <pre> 17 config: 18   schema: ANA369_Schema_xxx 19   # if required, add unique database_id   </pre> |
| <p>18. <b>Save</b> your changes in the <code>mta.yaml</code> file</p>                                                                                                                                                                                                 |                                                                                                      |
| <p>19. Now you can <b>build</b> your HDI container.<br/><br/>Right mouse click on the <b>db</b> module<br/><br/>Select <b>Build</b> and select <b>Build</b> again</p>                                                                                                 |                                                                                                    |
| <p>20. This process takes a few moments.<br/>Please be patient. You can follow the progress in the log window on the bottom right.<br/><br/>The success message:<br/><b>'Build of /ANA369_###/db completed successfully'</b><br/><br/>should appear after a while</p> |                                                                                                    |

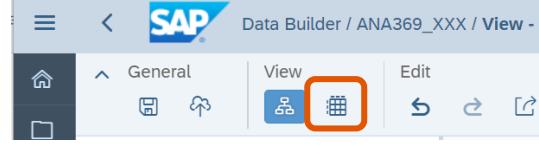
**ASSIGN HDI CONTAINER TO YOUR SPACE AND EXTEND YOUR MODEL**

| Explanation                                                                                                                                                        | Screenshot                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| 1. Go back to Data Warehouse Cloud. In the main menu on the left-hand side and select <b>Space Management</b> .                                                    |  Space Management |
| 2. Select your own <b>ANA369_###</b> space, where <b>###</b> is your GROUP ID                                                                                      |                   |
| 3. Select<br><b>Database Access &gt; HDI Containers</b><br>from the top-level menu                                                                                 |                 |
| 4. Add the HDI container you have just created to your space using the  button. |                |
| 5. Search for the session ID ANA369                                                                                                                                |                |
| 6. Identify the container your GROUP ID <b>###</b>                                                                                                                 |                |

| Explanation                                                                                                                                                               | Screenshot                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7. Select <b>Add</b> to connect the container to your space.                                                                                                              |                                                                                                                                                                                                                                                                                  |
| 8. The HDI Container can now be used in the modeling.                                                                                                                     | <p>HDI Containers</p> <p>Want to use the models from your SAP HANA Deployment Infrastructure (HDI) containers in SAP Data Warehouse Cloud? Enable access to your containers to assign them to your space. You can then work with your models as usual in the Data Builder.</p>  |
| 9. Navigate to the Data Builder in the Menu bar                                                                                                                           |                                                                                                                                                                                                                                                                                  |
| 10. Create a new graphical view                                                                                                                                           |                                                                                                                                                                                                                                                                                 |
| 11. 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. |                                                                                                                                                                                                                                                                               |
| 12. Drag it to the canvas and click <b>Import and Deploy</b> when the pop-up comes up.                                                                                    | <p>Import Table</p> <p>Business Name:<br/><input type="text" value="Synonym_CalcView"/></p> <p>Technical Name:<br/><input type="text" value="Synonym_CalcView"/></p> <p><b>Import and Deploy</b> Cancel</p>                                                                                                                                                       |

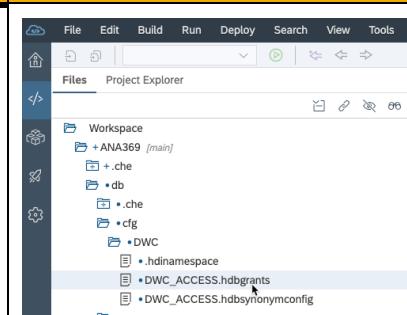
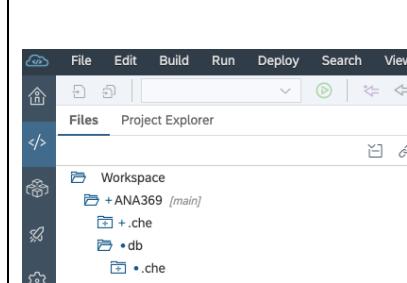
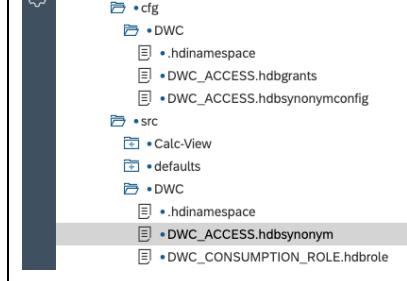
| Explanation                                                                                                               | Screenshot                                                                           |
|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 13. Create a new graphical view by clicking the <b>deploy</b> button.                                                     |    |
| 14. In case this validation message comes up please select <b>Deploy Anyway</b>                                           |    |
| 15. Give it the name <b>HDI CalcView</b> and <b>save</b> it                                                               |   |
| 16. Switch from Sources to the <b>Repository</b> objects and open the tables of the shared objects                        |  |
| 17. <b>Join</b> it with ProductTexts table by dragging it onto the canvas over the Synonym_CalcView and click <b>Join</b> |  |

