Data Safe-Reg-Automation Instructions

Prerequisites: The scripts can be run in a CLI-configured VM instance or from within OCI Cloud Shell.

1. **OCI Command Line Interface (CLI)**: The OCI CLI allows you to execute commands and automate tasks within Oracle Cloud Infrastructure (OCI). Install the CLI by following the guide at OCI CLI Installation.

2. **OCI Cloud Shell**: The CLI is pre-configured in OCI Cloud Shell. Access Cloud Shell by logging into the OCI Console and selecting Cloud Shell from the dropdown menu. Note that the CLI will execute commands in the currently selected region.

Instructions:

Step 1 - Open the OCI Cloud Shell
Step 2 - Upload the below scripts into your Cloud Shell root directory
    OCI_DB_Inventory-DataSafe_Status.sh
    Data_safe_registration.sh
    Enable_Audit_and_Assesment_Schedules.sh
Step 3 - Inside Cloud Shell execute the following commands (in green text below)

```
user@cloudshell:~ (us-ashburn-1)$ mkdir Datasafe_Reg
user@cloudshell:~ (us-ashburn-1)$ mv OCI_DB_Inventory-DataSafe_Status.sh Datasafe_Reg/
user@cloudshell:~ (us-ashburn-1)$ mv Data_safe_registration.sh Datasafe_Reg/
user@cloudshell:~ (us-ashburn-1)$ mv Enable_Audit_and_Assesment_Schedules.sh Datasafe_Reg/
user@cloudshell:~ (us-ashburn-1)$ cd Datasafe_Reg
user@cloudshell:~ (us-ashburn-1)$./OCI_DB_Inventory-DataSafe_Status.sh
user@cloudshell:~ (us-ashburn-1)$./Data_safe_registration.sh
user@cloudshell:~ (us-ashburn-1)$./Enable_Audit_and_Assesment_Schedules.sh
```

<Note> - The scripts will take approximately 5 minutes to run, depending on the number of DBaaS databases. Upon completion, a folder containing several CSV files will be generated for your reference.

Script Breakdown :

Automating Data Safe Registration via OCI CLI

1 Generate DBaaS Inventory

OCI_DB_Inventory-DataSafe_Status.sh

2 Data Safe Registration

Data_safe_registration.sh

3 Enable Audit & Assessments Schedule
Enable_Audit_and_assessment_Schedules.sh

Step 1: Discovering All DBaaS Databases
The OCI_DB_Inventory-DataSafe_Status.sh script scans all OCI subscribed regions to identify all DBaaS databases. It generates the following CSV files cataloging each type of database:

- **Cloud Base Service Databases**: All_Regions_Cloud_BaseDatabases.csv
- **Cloud Exadata Databases**: All_Regions_Cloud_ExaDatabases.csv
- **Cloud Autonomous Databases**: All_Regions_Cloud_AutonomousDBs.csv

Note: These files provide a complete database inventory essential for the next step, where unmonitored databases are registered with Oracle Data Safe. For instructions on discovering on-premises databases, refer to the detailed tutorial **Discover Unmonitored Databases in Hybrid Cloud Environments and Secure them with Oracle Data Safe**, specifically Task 3: **Scan On-Premises and Other Cloud Databases**.

Step 2: Automating Database Registration
The Data_safe_registration.sh script uses the CSV files generated in Step 1 to automate the registration of unmonitored databases with Oracle Data Safe.

Prerequisites:
1. **CSV Updates:** Update the generated CSV files with connectivity options and service account details for each database.
2. **Create an Oracle Data Safe Service Account:** Follow the steps in the **Data Safe Service Account Guide**.
3. **Review Connectivity Options:** Learn more about database connectivity configurations in **Connectivity Options for Target Databases**.

Connectivity Options:
Private Endpoints: Used for cloud databases within the OCI VCN. The OCI_DB_Inventory-DataSafe_Status.sh script (Step 1) will automatically populate private endpoint details if any non-registered databases' VCNs contain existing private endpoints.
On-Premise Connectors: Used for on-premises databases that do not have a pre-configured network connection to OCI.

Note: For on-premises databases, provide the compartment details where these databases should be tagged in OCI, along with necessary database information such as IP address, service name, etc.

CSV Files Generated:
- All_Regions_DS_Reg_Autonomous_Databases.csv
- All_Regions_DS_Reg_Base_Databases.csv
- All_Regions_DS_Reg_EXADATA_Databases.csv
- All_Regions_DS_Reg_On-Premises_Databases.csv

Upon successful registration, a consolidated file, Datasafe_TargetDBs.csv, lists all registered databases.

Step 3: Enabling Audit and Assessment Schedules
The Enable_Audit_and_Assessment_Schedules.sh script enables audit and assessment schedules for registered databases. You may modify Datasafe_TargetDBs.csv to add or remove target databases as needed.
Enabled audit policies and updated schedule details are captured in the following files:
- **Assessment Schedule Status**: All_Regions_Target_DBs_Assessment_Schedule_Status.csv
- **Audit Trails Status**: All_Regions_Target_DBs_Audit_Trails_Status.csv
- **Audit Policies Status**: All_Regions_Target_DBs_Audit_Policies_Status.csv

Final Notes
- **Run Time**: Approximately 5 minutes, depending on the number of databases.
- **Generated Outputs**: Upon completion, a series of CSV files are generated. These files provide a detailed summary of database registration, audit, and assessment statuses across regions.