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## 1. Provisioning SAP HANA Cloud

### 2. General

#### Basics

Instance Name: \*

BestRunTravel

⚠ After the instance has been created, you can no longer change its name.

Description:

My data from Best Run Travel

12 characters remaining

Administrator:

DBADMIN

Administrator Password: \*

\*\*\*\*\*

Confirm Administrator Password: \*

\*\*\*\*\*

DBADMIN and HDLADMIN passwords expire after 180 days.

☐ Show password

#### Version

Version:

2023.28 (ORC 3/2023)

Maintained until Apr 14, 2024

### 3. SAP HANA Database

Performance Class:

Memory

Compute-Memory Ratio:

1:15

Available Memory Range:

30 GB – 30 GB

ⓘ SAP HANA Cloud Trial instances have a fixed storage size and storage type. For more information, follow [this hands-on tutorial](#).

Memory: \*

30 GB

Storage: \*

120 GB

Instances / Create Instance

HANA smart data integration (SDI) with this instance.

☒ Data Provisioning Server

Connections

You can choose to only allow access to the instance from Business Technology Platform (BTP) which is the default, allow all access, or only from trusted IP addresses by specifying IP address filter ranges.

⚠ Changing the allowed IP addresses in your SAP HANA database does not automatically sync the new settings to data lake. You have to edit data lake settings individually for them to match.

Allowed connections: \*

☐ Allow only BTP IP addresses

☒ Allow all IP addresses

☐ Allow specific IP addresses and IP ranges (in addition to BTP)

## 6. Data Lake

Create Data Lake:

Creates a data lake instance that is integrated with your SAP HANA database instance. The data lake instance is composed of data lake Relational Engine on trial.



### Basics

Instance Name: \*

BestRunTravelDL

⚠ After the instance has been created, you can no longer change its name.

Associated SAP HANA Database Instance:

BestRunTravel

When adding an integrated data lake instance, both DBADMIN and HDLADMIN administration users are automatically created with the same password.

Administrator:

HDLADMIN

## 7. Data Lake Relational Engine

### Size

Coordinator: \*

2 vCPUs

Storage: \*

256 GB

Workers: \*

2 vCPUs

x - 1 +

Compute:

4 vCPUs

Memory:

32 GB

System Temporary Storage:

900 GB

### Storage Service

Storage Service Type:

AWS Elastic File System (EFS)

## 8. Data Lake Advanced Settings

### Connections

You can choose to only allow access to the instance from Business Technology Platform (BTP) which is the default, allow all access, or only from trusted IP addresses by specifying IP address filter ranges.

⚠ Changing the allowed IP addresses in data lake does not automatically sync the new settings to your SAP HANA database. You have to edit your SAP HANA database settings individually for them to match.

⚠ If you select to only allow SAP BTP, then you will not be able to connect using tools such as dbisql.

Allowed connections: \*

☐ Allow only BTP IP addresses

☒ Allow all IP addresses

☐ Allow specific IP addresses and IP ranges (in addition to BTP)

Instances (2) Subaccount Roles (2)

☒ Group Instances

Status	Name	Type	Notifications	Runtime Environment	Memory	Storage	Compute	Scale-out	Replicas	Actions
My data from Best Run Travel										
Running	BestRunTravel	SAP HANA Database		Other Environments	30 GB	120 GB	2 vCPUs	1 node	0 replicas	...
Running	BestRunTravelDL	Data Lake Data Lake Relational Engine Component Enabled		Other Environments		256 GB	2 vCPU Workers (1) 2 vCPU			...

## 2. Tools to Work with SAP HANA Cloud

Instances (2) Subaccount Roles (2)		Manage Configuration	
Status	Name	Notifications	Runtime Environment
My data from Best Run Travel			
Running	BestRunTravel		Other Environments
Running	BestRunTravelDL		Other Environments

Instances (2) Subaccount Roles (2)

Status	Name	Notifications	Runtime Environment
My data from Best Run Travel			
Running	BestRunTravel	Other	Environments
Running	BestRunTravelDL	Other	Environments

Manage Configuration

Open SQL Console

Copy SQL Endpoint

Copy Instance ID

Copy Configuration

Apply Patch

Upgrade

Stop

Delete

Open in SAP HANA Cockpit

Open in SAP HANA Database Explorer

All

Log in as a Different User Enable JWT SSO SQL Console

Database Status: Running Database User: DBADMIN Host:

Search

Services 1 host

Running All services are running

Manage Services

Alerts

No current alerts

Alert Definitions

Memory Usage

Used Memory Resident Memory

Used Buffer Cache Used Memory Peak Used Memory Memory Allocation Limit

Monitor Performance

CPU Usage

CPU Usage: 308 % max

310 200 100

Disk Usage

Total 2.37 GB / 119.94 GB

Data 334.48 MB Log 666.65 MB Trace 6.05 MB

SQL Statements

select PS.CONNECTION\_ID AS "Connection ID..." 0 ms

SELECT \* FROM ( SELECT 0 as SERVICE\_NU...