| Explanation                                                                                                                                                                                                                                                                                         | Screenshot                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| <p>18. Click on the Join operator</p>  <p>and check in the mapping that the PRODUCTID is mapped in both tables</p>                                                                                                 |    |
| <p>19. Select the HDI CalcView</p>                                                                                                                                                                                 |    |
| <p>20. Change the Type from Relational Dataset to <b>Analytical Dataset</b> in the properties pan on the right</p>                                                                                                                                                                                  |   |
| <p>21. Scroll down to the Attributes and change the following attributes to measures:</p> <p>GROSSAMOUNT<br/>NETAMOUNT<br/>TAXAMOUNT<br/>QUANTITY</p> <p>by clicking on the context menu icon  at each item.</p> |  |
| <p>22. Now you see them in the Measures section</p>                                                                                                                                                                                                                                                 |  |

| Explanation                                                                                            | Screenshot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |              |             |             |             |           |                |                |   |         |          |          |                  |                  |   |         |          |          |             |             |   |         |           |          |                    |                        |   |         |          |          |
|--------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------|-------------|-------------|-------------|-----------|----------------|----------------|---|---------|----------|----------|------------------|------------------|---|---------|----------|----------|-------------|-------------|---|---------|-----------|----------|--------------------|------------------------|---|---------|----------|----------|
| 23. Deploy the view using the deploy button                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |              |             |             |             |           |                |                |   |         |          |          |                  |                  |   |         |          |          |             |             |   |         |           |          |                    |                        |   |         |          |          |
| 24. The Deployment Status should change to Deployed after a few moments.                               | <p>Deployment Status:</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |              |             |             |             |           |                |                |   |         |          |          |                  |                  |   |         |          |          |             |             |   |         |           |          |                    |                        |   |         |          |          |
| 25. Check the preview on the HDI CalcView                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |              |             |             |             |           |                |                |   |         |          |          |                  |                  |   |         |          |          |             |             |   |         |           |          |                    |                        |   |         |          |          |
| 26. If you scroll to the right you will find the product texts for short, medium and long description. | <p>Data Preview: HDI CalcView (1000) Errors </p> <table border="1"> <thead> <tr> <th>SHORT_DESCR</th> <th>MEDIUM_DESCR</th> <th>LONG_DESCR</th> <th>PRODUCTID_1</th> <th>GROSSAMOUNT</th> <th>NETAMOUNT</th> </tr> </thead> <tbody> <tr> <td>Speedeon Cross</td> <td>Speedeon Cross</td> <td>-</td> <td>EB-1137</td> <td>35550.00</td> <td>31600.00</td> </tr> <tr> <td>La Plage Limited</td> <td>La Plage Limited</td> <td>-</td> <td>CB-1162</td> <td>33718.48</td> <td>29972.00</td> </tr> <tr> <td>Rooty Basic</td> <td>Rooty Basic</td> <td>-</td> <td>DB-1081</td> <td>106637.60</td> <td>94789.00</td> </tr> <tr> <td>Mt Discovery Drive</td> <td>Mountain Discovery ...</td> <td>-</td> <td>MB-1032</td> <td>27660.36</td> <td>24587.00</td> </tr> </tbody> </table> | SHORT_DESCR | MEDIUM_DESCR | LONG_DESCR  | PRODUCTID_1 | GROSSAMOUNT | NETAMOUNT | Speedeon Cross | Speedeon Cross | - | EB-1137 | 35550.00 | 31600.00 | La Plage Limited | La Plage Limited | - | CB-1162 | 33718.48 | 29972.00 | Rooty Basic | Rooty Basic | - | DB-1081 | 106637.60 | 94789.00 | Mt Discovery Drive | Mountain Discovery ... | - | MB-1032 | 27660.36 | 24587.00 |
| SHORT_DESCR                                                                                            | MEDIUM_DESCR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | LONG_DESCR  | PRODUCTID_1  | GROSSAMOUNT | NETAMOUNT   |             |           |                |                |   |         |          |          |                  |                  |   |         |          |          |             |             |   |         |           |          |                    |                        |   |         |          |          |
| Speedeon Cross                                                                                         | Speedeon Cross                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | -           | EB-1137      | 35550.00    | 31600.00    |             |           |                |                |   |         |          |          |                  |                  |   |         |          |          |             |             |   |         |           |          |                    |                        |   |         |          |          |
| La Plage Limited                                                                                       | La Plage Limited                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | -           | CB-1162      | 33718.48    | 29972.00    |             |           |                |                |   |         |          |          |                  |                  |   |         |          |          |             |             |   |         |           |          |                    |                        |   |         |          |          |
| Rooty Basic                                                                                            | Rooty Basic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | -           | DB-1081      | 106637.60   | 94789.00    |             |           |                |                |   |         |          |          |                  |                  |   |         |          |          |             |             |   |         |           |          |                    |                        |   |         |          |          |
| Mt Discovery Drive                                                                                     | Mountain Discovery ...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | -           | MB-1032      | 27660.36    | 24587.00    |             |           |                |                |   |         |          |          |                  |                  |   |         |          |          |             |             |   |         |           |          |                    |                        |   |         |          |          |

