Creating Repository Roles in SAP HANA Studio

What are Repository Roles?
Repository roles are roles that are created as development artifacts within the SAP HANA system. They start as design-time objects and become runtime objects upon activation. They can be utilized within a security model just like database roles. However, they offer numerous advantages over catalog or database roles.

Why Should I Use Repository Roles?
- The definition of the repository role is stored in the SAP HANA system repository. Using package security, we can control access to individual repository roles for a diverse group of security administrators. For example, super administrators can be given access to change the definition of all repository roles while a department level administrator can be given limited access to roles that affect only his/her users.
- They help prevent assigned privileges from being deleted from the system when the grantor’s user account gets deleted. Repository roles are granted as the system user _SYS_REPO and this account cannot be deleted from your system.
- They are owned by _SYS_REPO. This system account cannot be deleted, unlike database roles that can be removed from the system when their creator’s database user account is deleted.
- Repository roles can be transported from one HANA system to another using HANA Application Lifecycle Management (HALM) or using the Delivery Units (DU) Export and Import process.
- Through auditing, we can track the true grantor of the repository roles.
- When a user is copied in SAP HANA Studio, all of the repository roles are also copied.
- Because they are development artifacts, the standard SAP HANA Version management tools are supported.
- They are granted and revoked via special stored procedures. Users only need EXECUTE access to these procedures to grant and revoke rights. Unlike database roles which can only be revoked by the original grantor.

Creating Repository Roles with SAP HANA Studio
Within SAP HANA Studio, repository roles are created in the SAP HANA Developer perspective. I recommend that you define a root level package to house all of their main repository roles. You should secure the root package so that only security administrators can manipulate them. If the package is at the root, it will be easier to secure the repository roles. Remember, they will be repository objects and will be subject to the standard package privileges. If the objects are not properly secured, non-administrative users could elevate their own privileges by modifying and activating the repository roles.

To see how to create a repository role in HANA Studio, watch this short video:

- HANA_STUDIO_REPOSITORY_ROLES.mp4

Creating Repository Roles with the SAP HANA SAP HANA Web-Based Development Workbench
SAP HANA is more than just a database. It is also a development platform. Within that development platform a web application server called the SAP HANA XS engine. SAP has developed several graphical interfaces to help manage your SAP HANA system as well as create development artifacts. Because repository roles are also development artifacts, we can create them in SAP HANA. The Web-Based Development Workbench allows you define the repository roles using a graphical user interface that is similar to the database roles GUI within SAP HANA studio. If this is your first time creating a repository
role, you will find it much easier to use the web interface. Assuming your account has been assigned the correct roles to use the interface, you can use the URLs below to craft the URL specific to your environment.

To see how to create a repository role in the web editor, watch this short video:

- [HANA_WEB_EDITOR_REPOSITORY.Roles.mp4](#)

**Secure Access URL**

https://<host>:43<inst>/sap/hana/ide/editor/

**Unsecured Access URL**

http://<host>:80<inst>/sap/hana/ide/editor/

**Note:** <host> represents the host name of your SAP HANA system. <inst> represents the two-digit SAP HANA instance number.

To access the Editor within the development workbench, your user account must have the following roles assigned.

<table>
<thead>
<tr>
<th>Required Role</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>sap.hana.ide.roles::EditorDeveloper</td>
<td>View, create, change, delete and activate repository objects</td>
</tr>
</tbody>
</table>

For more information and help regarding SAP HANA security and roles, see:

- [http://help.sap.com/hana/SAP_HANA_Developer_Guide_en.pdf](#) ➔ Section 11.3.4
- [http://scn.sap.com/docs/DOC-53974](#) ➔ How to Define Standard Roles for SAP HANA Systems by Richard Bremer
- [www.sdn.sap.com/irj/scn/index?rid=/library/uuid/e0af0cb6-889d-3110-92bd-aebf54217e74](#) ➔ Downloadable role templates
- [https://help.sap.com/saphelp_hanaplatform/helpdata/en/33/60ac839b844171837dce4f7c5f1481/content.htm](#) ➔ Comparing database catalog roles to development repository roles