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Matkul : Enterprise Development Software

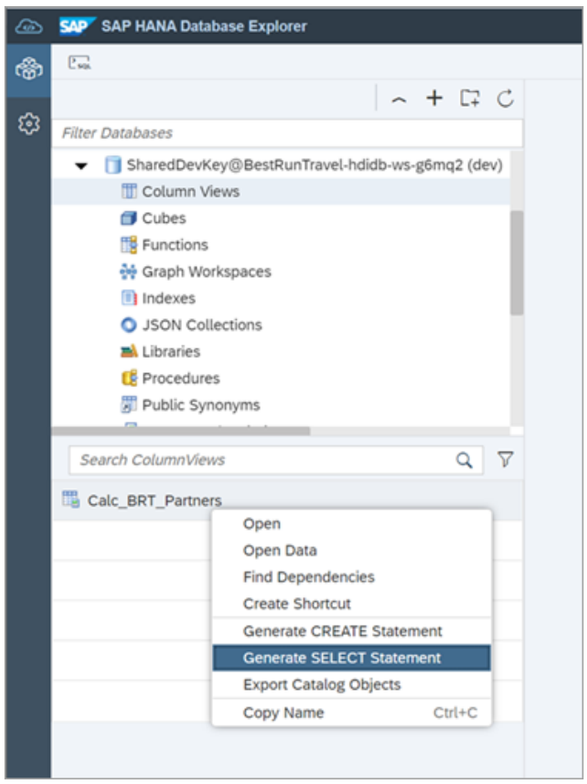
Getting Started with SAP HANA Cloud

8. Modul 8 : Share a Subset of Your Data Securely

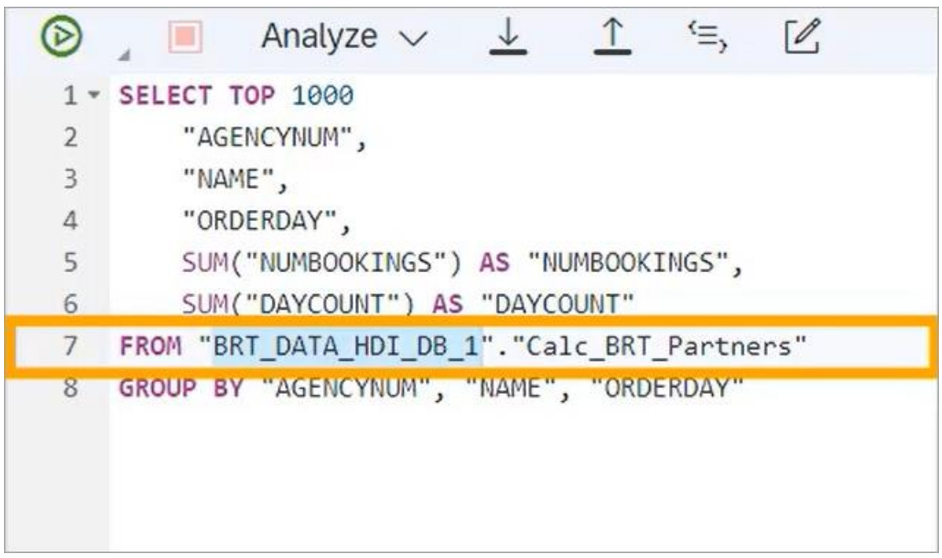
   - Generate a SELECT statement on the column view

   To allow others to see the results of your calculation view, you need to grant them the privilege to run `SELECT` statements on this calculation view. To run `SELECT` statements on calculation views in the new environment, first make sure that the you have the correct schema name. This schema is not the `SFLIGHT` schema we previously created, but rather the schema automatically created for the calculation view.

   To find out the schema name, open the SAP HANA database explorer. Find your HDI container in the catalog. Click on Column Views. Right-click on the column view name on the bottom panel and choose to Generate a SELECT Statement.



