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KOM : C

UTS Enterprise Development Software

A. Module 4

Module ini untuk melanjutkan tugas 2 minggu lalu.

The screenshot shows two consecutive views of the SAP HANA Database Explorer interface.

Top View: The "Remote Sources" context menu is open, with the "Show Remote Sources" option highlighted. The menu also includes options like "Add Remote Source", "Import Catalog Objects", and "Export Catalog Objects". The main pane displays two entries: "SYSHDL_SOURCE" and "SYSRDL#CG_SOURCE".

Bottom View: The "Create Virtual Objects" dialog is open. It prompts for an "Object Names Prefix" (set to "HCDL_") and a "Schema" (set to "DBADMIN"). A dropdown list shows several schemas, with "SFLIGHT" currently selected. On the right, there are dropdown menus for "Type" (set to "TABLE") and "Create Virtual Object(s)" (with "Create" and "Cancel" buttons). Below the dropdowns, a list of objects is shown, with "SYSHDL_MANAGER" currently selected.

SAP HANA Database Explorer

Remote Sources x SYSRDL#CG_SOURCE x

Create Virtual Objects

Object Names Prefix: HCDL_

Schema: DBADMIN

PAL_STEM_SCHEMA
SAP_PA_APL
SFLIGHT
SYS
SYSHDL
SYSHDL_MANAGER
SYSHDL_MANAGERROTATOR
SYSHDL_VTCREATOR

Type: TABLE

Create Virtual Object(s)

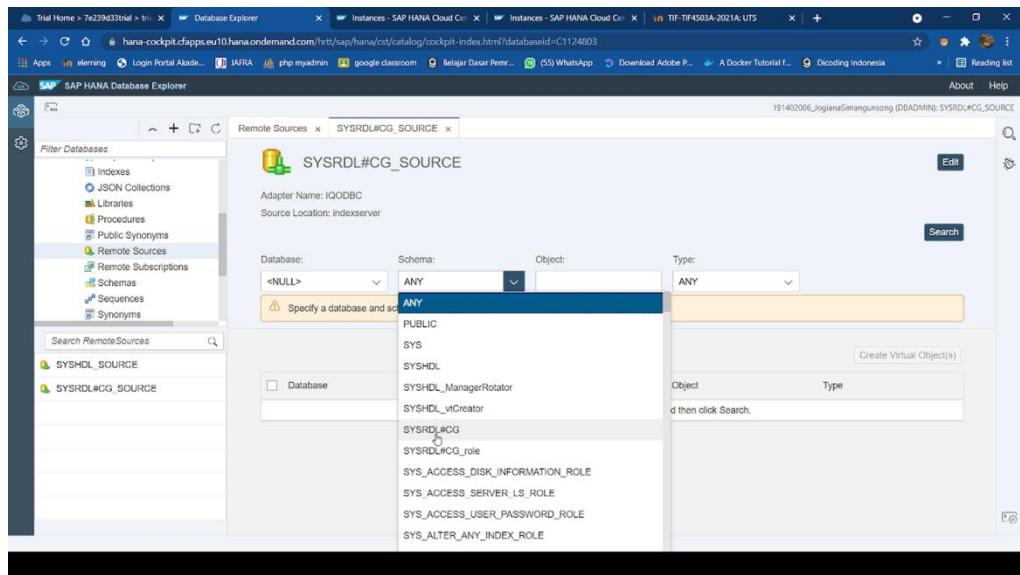
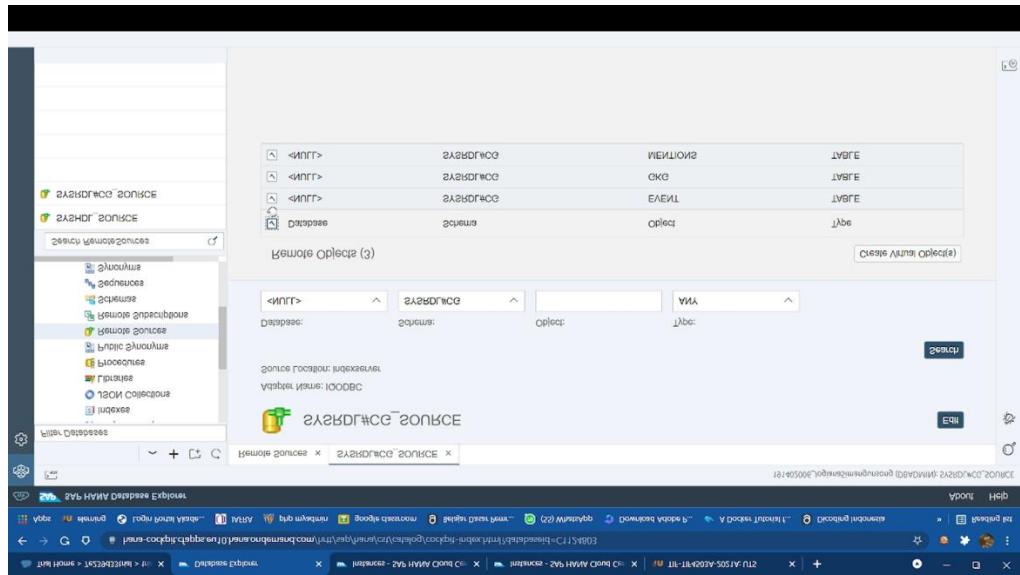
SYSRDL#CG_SOURCE

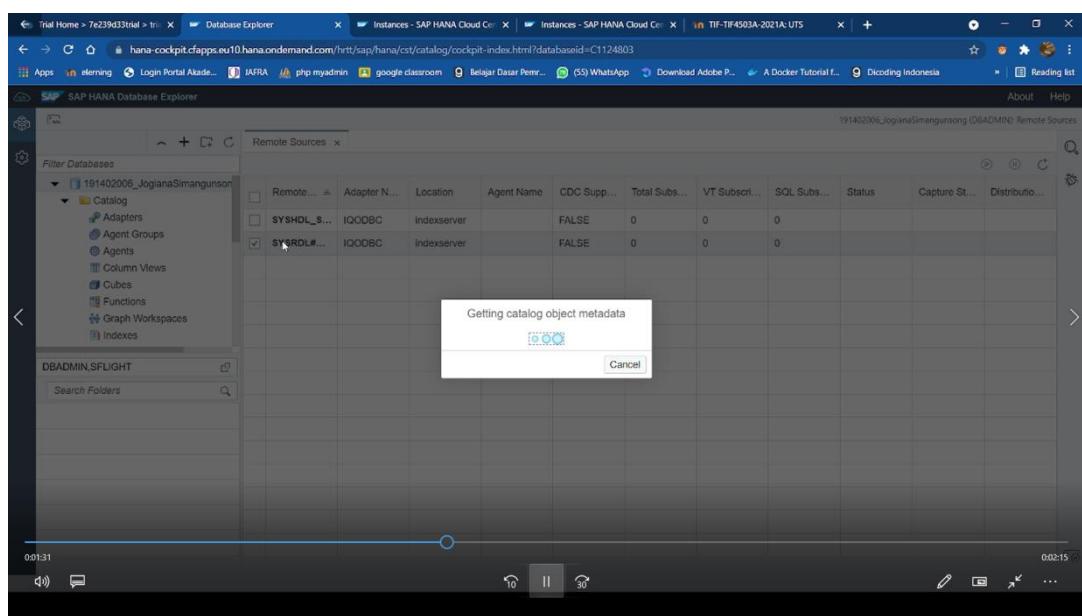
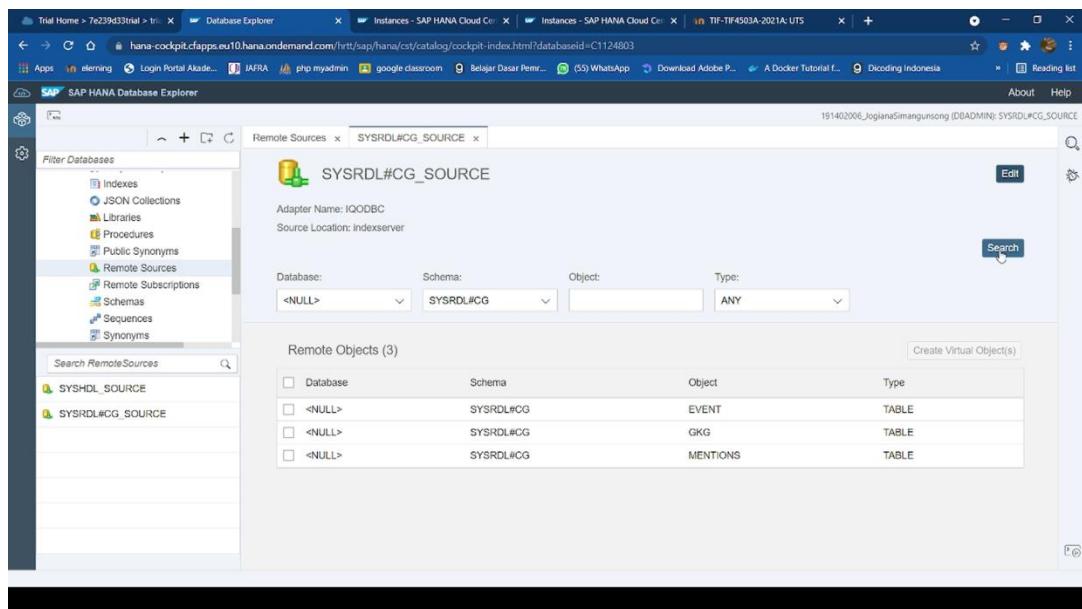
Adapter Name: IQODBC
Source Location: Indexserver

Database: <NULL> Schema: SYSRDL#CG Object: ANY

Remote Objects (3)

Database	Schema	Object	Type
<NULL>	SYSRDL#CG	EVENT	TABLE
<NULL>	SYSRDL#CG	GKG	TABLE
<NULL>	SYSRDL#CG	MENTIONS	TABLE