## LEARN WHAT DESIGN-TIME ARTIFACTS ARE IN YOUR PROJECT

| Explanation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Screenshot                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> <li>1. Navigate to the <b>db/src/Calc-View</b> folder</li> <li>2. Right mouse-click on the “<b>Synonym-CalcView.hdbcalculationview</b>” file and select <b>Open Calculation View Editor</b></li> </ol> <p data-bbox="236 559 659 686"></p> <ol style="list-style-type: none"> <li>3. Feel free to view / adjust the basic Calculation View</li> <li>4. Remember: You need to execute a Build-step to update the Runtime artefact.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <ol style="list-style-type: none"> <li>1. The two .hbrole files within the <b>db/src/DWC</b> folder are providing the capability to grant project runtime-artefact to the DWC Editors,</li> <li>2. Navigate to the <b>src/DWC</b> folder</li> <li>3. Right mouse-click on the <b>“DWC_CONSUMPTION_ROLE.hbrole”</b> file and select <b>Open Code Editor</b></li> </ol> <p data-bbox="171 1193 659 1362"></p> <ol style="list-style-type: none"> <li>4. The Calculation View specified by the <b>“Synonym-CalcView.hdbcalculationview”</b> has been specified to grant access to the DWC Editors.</li> <li>5. Repeat prev. steps for the <b>“DWC_CONSUMPTION_ROLE_G.hbrole”</b> file.</li> <li>6. Feel free to view / adjust the configuration and keep the objects in sync within both .hbrole files</li> <li>7. Remember: You need to execute a Build-step to update the Runtime artefact.</li> </ol> | <pre data-bbox="710 1045 1461 1447"> 1 &lt; synonym_CalcView.hdbcalculationview &gt; DWC_CONSUMPTION_ROLE.hbrole &lt; DWC_ACCESS.hbrole &gt; 2 { 3   "role": [ 4     { 5       "name": "DWC_CONSUMPTION_ROLE", 6       "object_privileges": [ 7         { 8           "name": "Calc-View:::Synonym_CalcView", 9           "type": "View", 10          "privileges_with_grant_option": [ "SELECT" ] 11        } 12      ] 13    } 14  } 15 }</pre> |