SELECT TOP 1 VALUE FROM SYS.M\_INFILE...

Monitoring

Monitor performance

Monitor table usage

Instances (2) Subaccount Roles (2)

Status	Name	Notifications	Runtime Environment
My data from Best Run Travel			
Running	BestRunTravel	Other	Environments
Running	BestRunTravelDL	Other	Environments

Manage Configuration

Open SQL Console

Copy SQL Endpoint

Copy Instance ID

Copy Configuration

Apply Patch

Upgrade

Stop

Delete

Open in SAP HANA Cockpit

Open in SAP HANA Database Explorer

Filter Instances

BestRunTravel (DBADMIN)

Catalog

Database Diagnostic Files

HDI Containers

DBADMIN

Catalog

Filter Instances

Graph Workspaces

Indexes

JSON Collections

Job Scheduler

Libraries

Procedures

Public Synonyms

Remote Sources

Remote S

Schemas

Sequences

Search Remote Sources

SYSHDL\_SOURCE

Add Remote Source

Show Remote Sources

Import Catalog Objects

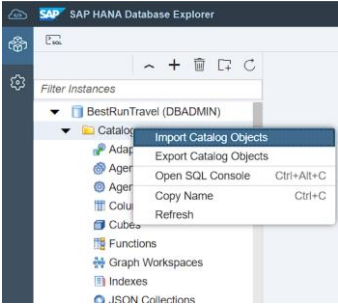
Export Catalog Objects

Open SQL Console

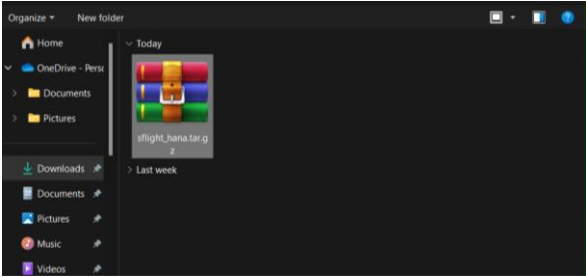
Copy Name

Refresh

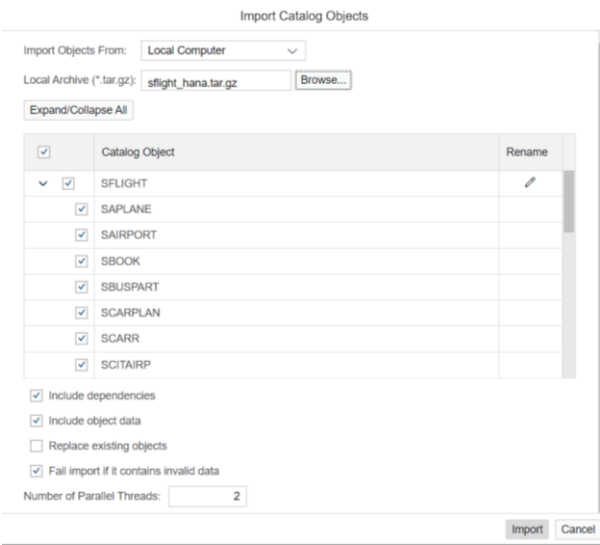
### 3. Upload Data to Your Instance



The screenshot shows the SAP HANA Database Explorer interface. The 'Filter Instances' section is expanded, showing the 'BestRunTravel (DBADMIN)' instance. The 'Catalog' folder is selected, and the 'Import Catalog Objects' context menu is open. The menu options are: Import Catalog Objects, Export Catalog Objects, Open SQL Console (Ctrl+Alt+C), Copy Name (Ctrl+C), and Refresh.



