Snowflake Mail Notification

Currently, this mail setup is applied for the below procedure (IP Whitelisting, Extract of PBI IP from Microsoft).

HRDP_ACCOUNT_NETWORK_POLICY_TASK

HRDP_OPEN_INTERNET_TASK

Step1:

Create task notification

---CREATE notification integration

create or replace notification integration TASK_NOTIFICATION

 type=email

 enabled=true

 allowed_recipients=(<snowflake user mail ID>);

Here in the allowed recipient, we can add multiple persons by adding comma. Or add the Distribution List mail ID (DL mail ID) directly by creating user with DL mail ID.

Step 2:

Below procedure give the status of the task in the json format for last 1 week, since this procedure is scheduled for one week. In a mail we will receive last run status as well as current run status.

Note: The notification will trigger mail only if the status is failed or suspend or cancelled.

```
create or replace function GET_TASK_GRAPH_RUN_SUMMARY_1_DAY(MY_ROOT_TASK_ID string)

returns string

as

$$

 (

 select

    ARRAY_AGG(OBJECT_CONSTRUCT(

      'TASK_NAME', NAME,

      'RUN_STATUS', STATE,

      'RETURN_VALUE', RETURN_VALUE,

      'STARTED', QUERY_START_TIME,

      'DURATION', DURATION,

      'ERROR_MESSAGE', ERROR_MESSAGE

    )) as GRAPH_RUN_SUMMARY

 from

  (select

    NAME,

    case when STATE = 'SUCCEEDED' then ' SUCCEEDED'

       when STATE = 'FAILED' then ' FAILED'

       when STATE = 'SKIPPED' then ' SKIPPED'

       when STATE = 'CANCELLED' then ' CANCELLED'

    end as STATE,

    RETURN_VALUE,

    to_varchar(QUERY_START_TIME, 'YYYY-MM-DD HH24:MI:SS') as QUERY_START_TIME,

    concat(timestampdiff('seconds', QUERY_START_TIME, COMPLETED_TIME), ' s') as DURATION,

    ERROR_MESSAGE

  from

    table(INFORMATION_SCHEMA.TASK_HISTORY(

  ROOT_TASK_ID => MY_ROOT_TASK_ID ::string,

SCHEDULED_TIME_RANGE_START => dateadd(day,-1,current_timestamp)::timestamp_ltz,

  SCHEDULED_TIME_RANGE_END => current_timestamp()

   ))

  order by

    SCHEDULED_TIME)

 )::string

$$

;
```

Step 3:

Below is the stored procedure to send mail for the failed status:

```sql
CREATE or replace PROCEDURE FAIL_MAIL_NOTIFICATION_SP()

RETURNS VARCHAR

LANGUAGE SQL

Execute as caller

AS

$$

declare

    MY_ROOT_TASK_ID string;


    SUMMARY_JSON string;

    SUMMARY_HTML string;

    SUBJECT string;

    STATUS string;

BEGIN

        MY_ROOT_TASK_ID := (call SYSTEM$TASK_RUNTIME_INFO('CURRENT_ROOT_TASK_UUID'));

    -- MY_ROOT_TASK_ID := '01b63572-9cc1-41d6-0000-00000000009f';

        SUMMARY_JSON := (select GET_TASK_GRAPH_RUN_SUMMARY_1_DAY(:MY_ROOT_TASK_ID));

        SUMMARY_HTML := (select HTML_FROM_JSON_TASK_RUNS(:SUMMARY_JSON));

        SUBJECT := (select 'DAG run summary for HRDP_OPEN_INTERNET_TASK '||cast(current_timestamp(0) as string));

        STATUS := (select case when  GET_TASK_GRAPH_RUN_SUMMARY_1_DAY(:MY_ROOT_TASK_ID) like '%FAIL%' THEN 'TRUE' ELSE 'NO
FAIl' END AS A);


    IF (:STATUS = 'TRUE') THEN


      call SYSTEM$SEND_EMAIL(

       'TASK_NOTIFICATION',

       'VINOTHKUMAR.SATHIYAMOORTHI@LOREAL.COM,PRADEEP.PATRA@LOREAL.COM',

        :SUBJECT,

        :SUMMARY_HTML,

        'text/html');


    ELSE

       RETURN 'Unexpected input.';

    END IF;

END;

$$

;
```

Step 4:

We must create finalize task to send the cumulative status for the task.

Master Task:

```
CREATE OR REPLACE TASK MASTER_1_DAY_TASK
  WAREHOUSE = HRDP_DBT_PREM_WH
  SCHEDULE = 'USING CRON 0 * * * * UTC'
  AS
    SELECT 1;
```

Child Task:

```
CREATE OR REPLACE TASK HRDP_OPEN_INTERNET_TASK
  WAREHOUSE = HRDP_DBT_BASE_WH
  AFTER MASTER_1_DAY_TASK
  AS
    call OPEN_IP_ADMIN_SP('_TECH_OPEN_INTERNET_ACCESS_ROLE','BREAKGLASS_NET_POL','USER_OPEN_INTERNET_ACCESS');
```

Finalizer Task

```
create or replace task HRDP_OPEN_INTERNET_TASK_FIN
warehouse = 'HRDP_DBT_PREM_WH'
finalize = MASTER_1_DAY_TASK
as
    call FAIL_MAIL_NOTIFICATION_SP();
```

Final output as Mail:

HRDP-DEV DAG run summary 2024-08-12 14:41:29.087 Z

SC Snowflake Computing <no-reply@snowflake.net>
To SATHIYAMOORTHI Vinothkumar - LTIMINDTREE LIMITED; PATRA Pradeep - LTIMINDTREE LIMITED

⊕ Reply   ⇚ Reply All   → Forward   📑   ⋯
Mon 12-08-2024 20:12

(i) If there are problems with how this message is displayed, click here to view it in a web browser.
Click here to download pictures. To help protect your privacy, Outlook prevented automatic download of some pictures in this message.

— — — — —	SUCCEEDED		14:37:19	
MASTER_TASK	🟢 SUCCEEDED		2024-08-12 14:39:59	1 s
HRDP_ACCOUNT_NETWORK_POLICY_TASK	🟢 SUCCEEDED		2024-08-12 14:40:00	0 s
HRDP_ACCOUNT_NETWORK_POLICY_TASK_FIN	🟢 SUCCEEDED		2024-08-12 14:40:01	3 s
MASTER_TASK	🟢 SUCCEEDED		2024-08-12 14:41:25	0 s
HRDP_ACCOUNT_NETWORK_POLICY_TASK	🟢 SUCCEEDED		2024-08-12 14:41:26	1 s