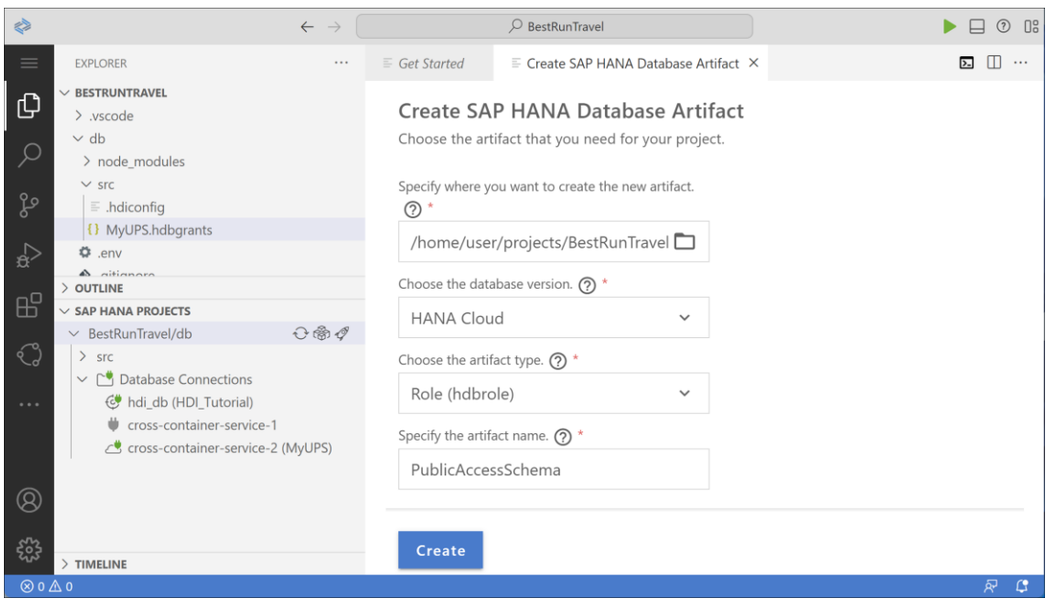
   This will open the SQL Console on the main area of the screen with the `SELECT` statement. On `line 7` you can see a `FROM` clause with two arguments separated by a `.`. The first part is the schema name, the second part is the calculation view name. Copy the name of the schema and save it for later, for example, using a text editor. Keep this SQL console open.



- Create a role

Now that you have the right schema name, next you will have to grant the authorization to `SELECT` on the Calculation View. This is done by creating an `.hdbrole` file in your development project that grants the `SELECT` privilege.

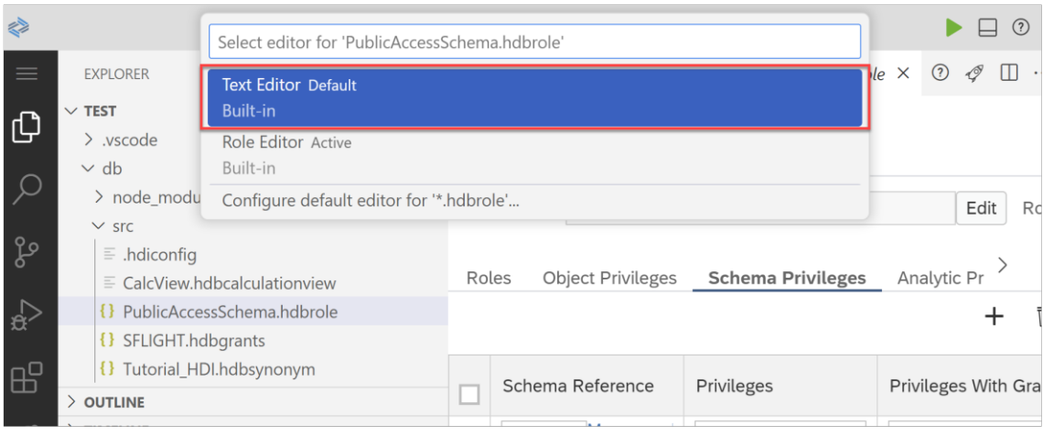
Go to your project in SAP Business Application Studio and start your development space if needed.You need the command SAP HANA: Create HANA database artifact. Access it by clicking on View on the top menu and selecting Find command or pressing `Ctrl+Shift+P`. Type `SAP HANA` and select it from the list. In the wizard, make sure the path to save the role file is in the `src` folder of your project. Choose the database version HANA Cloud. Select the artifact type as `**Role (hdbrole)**`. Name your role `PublicAccessSchema`. Finally, click on Create.



Your role will appear in the file explorer of your project and you can add privileges to it.

