ADBS Cost-Usage Management Analytics APEX app Installation Guidelines

The ADBS Cost-Usage Management Analytics APEX app provides a detailed view on resource utilisation and associated cost based on tenant OCI usage and cost reports. The application provides built-in, time-based, multidimensional filters to examine cost and usage across tenants, regions, compartments, services and resources. Actual usage of a resource is exposed through drill down to the individual resource OCI monitoring metric or direct links to the OCI Console. The application can be deployed in a new or pre-existing ADBS database.

High-level application deployment steps:

- Configure required OCI dynamic groups
- Configure required OCI policies
- Create required APEX user schema and associated privilege
- Execute supplemental GRANTS to APEX user schema
- Download the apex app supporting objects from the repository
- Import the ADBS Cost-Usage Management Analytics

Configure required OCI dynamic groups

```
 Matching Rules:
  # Instances that meet the criteria defined by any of these rules will be included in the dynamic group.
resource.type='autonomousdatabase'
resource.id = 'ocid1.autonomousdatabase.X.X.X'
resource.compartment.id='ocid1.compartment.oc1..X'

  # What Dynamic group matching rules are required for access to metric data?
```

Configure required OCI policies

```
Define tenancy usage-report as ocid1.tenancy.oc1..aaaaaaaaned4fkpkisbwjlr56u7cj63lf3wffbilvqknstgtvzub7vhqkggq
Endorse dynamic-group <group> to read objects in tenancy usage-report
Allow dynamic-group <group> to use buckets in tenancy
Allow dynamic-group <group> to use objects in tenancy
Allow dynamic-group <group> to use metrics in tenancy
Allow dynamic-group <group> to use load-balancers in tenancy
Allow dynamic-group <group> to use instance-family in tenancy
Allow dynamic-group <group> to use file-family in tenancy
Allow dynamic-group <group> to use volume-family in tenancy
Allow dynamic-group <group> to use database-family in tenancy
Allow dynamic-group <group> to use autonomous-database-family in tenancy
```

NOTE: The above policies must be configured. The <group> is the dynamic group in which database resource.id is specified in the dynamic group matching rules that you created.

Create required APEX user schema and associated privilege

```
create user ADBS_COST_USAGE identified by XXXXXXX;

GRANT CONNECT TO oci_cost_usage;
GRANT CONNECT, RESOURCE TO oci_cost_usage;
ALTER USER oci_cost_usage quota unlimited on DATA;
EXEC DBMS_CLOUD_ADMIN.ENABLE_RESOURCE_PRINCIPAL(username => 'user');
```

NOTE: It's advised to create a new user/schema to install this app. All the required supporting objects can be created under this new user. ADBS_COST_USAGE is a recommended APEX user schema.

Execute supplemental GRANTS to APEX user schema

```
GRANT EXECUTE ON dbms_cloud_oci_mn_monitoring to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_cr_blockstorage to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_cr_compute to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_db_database to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_fs_file_storage to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_lb_load_balancer to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_obs_object_storage to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_obs_object_storage_get_bucket_response_t to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_obs_object_storage_get_bucket_response_t to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_object_storage_bucket_t to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_db_database_get_autonomous_database_response_t to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_database_autonomous_database_t to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_db_database_get_cloud_vm_cluster_response_t to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_database_cloud_vm_cluster_t to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_lb_load_balancer_get_load_balancer_response_t to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_load_balancer_load_balancer_t to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_cr_compute_get_instance_response_t to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_core_instance_t to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_fs_file_storage_get_file_system_response_t to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_file_storage_file_system_t to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_cr_blockstorage_get_volume_response_t to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_core_volume_t to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_cr_blockstorage_get_volume_backup_response_t to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_core_volume_backup_t to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_cr_blockstorage_get_boot_volume_response_t to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_core_boot_volume_t to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_cr_blockstorage_get_boot_volume_backup_response_t to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_core_boot_volume_backup_t to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_id_identity_get_tenancy_response_t to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_identity_tenancy_t to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_id_identity to <apex_user>;
GRANT EXECUTE ON dbms_cloud to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_monitoring_summarize_metrics_data_details_t to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_mn_monitoring_summarize_metrics_data_response_t to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_monitoring_metric_data_tbl to <apex_user>;
GRANT EXECUTE ON dbms_cloud_oci_monitoring_aggregated_datapoint_tbl to <apex_user>;
grant execute on dbms_cloud_oci_db_database_get_cloud_exadata_infrastructure_response_t to <apex_uesr>;
grant execute on dbms_cloud_oci_database_cloud_exadata_infrastructure_t to <apex_uesr>;
grant execute on dbms_cloud_oci_db_database_get_cloud_vm_cluster_response_t to <apex_uesr>;
grant execute on dbms_cloud_oci_database_cloud_vm_cluster_t to <apex_uesr>;
grant execute on dbms_cloud_oci_db_database_get_db_system_response_t to <apex_uesr>;
grant execute on dbms_cloud_oci_database_db_system_t to <apex_uesr>;
GRANT SELECT ON v$pdbs to <apex_user>;
grant create any job to <apex_user>;
grant execute on DBMS_SCHEDULER to <apex_user>;
grant manage scheduler to <apex_user>;
grant create materialized view to <apex_user>;
grant read,write on directory DATA_PUMP_DIR to <APEX_USER>;
grant execute on dbms_cloud_notification to <apex_user>;
```

NOTE: These required grants need to be given to the user/schema in which app is installed **using admin user**.

Download the apex app supporting objects from the repository

Download URL from OGHO ADBS-TOOLs repository

Import the ADBS Cost-Usage Management Analytics

Connect to Internal workspace as database admin user from OCI console
Create workspace supplying database user, password and workspace name
When the workspace is created connect to the new workspace as APEX/DB user you defined in the workspace creation
Install the supporting objects from w/in the Application Builder

See https://docs.oracle.com/cd/E37097_01/doc.42/e35125/GUID-837AEB73-6A5B-4783-861B-88326F5F9A20.htm#HTMDB25811