The screenshot shows the SAP HANA Database Explorer interface. On the left, a sidebar lists various database objects under 'Filter Databases'. In the main pane, a table titled 'Remote Sources' is displayed. The table has columns: Remote..., Adapter N..., Location, Agent Name, CDC Supp..., Total Subs..., VT Subscri..., SQL Subs..., Status, Capture St..., and Distribution... . Two entries are visible:

Remote...	Adapter N...	Location	Agent Name	CDC Supp...	Total Subs...	VT Subscri...	SQL Subs...	Status	Capture St...	Distribut...
SYSHDL_S...	IQOdbc	Indexserver		FALSE	0	0	0			
SYSRDL#...	IQOdbc	Indexserver		FALSE	0	0	0			

This screenshot shows the details for a selected 'Remote Sources' entry. The title bar indicates the object is 'SYSRDL#CG_SOURCE'. The main pane displays the following information:

Adapter Name: IQOdbc
Source Location: Indexserver

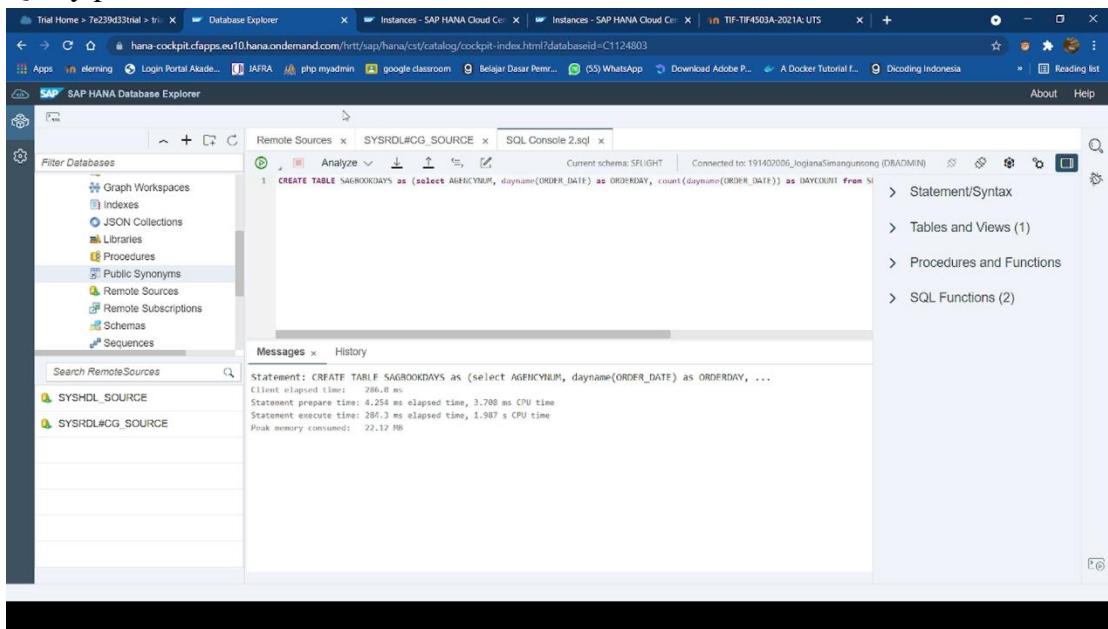
Database: <NULL> **Schema:** SYSRDL#CG **Object:** **Type:** ANY

Remote Objects (3)

Database	Schema	Object	Type
<NULL>	SYSRDL#CG	EVENT	TABLE
<NULL>	SYSRDL#CG	GKG	TABLE
<NULL>	SYSRDL#CG	MENTIONS	TABLE

B. Module 5

Query pertama :



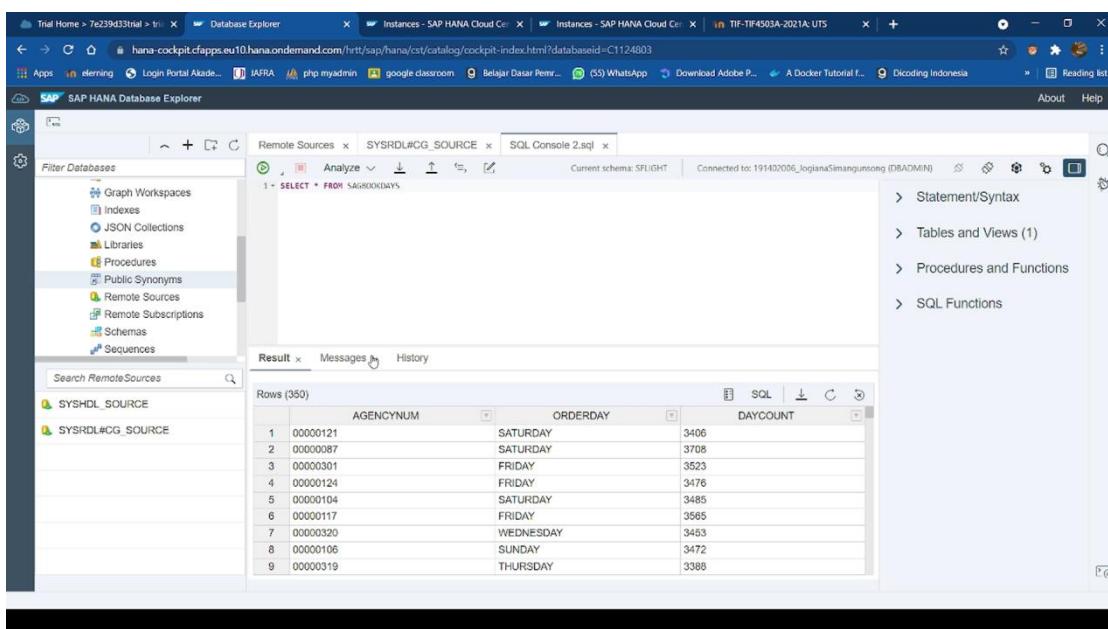
The screenshot shows the SAP HANA Database Explorer interface. In the center, there is a SQL console window titled "SQL Console 2.sql" containing the following SQL statement:

```
CREATE TABLE SAGROOKDAYS AS (select AGENCYNUM, dayname(ORDER_DATE) as ORDERDAY, count(dayname(ORDER_DATE)) as DAYCOUNT from SFLIGHT group by AGENCYNUM, dayname(ORDER_DATE))
```

Below the SQL statement, the "Messages" tab displays the execution results:

```
Statement: CREATE TABLE SAGROOKDAYS AS (select AGENCYNUM, dayname(ORDER_DATE) as ORDERDAY, ...  
Client elapsed time: 286.0 ms  
Statement prepare time: 4,254 ms elapsed time, 3,708 ms CPU time  
Statement execute time: 284.3 ms elapsed time, 1,987 ms CPU time  
Peak memory consumed: 22.12 MB
```

Lihat table



The screenshot shows the SAP HANA Database Explorer interface. In the center, there is a SQL console window titled "SQL Console 2.sql" containing the following SQL statement:

```
SELECT * FROM SAGROOKDAYS
```

Below the SQL statement, the "Result" tab displays the data from the SAGROOKDAYS table:

AGENCYNUM	ORDERDAY	DAYCOUNT
1 00000121	SATURDAY	3406
2 00000087	SATURDAY	3708
3 00000301	FRIDAY	3523
4 00000124	FRIDAY	3476
5 00000104	SATURDAY	3485
6 00000117	FRIDAY	3565
7 00000320	WEDNESDAY	3453
8 00000106	SUNDAY	3472
9 00000319	THURSDAY	3388

Query kedua :

The screenshot shows the SAP HANA Database Explorer interface. In the center, there is a SQL console tab with the query: `SELECT * FROM STOPAGENCY`. To the right of the query, it says "Connected to: 191402006_jogjanaSimanguntong (DADMIN)". Below the query, there is a "Result" table with the following data:

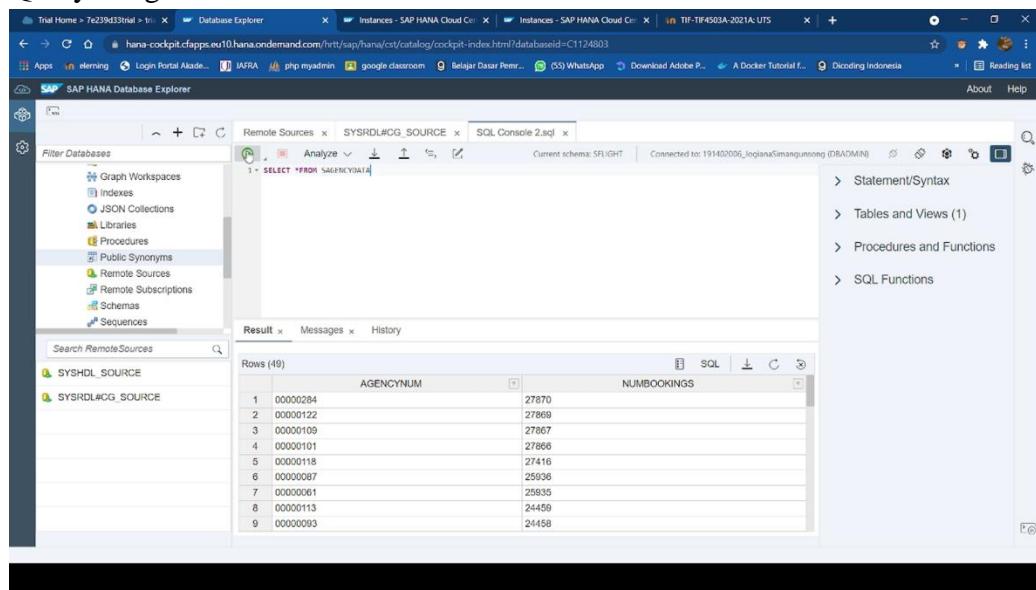
AGENCYNUM	NAME	NUMBOOKINGS
00000284	Rainy, Stormy, Cloudy	27870
00000122	Fly Low	27869
00000109	Kangeroos	27867
00000101	Bella Italia	27866
00000118	Asia By Plane	27416