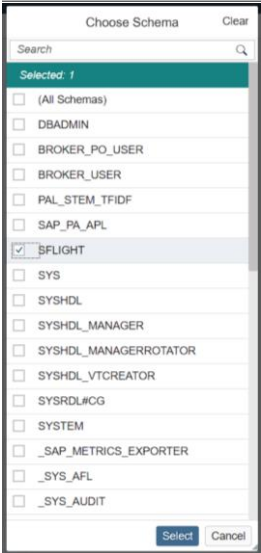
The screenshot shows a Windows File Explorer window. The 'Downloads' folder is selected in the left sidebar. The main pane shows a file named 'sflight\_hana.tar.gz' with a colorful icon.



The screenshot shows the 'Import Catalog Objects' dialog box. The 'Import Objects From' dropdown is set to 'Local Computer'. The 'Local Archive (\*.tar.gz):' field contains 'sflight\_hana.tar.gz'. The 'Expand/Collapse All' button is visible. The table below lists the catalog objects to be imported:

<input checked="" type="checkbox"/>	Catalog Object	Rename
<input checked="" type="checkbox"/>	SFLIGHT	
<input checked="" type="checkbox"/>	SAPLANE	
<input checked="" type="checkbox"/>	SAIRPORT	
<input checked="" type="checkbox"/>	SBOOK	
<input checked="" type="checkbox"/>	SBUSPART	
<input checked="" type="checkbox"/>	SCARPLAN	
<input checked="" type="checkbox"/>	SCARR	
<input checked="" type="checkbox"/>	SCITAIRP	

Below the table, there are checkboxes for 'Include dependencies' (checked), 'Include object data' (checked), 'Replace existing objects' (unchecked), and 'Fail import if it contains invalid data' (checked). The 'Number of Parallel Threads' is set to 2. The 'Import' and 'Cancel' buttons are at the bottom right.



The screenshot shows the 'Choose Schema' dialog box. The 'Selected: 1' section is highlighted. The list of schemas includes: (All Schemas), DBADMIN, BROKER\_PO\_USER, BROKER\_USER, PAL\_STEM\_TFIDF, SAP\_PA\_APL, SFLIGHT (selected), SYS, SYSHDL, SYSHDL\_MANAGER, SYSHDL\_MANAGERROTATOR, SYSHDL\_VTCREATOR, SYSRDL#CG, SYSTEM, \_SAP\_METRICS\_EXPORTER, \_SYS\_AFL, and \_SYS\_AUDIT. The 'Select' and 'Cancel' buttons are at the bottom right.

The screenshot shows the SAP HANA Database Explorer interface. On the left, a tree view displays the database structure, including Schemas, Sequences, Synonyms, Table Types, Tables, Tasks, Triggers, Views, Database Diagnostic Files, and HDI Containers. A context menu is open over a table, listing actions such as Open, Open Data, Delete, Find Dependencies, Create Shortcut, Import Data, Export Data, Generate CREATE Statement, Generate SELECT Statement, Generate INSERT Statement, Load Into Memory, Unload From Memory, Export Catalog Objects, and Copy Name (Ctrl+C).

The main pane displays the 'Raw Data' view for a table. The table has 21 columns: MANDT, CARRID, CONNID, FLDATE, BOOKID, CUSTOMID, CUSTTYPE, SMOKER, LUGGWEIGHT, WUNIT, INVOICE, CLASS, and FORCU. The data is presented in a grid with 21 rows, showing various flight-related information.

#### 4. Connecting to and Creating Data on the SAP HANA Cloud Data Lake

The screenshot shows the SAP HANA Database Explorer interface with the SQL Console open. The console displays a script to create a table named 'EVENT' in the 'SYSRDL#CG' schema. The script includes a 'CALL SYSRDL#CG.REMOTE\_EXECUTE' statement, a 'BEGIN' block, and a 'CREATE TABLE' statement with the following columns: GlobalEventID (INTEGER), Day (DATE), MonthYear (INTEGER), Year (INTEGER), FractionDate (FLOAT), ActorCode (VARCHAR(27)), ActorName (VARCHAR(1024)), ActorCountryCode (VARCHAR(3)), ActorKnownGroupCode (VARCHAR(3)), and ActorEthnicCode (VARCHAR(3)).

The screenshot shows the SAP HANA Database Explorer interface with the 'Add Remote Source' dialog open. The dialog displays the 'SYSRDL#CG\_SOURCE' source. The 'Adapter Name' is 'IQODBC' and the 'Source Location' is 'indexserver'. The 'Database' field is set to '<NULL>', the 'Schema' is 'SYSRDL#CG', the 'Object' is empty, and the 'Type' is 'ANY'.