| Explanation                                                                                                                                                                                                                                                                                                                                                                   | Screenshot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> <li>The two <b>DWC_ACCESS.*</b> files within the <b>db/cfg/DWC</b> folder are defining the exposed DWC-models to be accessed in this Project from the DWC space</li> <li>Navigate to the <b>db/src/cfg/DWC</b> folder</li> <li>Right mouse-click on the <b>"DWC_ACCESS.hdbgrants"</b> file and select <b>Open Code Editor</b></li> </ol>   |  <pre data-bbox="1061 340 1471 790"> DWC_ACCESS.hdbgrants x 1 { 2   "UPS_ANA369_MASTER": { 3     "object_owner": { 4       "roles": [], 5       "container_roles": [], 6       "object_privileges": [ 7         { 8           "type": "VIEW", 9           "name": "ANA369_SalesOrderItems", 10          "privileges_with_grant_option": [ 11            "SELECT" 12          ] 13        }, 14        { 15          "type": "VIEW", 16          "name": "ANA369_Product", 17          "privileges_with_grant_option": [ 18            "SELECT" 19          ] 20        } 21      } 22    } 23  } 24 }</pre> |
| <ol style="list-style-type: none"> <li>The <b>DWC_ACCESS.hdbgrants</b> file specifies the GRANTS to be created to access the DWC-models exposed from the DWC space via the previous created User-Provided-Service.</li> <li>Pls keep the content of the file unchanged for this exercise.</li> </ol>                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <ol style="list-style-type: none"> <li>Right mouse-click on the <b>"DWC_ACCESS.hdbsynonymconfig"</b> file and select <b>Open Code Editor</b></li> </ol>                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <ol style="list-style-type: none"> <li>The <b>DWC_ACCESS.hdbsynonymconfig</b> file specifies the Synonym configuration to be created to access the DWC-models exposed from the DWC space via the previous created User-Provided-Service.</li> <li>Pls keep the content of the file unchanged for this exercise.</li> </ol>                                                    |  <pre data-bbox="1061 1077 1471 1352"> DWC_ACCESS.hdbsynonymco... x 1 [ 2   "ANA369_SalesOrderItems" : { 3     "target": { 4       "schema.configure": "UPS_ANA369_MASTER/schema", 5       "object": "ANA369_SalesOrderItems" 6     } 7   }, 8   "ANA369_Product" : { 9     "target": { 10       "schema.configure": "UPS_ANA369_MASTER/schema", 11       "object": "ANA369_Product" 12     } 13   } 14 ]</pre>                                                                                                                                                                                           |
| <ol style="list-style-type: none"> <li>The <b>DWC_ACCESS.hdbsynonym</b> files within the <b>db/src/DWC</b> folder are defining the exposed DWC-models to be accessed in this Project from the DWC space</li> <li>Navigate to the <b>db/src/DWC</b> folder</li> <li>Right mouse-click on the <b>"DWC_ACCESS.hdbsynonym"</b> file and select <b>Open Code Editor</b></li> </ol> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <ol style="list-style-type: none"> <li>The <b>DWC_ACCESS.hdbsynonym</b> file specifies the Synonym's to be created to access the DWC-models exposed from</li> </ol>                                                                                                                                                                                                           |  <pre data-bbox="1061 1635 1471 1916"> DWC_ACCESS.hdbsynonym x 1 [ 2   "ANA369_SalesOrderItems" : { 3     ... 4   }, 5   "ANA369_Product" : { 6     ... 7   } 8 ]</pre>                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Explanation                                                                                                                                                                                                                                                                                                                                                                                | Screenshot                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <p>the DWC space via the previous created User-Provided-Service.<br/>Pls keep the content of the file unchanged for this exercise.</p>                                                                                                                                                                                                                                                     |                                                                                     |
| <ol style="list-style-type: none"> <li>1. Navigate to the <b>src/Flowgraph</b> folder</li> <li>2. Right mouse-click on the “<b>Synonym-Flowgraph.hdbflowgraph</b>” file and select <b>Open Flowgraph Editor</b></li> </ol>                                                                                                                                                                 |    |
| <ol style="list-style-type: none"> <li>3. Feel free to Execute the Flowgraph</li> </ol>                                                                                                                                                                                                                                                                                                    |    |
| <ol style="list-style-type: none"> <li>4. Feel free to view / adjust the basic Flowgraph</li> <li>5. Remember: You need to execute a Build-step to update the Runtime artefact.</li> <li>6. Right mouse-click on the “<b>Synonym-Flowgraph.hdbflowgraph</b>” file and select <b>Open HDI Container</b> to access the Runtime Artifacts incl. the table created by the Flowgraph</li> </ol> |  |

**BUILD A DASHBOARD USING THE INTEGRATED SAP ANALYTICS CLOUD SYSTEM – WORK IN PROGRESS**

| Explanation | Screenshot |
|-------------|------------|
| 1.          |            |
| 2.          |            |
| 3.          |            |
| 4.          |            |

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