Automation RBAC Application

Prerequisites and Step-by-Step instruction.

1. Install Snowflake Connector for Python
   1. <https://docs.snowflake.net/manuals/user-guide/python-connector.html>
2. Naming convention should be ready for Databases, Schemas, Role Names, Warehouses.
3. Create required Databases.
4. If you are going to use SCHEMA WITH MANAGED ACCESS:
   1. Create a Role what will be operating over the MANGED SCHEMAS; separate roles if required for multiple environments (optional);
   2. Grant privileges to the roles: GRANT PRIVILEGES, CREATE SCHEMA within needed Databases;
   3. Create needed Schemas using the Managed Role(s);
5. Run this page from your browser – ‘auto-rbac1.html’
6. You may change, update, add new roles:
   1. You need to add a corresponding Warehouse to each role
   2. You may GRANT your role to SYSADMIN as a flat hierarchy
   3. You may GRANT you role(s) to another FUNCTIONAL role and assign/GRANT the FUNCTIONAL role to SYSADMIN
   4. Export as a CSV file and save the file a ‘table-1.csv’ in the location of your ‘auto-rbac1.html’ page
   5. Click on ‘Continue’ to navigate to a next page
7. You may change, add DATABEASE, SCHEMAS and Roles if the SCHEMAS are created with MANAGED ACCESS. Continue.
8. On the RBAC Matrix page add your desired/required roles permissions:
   1. Combinations: S | A - should be used only as a separate setting R, W, RW, RW(O).
   2. S(ecurity) - ‘grant CREATE USER, CREATE ROLE, MANAGE GRANTS to role ...’
   3. A(dmin) - NO READ-WRITE on tables, will have ALL privileges on databases and schemas, plus ‘grant CREATE DATABASE, CREATE WAREHOUSE, CREATE SHARE, IMPORT SHARE ...’
   4. R - ‘grant select on all tables in schema ’
   5. W - ‘GRANT INSERT, UPDATE, DELETE, REFERENCES ON ALL TABLES IN SCHEMA ...’
   6. RW - ‘GRANT ALL ON ALL TABLES IN SCHEMA ...’
   7. RWO - in combination with ‘RW’ - ‘O’ has ‘grant USAGE on database…’ and ‘GRANT ALL ON SCHEMA ...’
   8. SAVE file as ‘table-2.csv’ in the same location as a first exported file.
9. Create a separate schema for the Auto RBAC process.
   1. E.g. – ‘RBAC\_PS’
   2. Create two stored procedures from a folder ‘SP’
   3. Two tables will be created here from the Python script
10. Go to a folder ‘py’:
    1. Execute a python file – ‘python3 csv2db-clr.py’
    2. In a successful execution an output file will be created – ‘sql\_script.sql’
    3. Review the RBAC script