Lihat table

The screenshot shows the SAP HANA Database Explorer interface. In the center, there is a SQL console tab with the query: `CREATE TABLE STOPAGENCY AS (select top 5 SAGENCYDATA.AGENCYNUM, STRAVFLAG,NAME,SAGENCYDATA.NUMBOOKINGS from SAGENCYDATA INNER`. To the right of the query, it says "Connected to: 191402006_jogjanaSimanguntong (DADMIN)". Below the query, there is a "Messages" section with the following text:

Statement: CREATE TABLE STOPAGENCY AS (select top 5 SAGENCYDATA.AGENCYNUM, ...
Client elapsed time: 49.00 ms
Statement prepare time: 5.122 ms elapsed time, 4.415 ms CPU time
Statement execute time: 47.32 ms elapsed time, 43.86 ms CPU time
Peak memory consumed: 6.293 MB

Query ketiga :



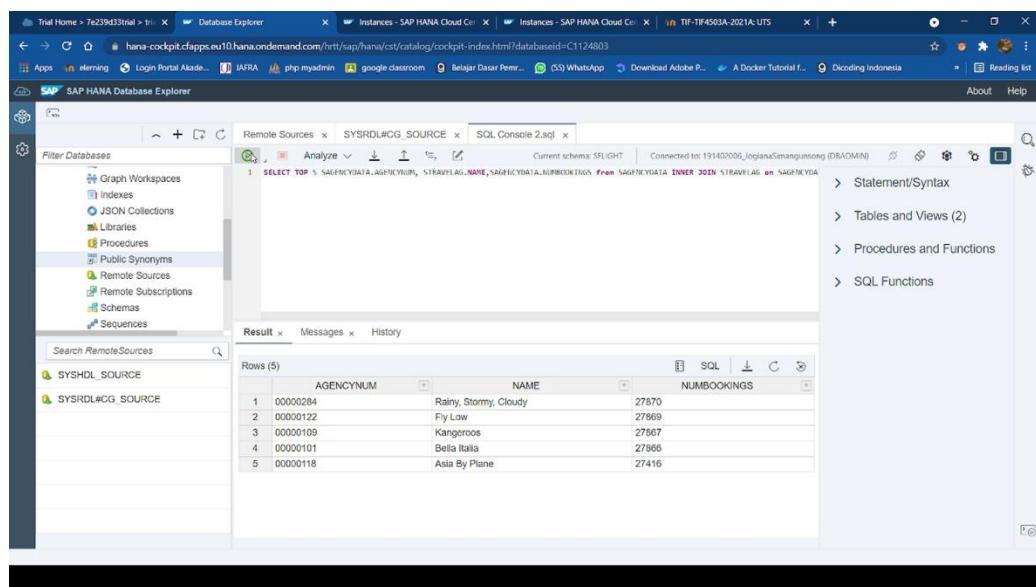
The screenshot shows the SAP HANA Database Explorer interface. The left sidebar lists databases: SYSHDL_SOURCE and SYSRDL#CG_SOURCE. The main area displays a SQL console with the following query:

```
1 SELECT *FROM SAGEREYDATA
```

The results table shows 49 rows with columns AGENCYNUM and NUMBOOKINGS:

AGENCYNUM	NUMBOOKINGS
1 00000284	27870
2 00000122	27869
3 00000109	27867
4 00000101	27866
5 00000118	27416
6 00000097	25936
7 00000061	25935
8 00000113	24459
9 00000093	24458

Lihat table



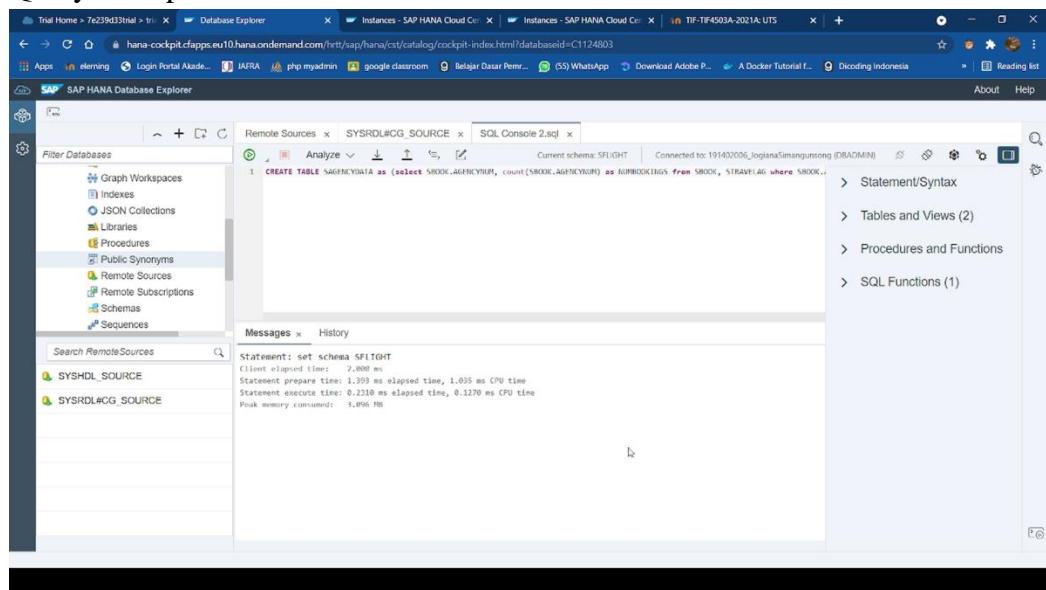
The screenshot shows the SAP HANA Database Explorer interface. The left sidebar lists databases: SYSHDL_SOURCE and SYSRDL#CG_SOURCE. The main area displays a SQL console with the following query:

```
1 SELECT TOP 5 AGENCYNUM,AGENCYNAME,STRAVELAG.NAME,SAGEREYDATA.NUMBOOKINGS FROM SAGEREYDATA INNER JOIN STRAVELAG ON SAGEREYDA
```

The results table shows 5 rows with columns AGENCYNUM, NAME, and NUMBOOKINGS:

AGENCYNUM	NAME	NUMBOOKINGS
1 00000284	Rainy, Stormy, Cloudy	27870
2 00000122	Fly Low	27869
3 00000109	Kangeroos	27867
4 00000101	Bella Italia	27866
5 00000118	Asia By Plane	27416

Query keempat :



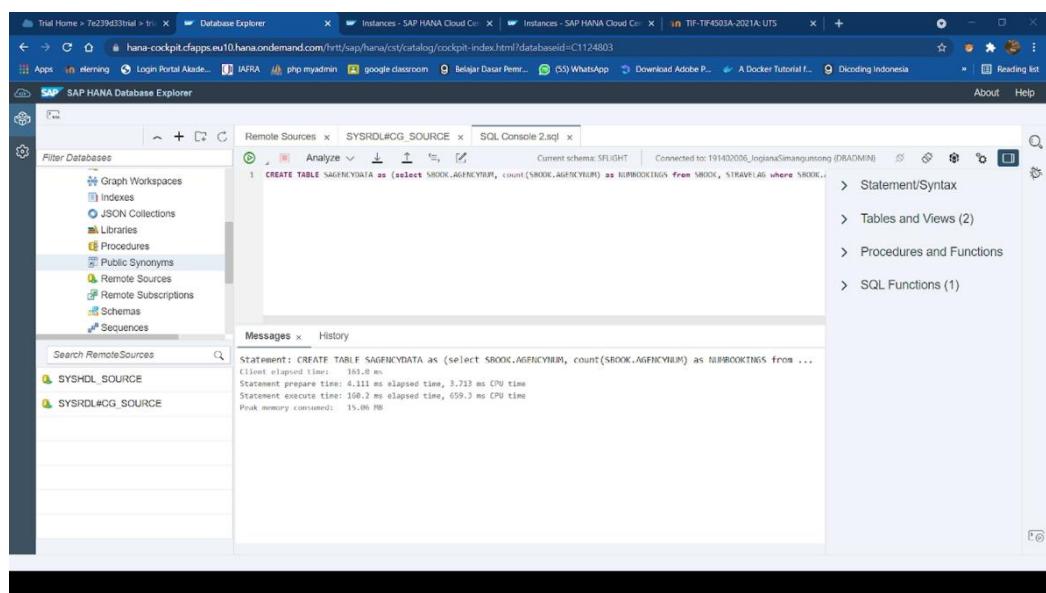
The screenshot shows the SAP HANA Database Explorer interface. In the center, there is a SQL console tab titled "SQL Console 2.sql" containing the following SQL statement:

```
CREATE TABLE SAGENCYDATA AS (SELECT SR00K.AGENCYID, COUNT(SR00K.AGENCYID) AS NRBOOKINGS FROM SR00K, STRAVELAS WHERE SR00K.
```

Below the SQL statement, the "Messages" section displays the execution results:

```
Statement: set schema SFLIGHT
Time elapsed: 2.800 ms
Statement prepare time: 1.359 ms elapsed time, 1.835 ms CPU time
Statement execute time: 0.2310 ms elapsed time, 0.1270 ms CPU time
Peak memory consumed: 3.890 MB
```

Lihat table



The screenshot shows the SAP HANA Database Explorer interface. In the center, there is a SQL console tab titled "SQL Console 2.sql" containing the following SQL statement:

```
CREATE TABLE SAGENCYDATA AS (SELECT SR00K.AGENCYID, COUNT(SR00K.AGENCYID) AS NRBOOKINGS FROM ...
```