- Add privileges to the role

In this step, you have two options to add privileges to your role: You can use the Role Editor wizard or the Text Editor. Click on the option you prefer under the title of this step. The goal in this step is to add the schema privileges `SELECT` and `EXECUTE` to the role `PublicAccessSchema`. Right-click on the `.hdbrole` file, select Open with, then choose Text Editor when prompted at the top of the screen.



Paste the following statements there. Alternatively, you can download this code from the public GitHub repository.

```
{
    "role": {
        "name": "PublicAccessSchema",
        "schema_privileges": [
            {
                "privileges": [
                    "SELECT",
                    "EXECUTE"
                ]
            }
        ]
    }
}
```

Note that, if you have added a namespace to your `db` folder, you will have to edit the syntax to include that. Before `PublicAccessSchema`, add your namespace and `::`. Deploy the `.hdbrole` file by clicking on the deploy icon next to it on the SAP HANA Projects panel or on the top right corner of the main panel. After you are done, deploy the whole project again. When that is completed successfully, you may continue.

- Create a new user in the SAP HANA database explorer

Now that you have the role created and granted privileges to this role, it's time to grant this role to a user. We will create the public user `report` that shall have read-only access to the calculation view. Go back to your tab with the SAP HANA database explorer and open a SQL Console by clicking on the SQL icon at the top left corner. Make sure that the connection is opened for an user that has system privileges `ROLE ADMIN` and `USER ADMIN`, e.g., database user `DBADMIN`.

Paste the following statement in the SQL Console. Change the password in the statement and then run.

```
CREATE USER report PASSWORD <your_password> NO FORCE_FIRST_PASSWORD_CHANGE set usergroup default;
```

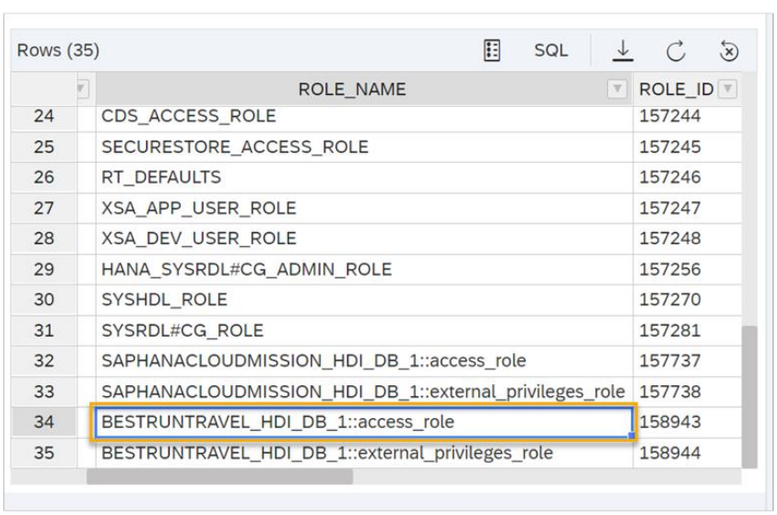
Now that our new user `report` is created, we need to grant the user access to the role `PublicAccessSchema`. Use the following statement.

```
GRANT <SCHEMA_NAME>."PublicAccessSchema" to report;
```

Replace the `<schema name>` with the calculation view schema you copied in the beginning. Make sure to remove the `<>` characters and then run the statement.

You can also use the default role that has the `container name.default` access. As soon as an HDI container is created, the default access role is created. You can find the name of the role by using the statement `SELECT * FROM ROLES`

The role you are looking for should consist of the schema name and the role name `access_role`.



If you don’t need a customized role, you can use this one. In a productive system, we recommend creating your own roles with just the privileges needed.

- Connect as the new user

You have successfully created the new user `report` and assigned it a role to access your calculation view. With the new user credentials, anyone who has the credentials for this user can run `SELECT` statements on your calculation view. To test this, first log in with your new user by typing the following statement:

```
CONNECT report PASSWORD <Your_Password>
```

You should now see at the top of the screen, over the SQL console the user you connected with. Since you granted this user `SELECT` privileges, you should be able to run `SELECT` statements on the column view. Go back to the SQL console you opened, when you generated a `SELECT` statement of the column view. Copy the whole statement from this SQL console and paste it to the console that you used to connect with the user `report` . Execute the statement using the `report` -user console. When you see the results of this query you know that your test was successful, and the user can now access your view.