Database:

Schema:

Object:

Type:

<NULL>

SYSRDL#CG

ANY

Remote Objects (3)

Create Virtual Object(s)

Database	Schema	Object	Type
<input type="checkbox"/>	<NULL>	SYSRDL#CG	EVENT
<input type="checkbox"/>	<NULL>	SYSRDL#CG	GKG
<input type="checkbox"/>	<NULL>	SYSRDL#CG	MENTIONS

<NULL>

SYSRDL#CG

ANY

Remote Objects (3)

Create Virtual Object(s)

Database	Schema	Object	Type
<input checked="" type="checkbox"/>	<NULL>	SYSRDL#CG	EVENT
<input checked="" type="checkbox"/>	<NULL>	SYSRDL#CG	GKG
<input checked="" type="checkbox"/>	<NULL>	SYSRDL#CG	MENTIONS

Create Virtual Objects

Enter a prefix for object names and select target schema

Object Names Prefix: HCDL\_

Schema: DBADMIN

PAL\_STEM\_TFIDF

SAP\_PA\_APL

SFLIGHT

SYS

SYSHDL

SYSHDL\_MANAGER

SYSHDL\_MANAGERROTATOR

SYSHDL\_VTCREATOR

Create Cancel

## 5. Query Data on SAP HANA Cloud

SQL Console 3.sql x

Analyze

Current schema: DBADMIN

Connected to: BestRunTrav

1 - set schema SFLIGHT

SQL Console 3.sql x

Analyze

Current schema: SFLIGHT

Connected to: BestRunTrav

1 CREATE TABLE SAGENCYDATA as (select SBOOK.AGENCYNUM, count(SBOOK.AGENCYNUM) as NUMBOOKINGS from SBOOK, STRAVELAG where SBOOK..

SQL Console 3.sql x

Analyze

Current schema: SFLIGHT

Connected to: BestRunTrav

1 SELECT TOP 5 SAGENCYDATA.AGENCYNUM, STRAVELAG.NAME, SAGENCYDATA.NUMBOOKINGS from SAGENCYDATA INNER JOIN STRAVELAG on SAGENCYDA

Result x Messages x History

Rows (5)

	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

SQL Console 3.sql x

Analyze

Current schema: SFUGHT

Connected to: BestRunTrav

1

CREATE TABLE STOPAGENCY as (select top 5 SAGENCYDATA.AGENCYNUM, STRAVELAG.NAME, SAGENCYDATA.NUMBOOKINGS from SAGENCYDATA INNER

Messages x

History

Statement: CREATE TABLE STOPAGENCY as (select top 5 SAGENCYDATA.AGENCYNUM, ...

Client elapsed time: 26.00 ms

Statement prepare time: 2.802 ms elapsed time, 2.517 ms CPU time

Statement execute time: 23.87 ms elapsed time, 22.43 ms CPU time

Peak memory consumed: 89.15 KB

SQL Console 3.sql x

Analyze

Current schema: SFUGHT

Connected to: BestRunTrav

1

CREATE TABLE SAGBOOKDAYS as (select AGENCYNUM, dayname(ORDER\_DATE) as ORDERDAY, count(dayname(ORDER\_DATE)) as DAYCOUNT from S

Messages x

History

Statement: CREATE TABLE SAGBOOKDAYS as (select AGENCYNUM, dayname(ORDER\_DATE) as ORDERDAY, ...

Client elapsed time: 297.0 ms

Statement prepare time: 3.158 ms elapsed time, 2.841 ms CPU time

Statement execute time: 294.5 ms elapsed time, 543.3 ms CPU time

Peak memory consumed: 91.00 KB

SQL Console 3.sql x

Analyze

Current schema: SFUGHT

Connected to: BestRunTrav

1

SELECT SAGBOOKDAYS.AGENCYNUM, STOPAGENCY.NAME, SAGBOOKDAYS.ORDERDAY, SAGBOOKDAYS.DAYCOUNT from SAGBOOKDAYS INNER JOIN STOPAG

Result x

Messages x

History

Rows (5)

SQL

	AGENCYNUM	NAME	ORDERDAY	DAYCOUNT
1	00000122	Fly Low	THURSDAY	4037
2	00000109	Kangeroos	THURSDAY	4095
3	00000118	Asia By Plane	TUESDAY	4004
4	00000101	Bella Italia	THURSDAY	4038
5	00000284	Rainy, Stormy, Cloudy	MONDAY	4108