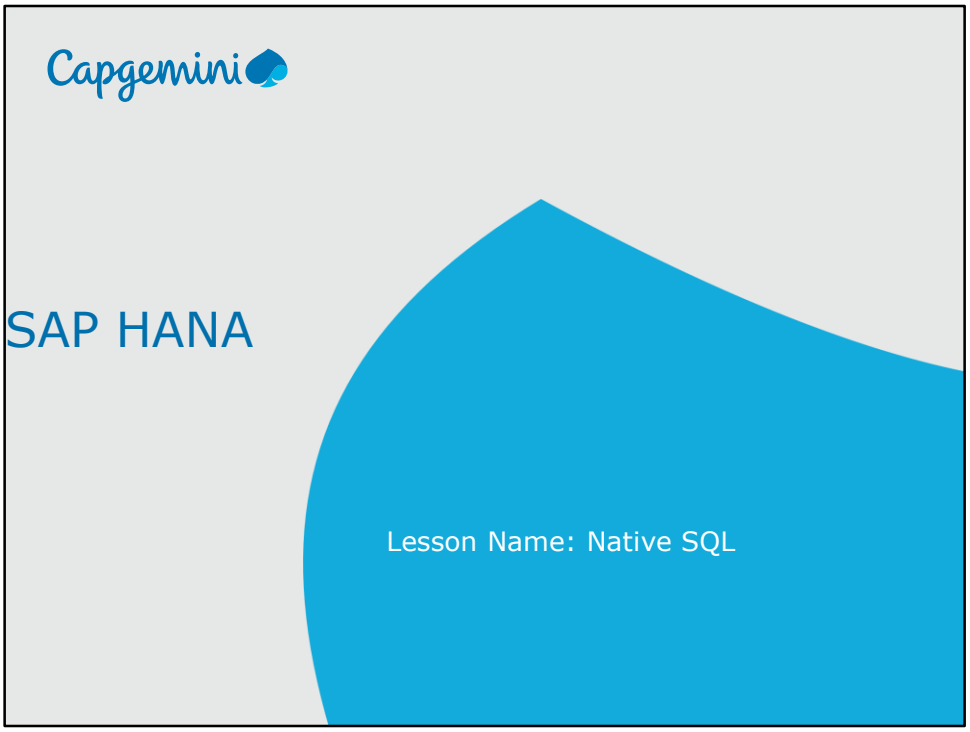
Instructor Notes:

Add instructor notes here.



Instructor Notes:

Add instructor notes here.

Lesson Objectives

After completing this lesson, participants will be able to -

- Know about native SQL using SAP HANA
  - Viewing Tables
  - Select and From
  - Where Clauses
  - Functions
  - Group By
  - Order By
  - Having
  - Top
  - Create
  - Insert
  - Update
  - Delete
  - Joins

Instructor Notes:

Add instructor notes here.

Lesson Objectives

- Sub Selects
- Unions
- Drop
- Views
- Schemas
- Table Types
- Difference between classical open SQL and Native SQL

Instructor Notes:

Native SQL using SAP HANA

VIEWING TABLES

- Syntax

  Select column1, column2 from (select column1,column2 from “table_name”)

- example of code is:

```
SELECT TOP 200 “CUSTOMERID” ,“CITYID”, “COUNTRYID”, “REGIONID”,
“COMPANYNAME”, “POSTALCODE”, “CITYNAME”, “COUNTRYNAME”,
“REGIONNAME” FROM ( SELECT * FROM “STS” . “DIMCUSTOMER” ) TMP
```

Instructor Notes:

Native SQL using SAP HANA

SELECT AND FROM

- Syntax
  Select COLUMN1, COLUMN2 FROM "TABLE_NAME"

- example of code is:

```
SELECT * FROM "STSFLAT"."STSCUSTOMERFLATFILE"

SELECT  COMPANYNAME  FROM  STS.DIMCUSTOMER
```

Instructor Notes:

Native SQL using SAP HANA

WHERE

- Syntax
  SELECT COLUMN1 COLUMN 2 FROM "TABLE1"
  where CUSTOMID ='2'

- example of code is:

SELECT * FROM "STS"."DIMCUSTOMER" where CITYNAME = 'LONDON'

SELECT * FROM "STS"."DIMCUSTOMER" where CITYNAME like 'R%'

Instructor Notes:

Native SQL using SAP HANA

FUNCTIONS

- Syntax
  SELECT COUNT(10) FROM "TABLE1' where CUSTOMID='2'

- example of code is:

SELECT COUNT(*) FROM "STS"."DIMCUSTOMER" where COUNTRYNAME = 'USA'

SELECT COUNT(QUANTITY) FROM "STS"."DIMCUSTOMER" where COUNTRYNAME = 'USA'

Instructor Notes:

Native SQL using SAP HANA

GROUP BY

- Syntax
  select column1 as field_name from table_name GROUP BY column1

- example of code is:

```
SELECT  countryname as COUNTRY,
SUM(netsales) as TOTAL_SALES
FROM "STSFLAT"."STSCUSTOMERFLATFILE"
GROUP BY countryname
HAVING sum(netsales) > 4000000
order by COUNTRYNAME
```

Instructor Notes:

Native SQL using SAP HANA

ORDER BY

- Syntax
  SELECT COLUMN1 COLUM2 FROM “TABLE1” order by VARIABLE

- example of code is:

SELECT * FROM “STS”.“DIMCUSTOMER” order by CUSTOMERID

Instructor Notes:

Native SQL using SAP HANA

HAVING

- Syntax
  select column1 as field_name from table_name HAVING condition

- example of code is:

```
SELECT  countryname as COUNTRY,
SUM(netsales) as TOTAL_SALES
FROM "STSFLAT"."STSCUSTOMERFLATFILE"
GROUP BY countryname
HAVING sum(netsales) > 4000000
order by COUNTRYNAME
```

Instructor Notes:

Native SQL using SAP HANA

TOP

- Syntax
  select TOP no_var column1 as field_name from table_name

- example of code is:

```
SELECT  TOP 5 countryname as COUNTRY,
SUM(netsales) as TOTAL_SALES
FROM "STSFLAT"."STSCUSTOMERFLATFILE"
GROUP BY countryname
HAVING sum(netsales) > 4000000
order by COUNTRYNAME
```

Instructor Notes:

Native SQL using SAP HANA

CREATE

- Syntax

  CREATE COLUMN1 TABLE1 "VARIABLE1"."VARIABLE2"
  {SUPPLIERID" INTEGER CS_INT NOT NULL ,
  "CITYID" INTEGER CS_INT,
  PRIMARY KEY ("SUPPLIERID")}

- example of code is:

```
CREATE COLUMN TABLE "XTRA"."DIMCUSTOMERV2"
 {SUPPLIERID" INTEGER CS_INT NOT NULL ,
"CITYID" INTEGER CS_INT,
"COUNTRYID" INTEGER CS_INT,
"COMPANYNAME" NVARCHAR (20),
PRIMARY KEY ("SUPPLIERID")}
```

Instructor Notes:

Native SQL using SAP HANA

INSERT

- Syntax
  insert into table_name values { variable, field_name}
- example of code is:

```
insert into "XTRA" . "MYTESTTABLE" values
{
2,12345, 'VW PASSAT'
};
```

Instructor Notes:

Native SQL using SAP HANA

UPDATE

- Syntax
  update table_name set field_name = variable where condition

- example of code is:

```
update "XTRA" . "MYTESTTABLE"
set CARREGISTRATION = 12345
where CARID = 2
```

Instructor Notes:

Native SQL using SAP HANA

DELETE

- Syntax
  delete from table_name where condition
- example of code is:

```
delete from "XTRA" . "MYTESTTABLE"
where CARID = 2
```

Instructor Notes:

Native SQL using SAP HANA

JOIN

- Syntax
  select column1 from table_name1 inner join table_name2 on condition.

- example of code is:

```
select
T0. “COMPANYNAME”,
T1. “NETSALES”
from
“STS”. “DIMCUSTOMER” T0 inner join “STS”.”FCTCUSTOMERORDER” T1
on T0. “CUSTOMERID” = T1. “CUSTOMERID”
```

Instructor Notes:

Native SQL using SAP HANA

SUB SELECT

- Syntax

```
select column1 from table_name where (condition)
having (condition1)
(
select (condition) from table_name1
)
```

Instructor Notes:

Native SQL using SAP HANA

SUB SELECT

- example of code is:

```
SELECT COMPANYNAME AS COMPANY, ROUND(AVG (NETSALES),0) AS
AVERAGE_SALES
FROM "STS". "DIMSUSTOMER", "STS". "FCTCUSTOMERORDER"
WHERE "STS". "DIMCUSTOMER" = "STS"."FCTCUSTOMERORDER"
GROUP BY CMPANYNAME
HAVING AVG (NETSALES) >
(
SELECT ROUND (AVG (NETSALES), 2) as AVERAGE
FROM "STS". "FCTCUSTOMERORDER"
)
ORDER BY COMPANYNAME
```