Below the SQL statement, the "Messages" section displays the execution results:

```
Statement: CREATE TABLE SAGENCYDATA AS (select SR00K.AGENCYID, count(SR00K.AGENCYID) as NRBOOKINGS from ...
Time elapsed: 10.0 ms
Statement prepare time: 4.111 ms elapsed time, 3.713 ms CPU time
Statement execute time: 168.2 ms elapsed time, 659.3 ms CPU time
Peak memory consumed: 15.00 MB
```

Query kelima :

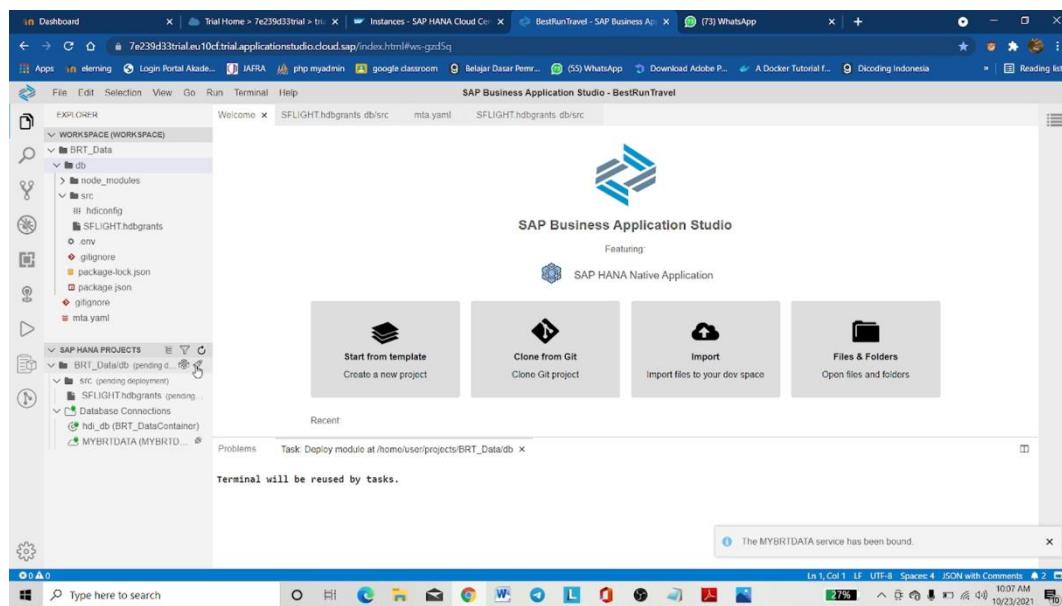
The screenshot shows the SAP HANA Database Explorer interface. A SQL statement is being run:

```
1 SELECT SABROODAYS,AGENCYNUM, STOPAGENCY.NAME, SABROODAYS,ORDDAY, SABROODAYS,BAYCOUNT FROM SABROODAYS INNER JOIN STOPAGENCY
```

The results are displayed in a table:

AGENCYNUM	NAME	ORDERDAY	DAYCOUNT
00000122	Fly Low	THURSDAY	4037
00000109	Kangeroos	THURSDAY	4095
00000101	Bella Italia	THURSDAY	4035
00000118	Asia By Plane	TUESDAY	4004
00000284	Rainy, Stormy, Cloudy	MONDAY	4108

C. Module 6



The image shows three vertically stacked code editors from SAP Business Application Studio, each displaying configuration files for a SAP HANA project named "SFLIGHT.hdbgrants".

Top Editor (YAML Format):

```
schema-version: "2.1"
ID: BRT_Data
version: 0.1
modules:
  - name: db
    type: hdb
    path: db
  requires:
    - name: hdi_db
      properties:
        TARGET_CONTAINER: ~{hdil-container-name}
        name: MYBRTDATA
  resources:
    - name: hdi_db
      type: com.sap.xs.hdi-container
      properties:
        hdi container name: ${service name}
        name: MYHDI
      type: org.cloudbeeryard.cloud Foundry existing service
```

Middle Editor (JSON Format):

```
{"MyConnection": {
  "object_owner": {
    "schema_privileges": [
      {
        "reference": "SFLIGHT",
        "privileges_with_grant_option": ["SELECT"]
      }
    ],
    "application_user": {
      "schema_privileges": [
        {
          "reference": "SFLIGHT",
          "privileges_with_grant_option": ["SELECT"]
        }
      ]
    }
}}
```

Bottom Editor (JSON Format):

```
{}  
{"MyConnection": {
  "object_owner": {
    "schema_privileges": [
      {
        "reference": "SFLIGHT",
        "privileges_with_grant_option": ["SELECT"]
      }
    ],
    "application_user": {
      "schema_privileges": [
        {
          "reference": "SFLIGHT",
          "privileges_with_grant_option": ["SELECT"]
        }
      ]
    }
}}
```

Screenshot of SAP HANA Cloud Central Instances page:

All Instances

Status	Name	Type	Notifications	Memory	Storage	Compute
RUNNING	191402006_Jo gianasimangungsong	SAP HANA Database	① 1	30 GB	120 GB	2 vCPUs

Context menu for the database instance:

- Edit
- Copy SQL Endpoint
- Copy Instance ID
- Copy Configuration
- Stop
- Upgrade
- Delete
- Open in SAP HANA Cockpit
- Open in SAP HANA Database Explorer
- Open SQL Console
- In SAP HANA Database Explorer

SAP Business Application Studio - BestRunTravel Project From Template:

New Project From Template

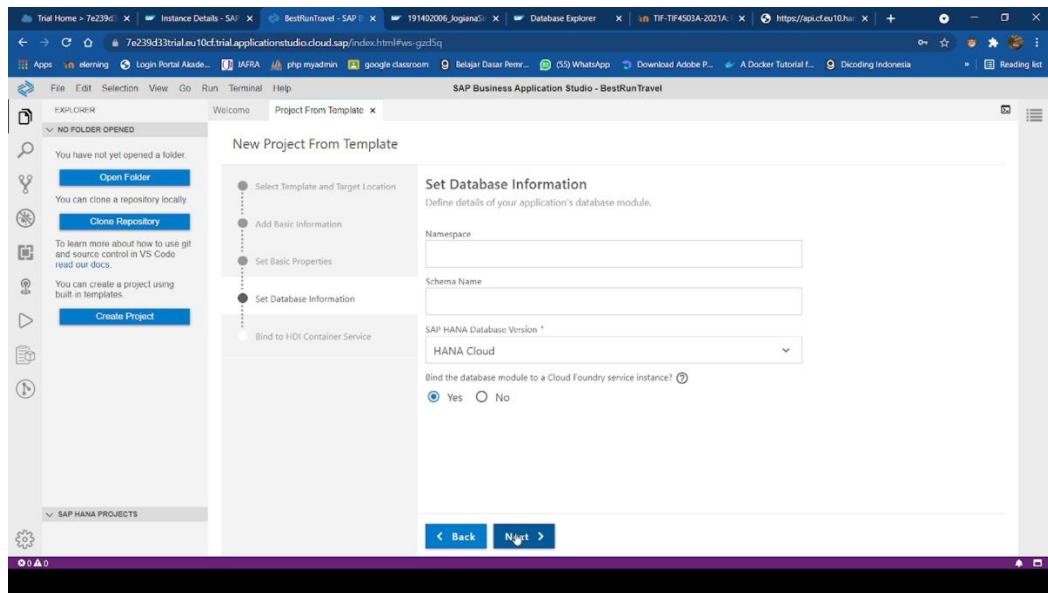
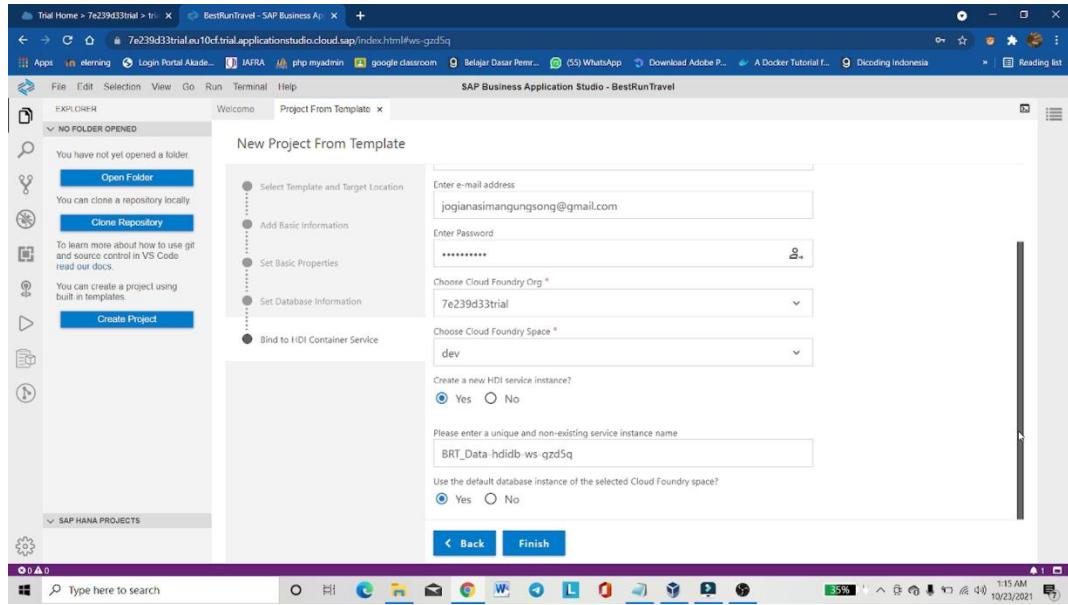
Project Details:

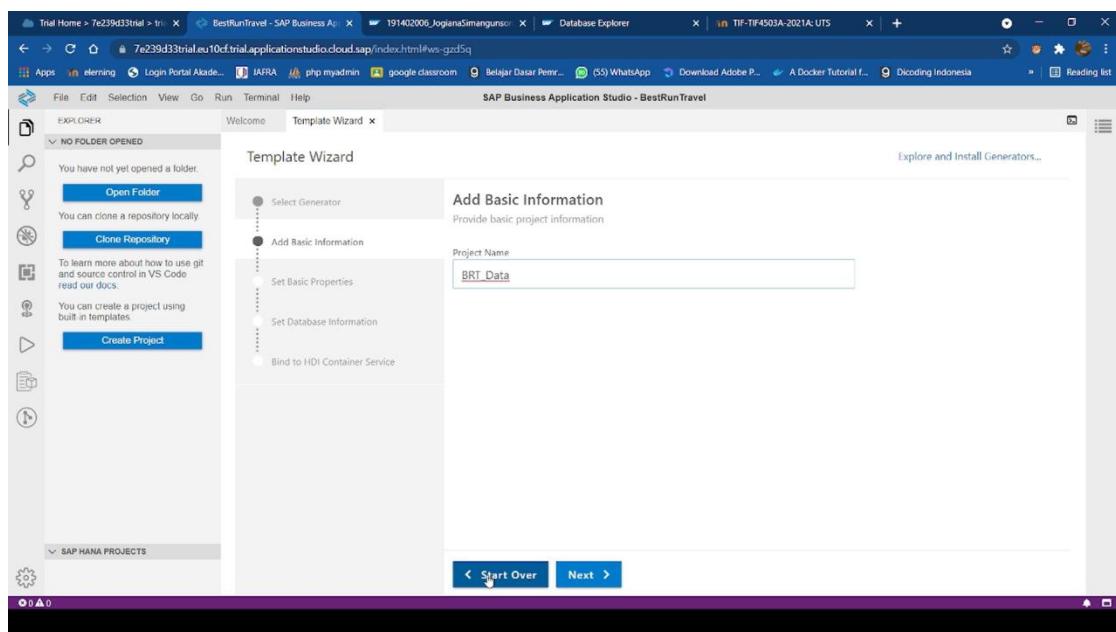
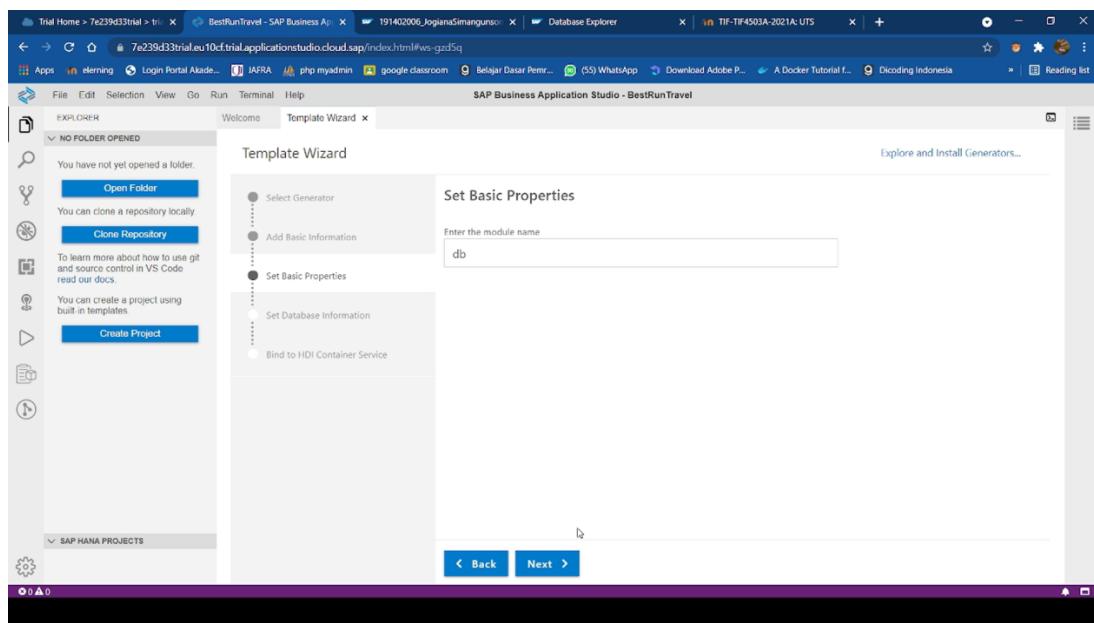
- Select Template and Target Location
- Add basic Information
- Set Basic Properties
- Set Database Information
- Bind to HDI Container Service

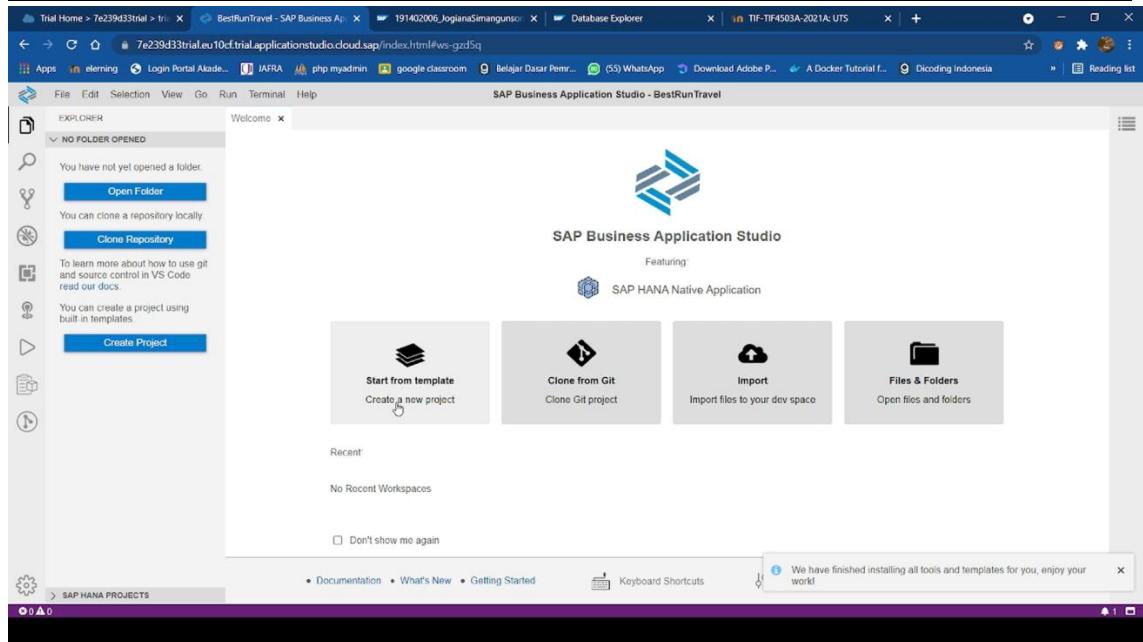
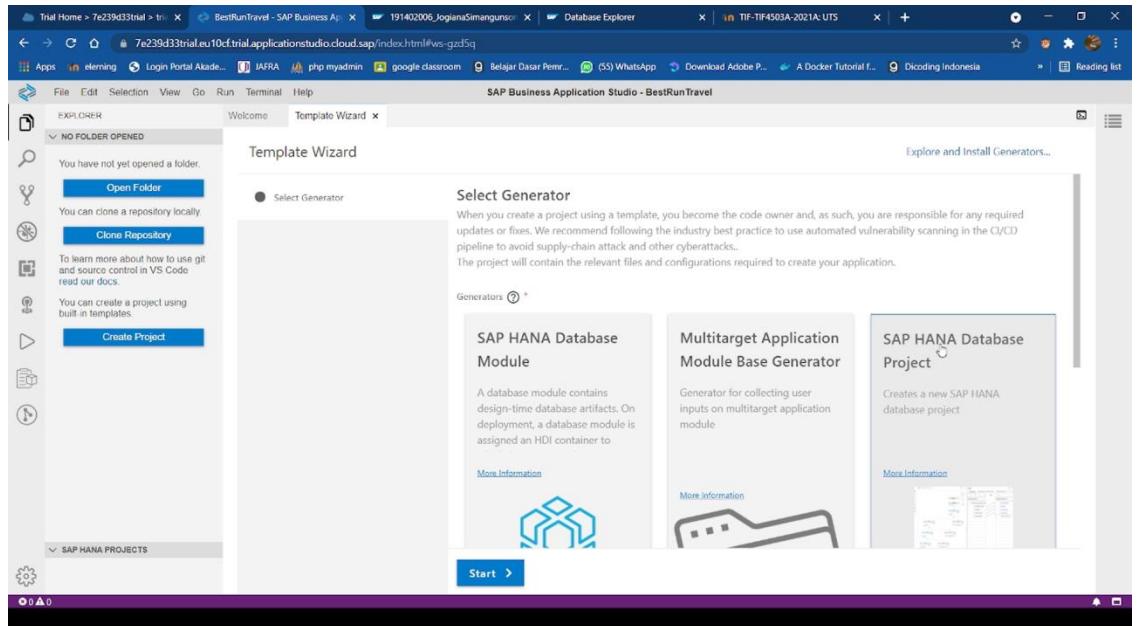
Input Fields:

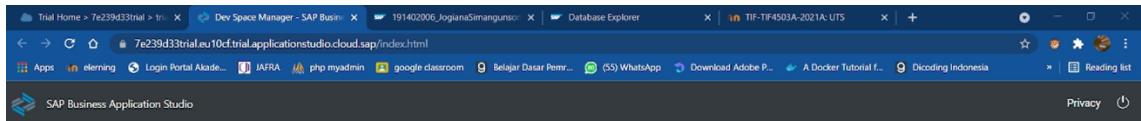
- Enter e-mail address: jogianasimangungsong@gmail.com
- Enter Password: [REDACTED]
- Choose Cloud Foundry Org: 7e239d33trial
- Choose Cloud Foundry Space: dev
- Create a new HDI service instance? Yes No
- Please enter a unique and non-existing service instance name: BRT_DataContainer
- Use the default database instance of the selected Cloud Foundry space? Yes No

Buttons: Back, Finish









Dev Spaces

Create and manage your development environment according to the type of applications you want to develop.
You can add extensions and tools to further enhance your development options.

[Create Dev Space](#)

⚠ You're using a trial version. Any dev space that hasn't been running for 30 days will be deleted. See the full list of restrictions.



BestRunTravel

SAP HANA Native Application

RUNNING

Created On
22/10/2021 21:06

ID
ws-gzd5q

Disk Usage
16 MB / 3.9 GB



Dev Spaces

Create and manage your development environment according to the type of applications you want to develop.
You can add extensions and tools to further enhance your development options.

[Create Dev Space](#)

⚠ You're using a trial version. Any dev space that hasn't been running for 30 days will be deleted. See the full list of restrictions.



BestRunTravel

SAP HANA Native Application

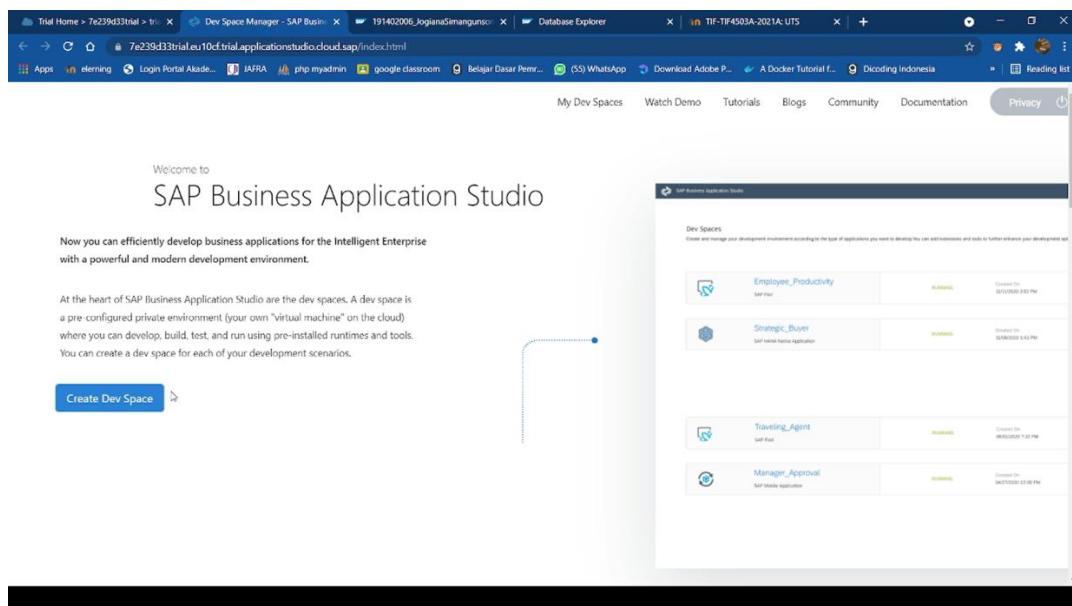
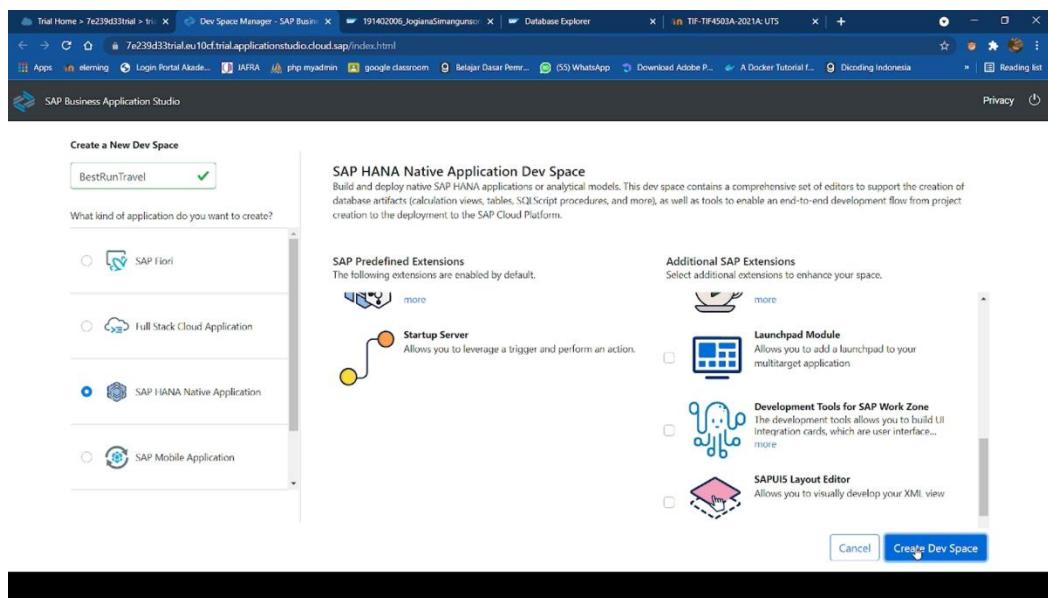
STARTING

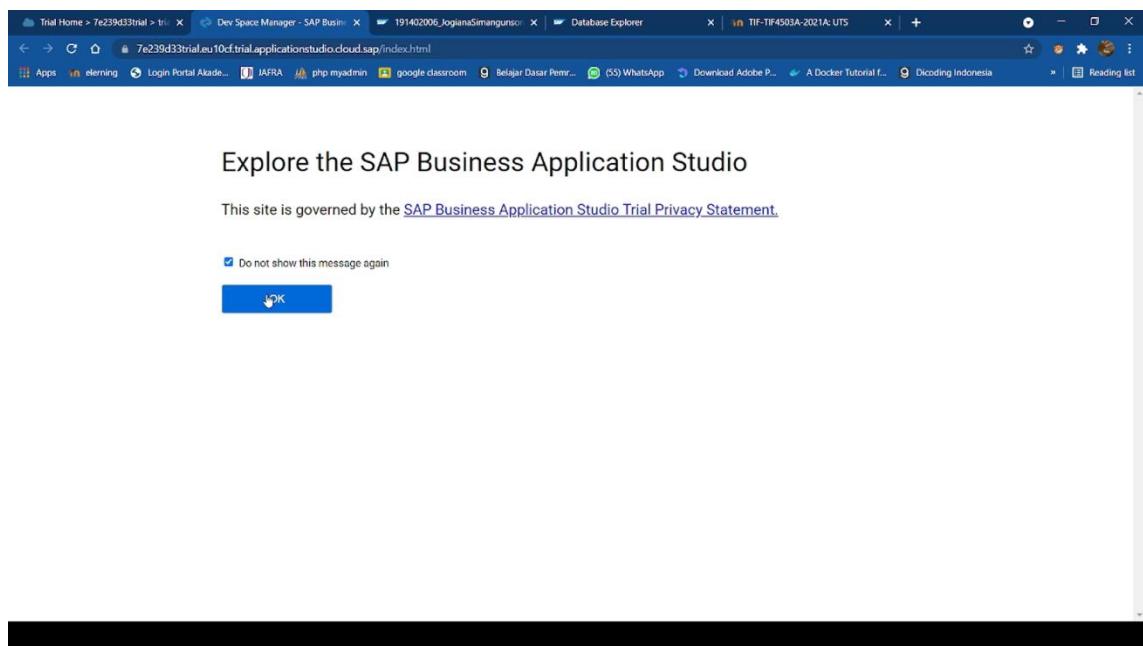
Created On
22/10/2021 21:06

ID
ws-gzd5q

Disk Usage
16 MB / 3.9 GB







The screenshot shows the SAP BTP Cockpit interface. The left sidebar has sections like 'Overview', 'Services' (selected), 'Service Marketplace', 'Instances and Subscriptions' (selected), 'Cloud Foundry', 'HTML5 Applications', 'Connectivity', 'Security', 'Entitlements', and 'Usage Analytics'. The main content area is titled 'Subaccount: trial - Instances and Subscriptions' with a note: 'All: 5'. It includes a search bar and filters for 'All Services', 'All Plans', and 'All Statuses'. Below this is a table for 'Subscriptions (1)'. The table has columns: Application, Plan, Created On, Changed On, and Status. One row is shown: 'SAP Business Application Studio' with plan 'trial', created on '15 Sep 2021', changed on '15 Sep 2021', and status 'Subscribed'. At the bottom, there's a section for 'Instances (3)' with a table showing service instances from 'Cloud Foundry | Kyma/Kubernetes | Other environments'. The table has columns: Instance, Service, Plan, Runtime Environment, Scope, Credentials, and Status. Two rows are listed: '191402006' and '191402006_Jo...', both with 'SAP HANA Cloud' as the service, 'relational-data-lake' and 'hana' as plans, 'Cloud Foundry' as runtime environment, 'dev' as scope, and 'Created' as status.

SAP Business Application Studio - BestRunTravel

```

mta.yaml x SFLIGHT.hdbgrants db/src mta.yaml SFLIGHT.hdbgrants db/src
File Edit Selection View Go Run Terminal Help
EXPLORER
WORKSPACE (WORKSPACE)
  BRT_Data
    db
      node_modules
        hdiconfig
        SFLIGHT.hdbgrants
        env
        gignore
        package-lock.json
        package.json
        gignore
        mta.yaml
  SAP HANA PROJECTS
    BRT_Data/db
      src
        SFLIGHT.hdbgrants
      Database Connections
        hdi_db (BRT_DataContainer)
        MYBRTDATA (MYBRT... &
PROBLEMS
  Task Deploy module at /home/user/projects/BRT_Data/db
  Making... ok (0s 85ms)
  Enabling table replication for the container schema "BRT_DATA_HDI_DB_1"...
  Enabling table replication for the container schema "BRT_DATA_HDI_DB_1"... ok (0s 107ms)
  Starting deployment in the container "BRT_DATA_HDI_DB_1" with 1 files to deploy, 0 files to undeploy... ok (3s 310ms)
  Deploying to the container "BRT_DATA_HDI_DB_1"... ok (3s 529ms)
  No default-access-role handling needed; global role "BRT_DATA_HDI_DB_1::access_role" will not be adapted
  Unlocking the container "BRT_DATA_HDI_DB_1".
  Unlocking the container "BRT_DATA_HDI_DB_1"... ok (0s 8ms)
  Deployment to container BRT_DATA_HDI_DB_1 done [Deployment ID: none].
  Deployment ended at 2021-10-23 03:07:58
  (5s 986ms)

Terminal will be reused by tasks.

```

Type here to search

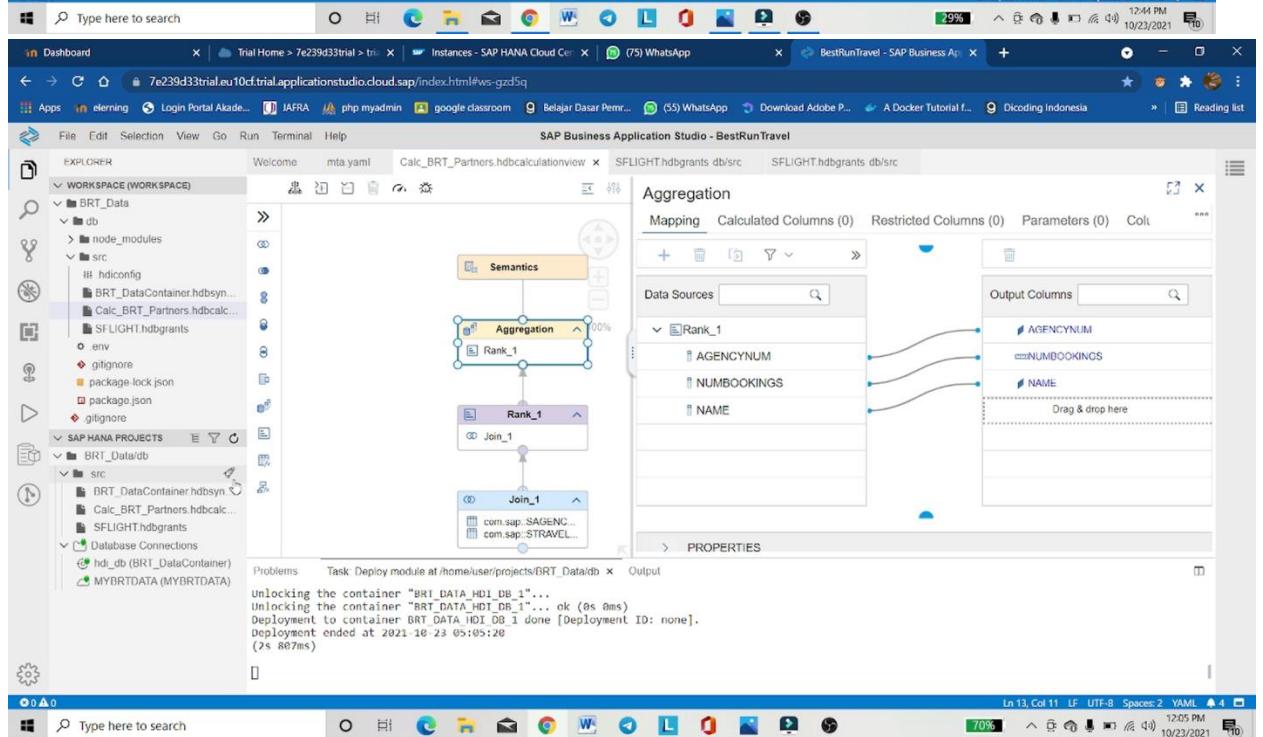
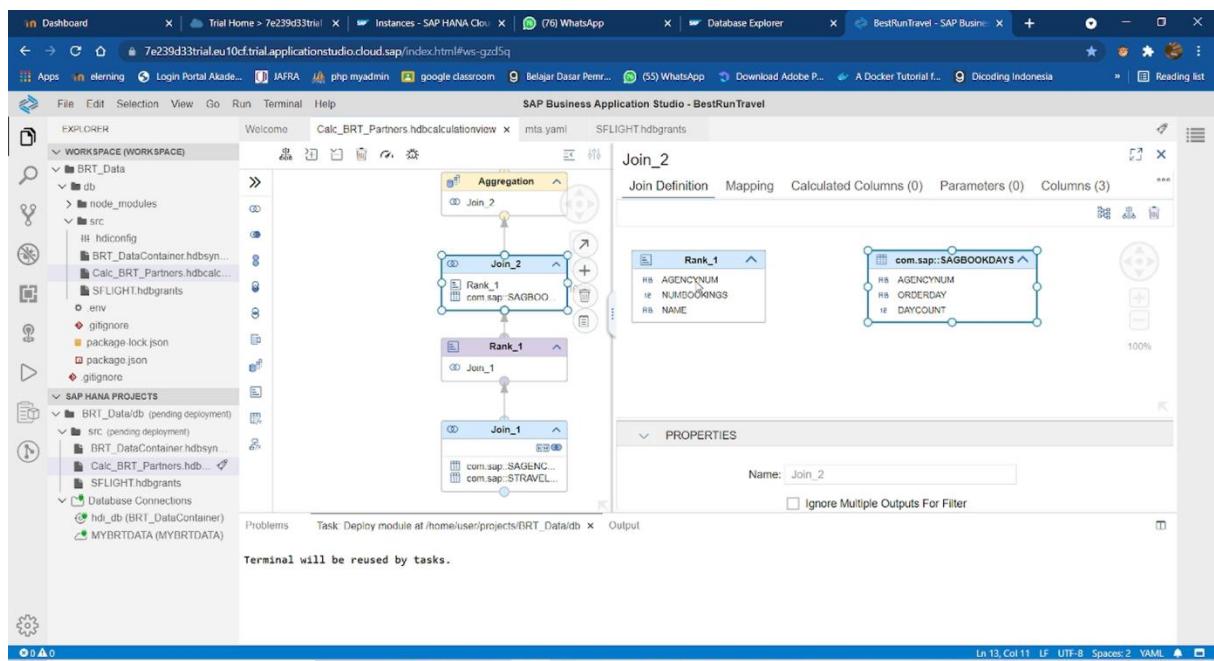
D. Module 7

SAP HANA Database Explorer

SharedDevKey@BRT_DataContainer (dev): BRT_DATA_HDI_DB_1.Calc_BRT_Partners

View Column	SQL Data Type	Not Null	Default	Comment
AGENCYNUM	NVARCHAR(8)	NULL		AGENCYNUM
NAME	NVARCHAR(25)	NULL		NAME
ORDERDAY	NVARCHAR(6000)	NULL		ORDERDAY
NUMBOOKINGS	BIGINT	NULL		NUMBOOKINGS
DAYCOUNT	BIGINT	NULL		DAYCOUNT

Type here to search



Hasil :

SAP HANA Database Explorer - SharedDevKey@BRT_DataContainer (dev): BRT_DATA_HDI_DB_1.Calc_BRT_Partners

AGENCYNUM	NAME	ORDERDAY	NUMBOOKINGS	DAYCOUNT
00000122	Fly Low	THURSDAY	27868	4037
00000118	Asia By Plane	TUESDAY	27416	4004
00000101	Bella Italia	THURSDAY	27866	4038
00000284	Rainy, Stormy, Cloudy	MONDAY	27870	4108
00000109	Kangeroos	THURSDAY	27867	4095

E. Module 8

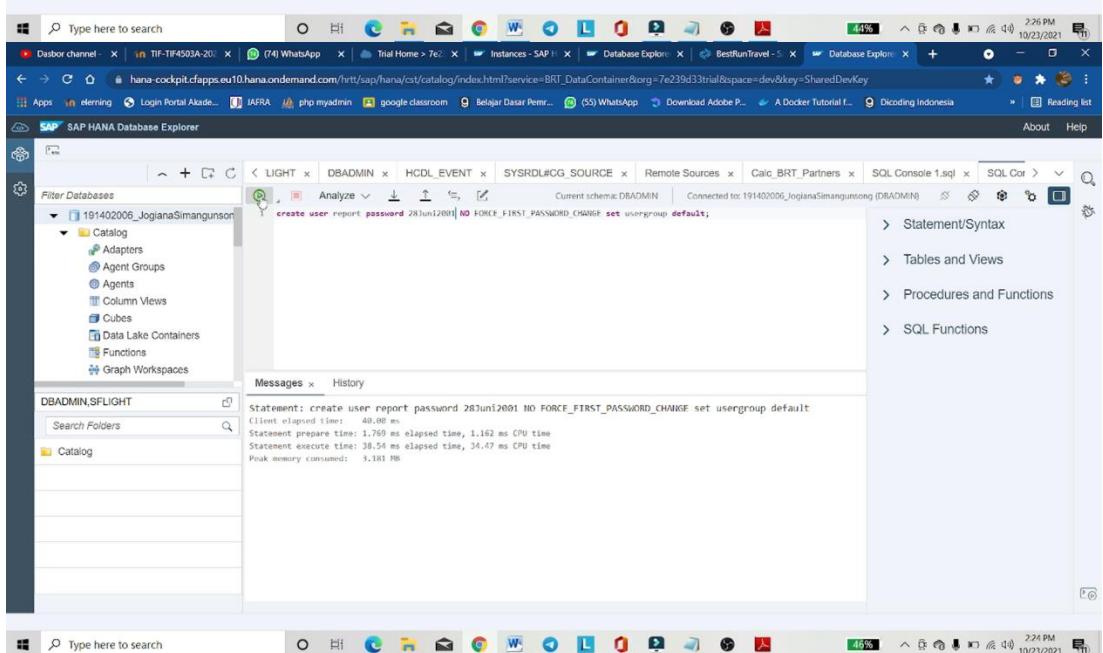
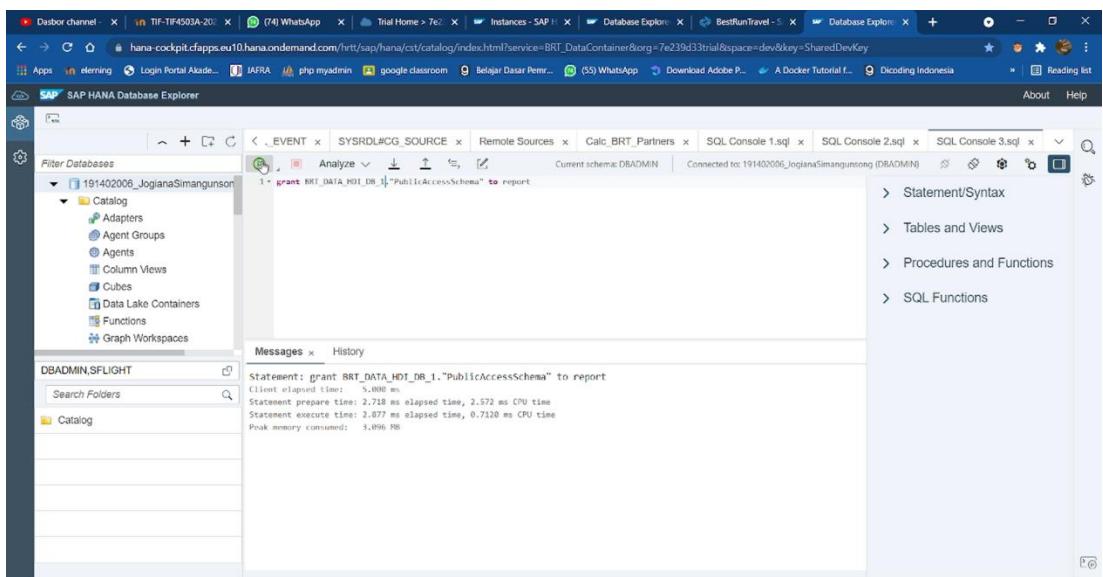
SAP HANA Database Explorer - SOURCE

```
grant BRT_DATA_HDI_DB_1."PublicAccessSchema" to report;
```

Statement: grant BRT_DATA_HDI_DB_1."PublicAccessSchema" to report
Client elapsed time: 4.000 ms
Statement prepare time: 1.943 ms elapsed time, 1.398 ms CPU time
Statement execute time: 2.260 ms elapsed time, 0.2930 ms CPU time
Peak memory consumed: 3.096 MB

Messages x History

Statement/Syntax
Tables and Views
Procedures and Functions
SQL Functions



Screenshot of SAP HANA Database Explorer and SAP Business Application Studio - BestRunTravel environments.

SAP HANA Database Explorer:

- Connected to: SharedDevKey@BRT_DataContainer (dev)
- SQL Console 1.sql
- Statement/Syntax
- Tables and Views (1)
- Procedures and Functions
- SQL Functions (1)

```

1+ SELECT TOP 1000
2   "AGENCYNAME",
3   "NAME",
4   "ORDERDAY",
5   SUM("NUMBERBOOKINGS") AS "NUMBERBOOKINGS",
6   SUM("NUMBERHOTELS") AS "NUMBERHOTELS"
7  FROM "BRT_DATA_HDI.DB.1"."CALC_BRT_Partners"
8  GROUP BY "AGENCYNAME", "NAME", "ORDERDAY"
  
```

No Results

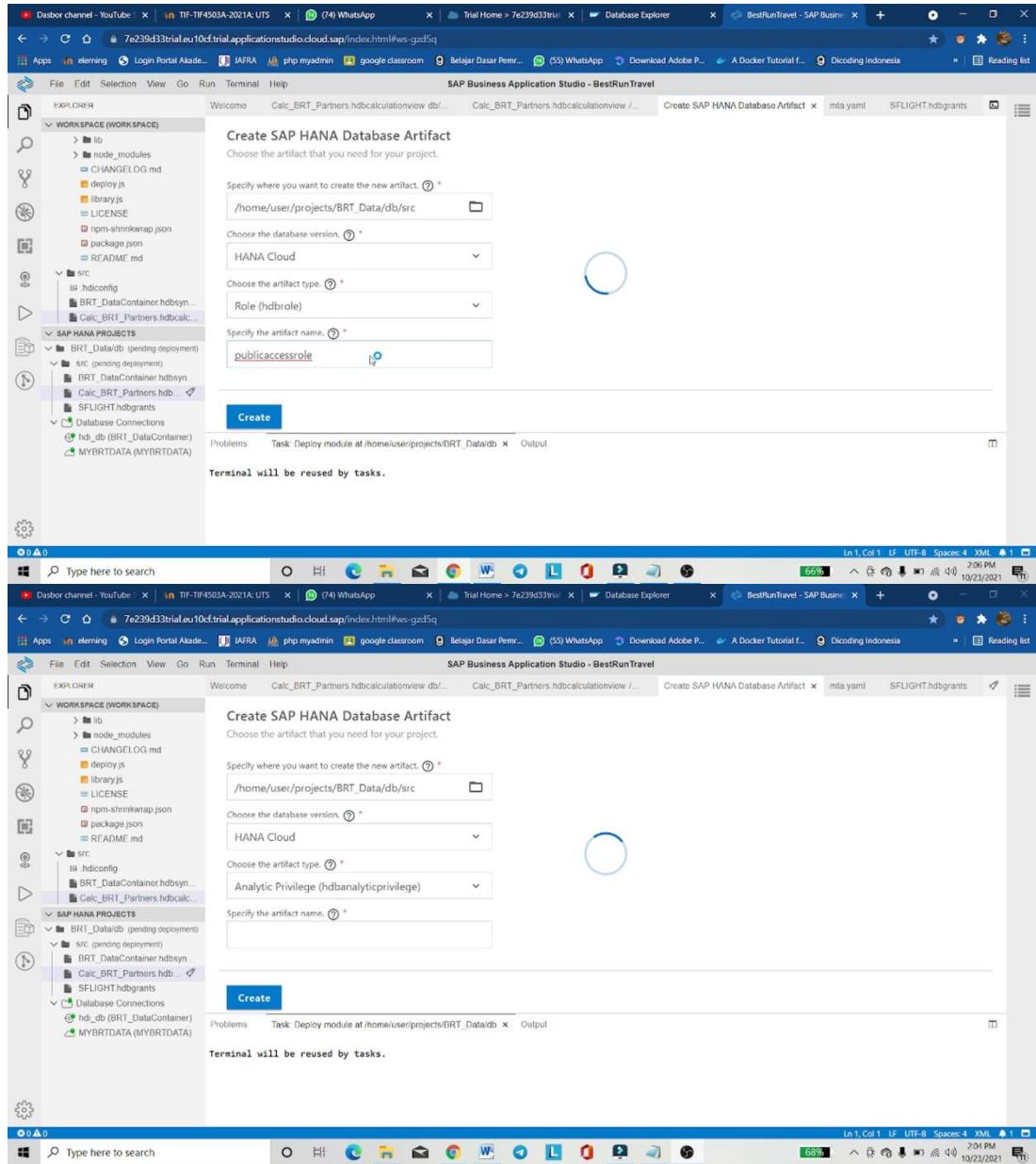
SAP Business Application Studio - BestRunTravel:

- File Edit Selection View Go Run Terminal Help
- READERE src README.md
- hdiconfig BRT_DataContainer.hdbsyn... Calc_BRT_Partners.hdbcalc... publicaccessrole.hdbrole...
- env .gitignore package-lock.json package.json mta.yaml
- SAP HANA PROJECTS BRT_Data/db (pending deployment) src (pending deployment) BRT_DataContainer.hdbsyn... Calc_BRT_Partners.hdbcalc... SFLIGHT.hdbgrants publicaccessrole.hdbrole...
- Database Connections hdi.db (BRT_DataContainer) MYBRTDATA (MYBRTDATA)

```

1
2 "role": {
3   "name": "PublicAccessSchema",
4   "schema_privileges": [
5     {
6       "privileges": [
7         "SELECT",
8         "EXECUTE"
9       ]
10      ]
11    }
12  }
13
  
```

Terminal will be reused by tasks.



Screenshot of SAP HANA Database Explorer showing a SQL query in the editor:

```
1+ SELECT TOP 1000
2   "AGENCYNUM",
3   "NAME",
4   "ORDERDAY",
5   SUM("NUMBOOKINGS") AS "NUMBOOKINGS",
6   SUM("DAYCOUNT") AS "DAYCOUNT"
7  FROM "BRT DATA M01 DB 1"."Calc_BRT_Partners"
8  GROUP BY "AGENCYNUM", "NAME", "ORDERDAY"
```

The results pane shows "No Results".

Screenshot of SAP HANA Database Explorer showing the same SQL query and results:

```
1+ SELECT TOP 1000
2   "AGENCYNUM",
3   "NAME",
4   "ORDERDAY",
5   SUM("NUMBOOKINGS") AS "NUMBOOKINGS",
6   SUM("DAYCOUNT") AS "DAYCOUNT"
7  FROM "BRT DATA M01 DB 1"."Calc_BRT_Partners"
8  GROUP BY "AGENCYNUM", "NAME", "ORDERDAY"
```

The results pane displays the following table:

AGENCYNUM	NAME	ORDERDAY	NUMBOOKINGS	DAYCOUNT
1	Fly Low	THURSDAY	27869	4037
2	Asia By Plane	TUESDAY	27416	4004
3	Bella Italia	THURSDAY	27866	4038
4	Rainy, Stormy, Cloudy	MONDAY	27870	4108
5	Kangeroos	THURSDAY	27867	4095