Instructor Notes:

Native SQL using SAP HANA

UNION

- Syntax
  select column1 from table1 UNION select column2 from table2

- example of code is:

```
{ SELECT COMPANYNAME AS COMPANY FROM "STS" . "DIMCUSTOMER"}
UNION
{ SELECT COMPANYNAME AS COMPANY FROM "XTRA" .
"ADDITIONALPROSPECTS"}
```

Instructor Notes:

Native SQL using SAP HANA

DROP

- Syntax
  drop table table_name

- example of code is:

```
drop table STS.AAA ;

create table STS.AAA as
{
select *  from "STS"."DIMCUSTOMER"
};
```

Instructor Notes:

Native SQL using SAP HANA

VIEW

- Syntax

  create view view_name as
  select column1 column2 as field_name from table_name

- example of code is:

```
create view STS.STS_VIEW as
SELECT  countryname as COUNTRY,
SUM(netsales) as TOTAL_SALES
FROM "STSFLAT"."STSCUSTOMERFLATFILE"
GROUP BY countryname
HAVING sum(netsales) > 4000000
order by COUNTRYNAME
```

Instructor Notes:

Native SQL using SAP HANA

SCHEMA

- Syntax
  create / drop schema schema_name
- example of code is:

create schema newuseradditionalschema owned by newuser

drop schema “NEWUSERADDITIONALSCHEMA”

Instructor Notes:

Native SQL using SAP HANA

TABLE TYPES

- Syntax
  alter table table_name alter type row or column

- example of code is:

```
create column table sts.columnstoretable
(columna int)

alter table "STS"."COLUMNSTORETABLE" alter type row;
```

Instructor Notes:

Native SQL – Syntax check

Native SQL Statement Testing is done in SAP HANA Studio

As there is no syntax check for native SQL statements in ABAP, it can be very difficult to ensure the syntax is correct.

A convenient solution can be to use the SQL Console view of the

SAP HANA Studio.

Instructor Notes:

Difference between classical open SQL and Native SQL

Important Syntax Differences Between Native HANA SQL and Open SQL

- Column lists are comma separated
- Table and column name qualifiers are separated using "."

Classical Open SQL:

```
SELECT carrid connid cityfrom cityto
  FROM spfli
  INTO ...
 WHERE carrid = 'LH' ...
 ORDER BY carrid connid.
```

Native SQL:

```
SELECT carrid, connid, cityfrom, cityto
  FROM repzme.spfli
 WHERE carrid = 'LH' ...
       and mandt = sy-mandt
 ORDER BY carrid, connid
```

Comma-separated field list

Database schema has to be specified (if not user's default schema)

No automatic client handling Client is 'just a key field'

Classical Open SQL Syntax and Native SQL Syntax

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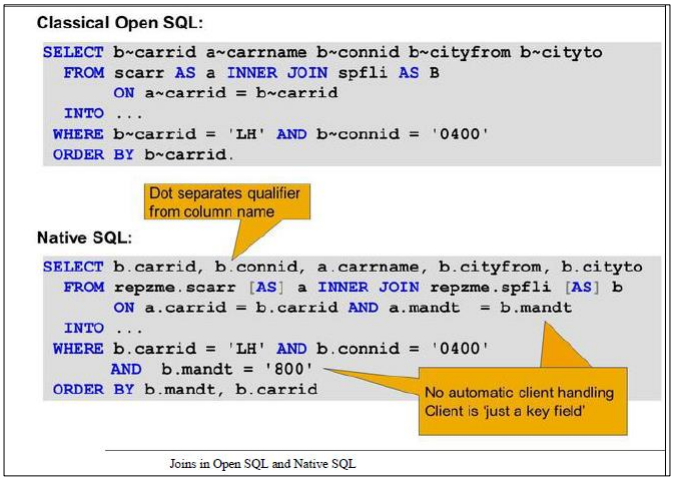
Instructor Notes:

Difference between classical open SQL and Native SQL



Instructor Notes:

Add instructor notes here.

Summary

In this lesson, you have learnt:

- How to use native SQL for SAP HANA
- Different SQL syntaxes used for SAP HANA

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Add the notes here.

Instructor Notes:

Add instructor notes here.

Review Question

SQLScript is used in SAP HANA when other modeling constructs of HANA such as Attribute views or Analytic views are not sufficient.

- True
- False

Add the notes here.

Instructor Notes: