



SQL (STRUCTURED QUERY LANGUAGE)

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SQL STRUCTURED QUERY LANGUAGE

- SQL is a programming language used to manage and manipulate the database.
- In this database, we use one main operation called as CRUD operation.
 - C – Create or Insert
 - R – Read or Retrieve
 - U – Update or Modify
 - D – Delete or Drop

Overall Statements in SQL

- **DDL – Data Definition Language**

It is used to construct a object into the database. The 5 sub-statements of DDL are Create, Rename, Alter, Truncate and Drop

- **DML – Data Manipulation Language**

It is used to Insert, Update and Delete the record into the table

- **TCL – Transaction Control Language**

It is used to control the Transaction between the database. The 3 sub-statements are Commit, Save-point, Rollback.

- **DCL – Data Control Language**

It is used to control the Transaction between the Users. The 2 sub-statements are Grant and Revoke

- **DQL – Data Query Language**

It is a process to Retrieve or Fetch the Data from the Database. The 4 sub-statements of DQL are Select, Projection, Selection and Joins.

Create database

The screenshot displays a database management application with a menu bar (File, Edit, View, Query, Database, Server, Tools, Scripting, Help) and a toolbar. The left sidebar contains sections for MANAGEMENT (Server Status, Client Connections, Users and Privileges, Status and System Variables, Data Export, Data Import/Restore), INSTANCE (Startup / Shutdown, Server Logs, Options File), and PERFORMANCE (Dashboard, Performance Reports, Performance Schema Setup). Below this are tabs for Administration (selected) and Schemas, and an Information section showing 'No object selected'. The main editor area has tabs for 'sql 1st', 'SQL File 3*', and 'SQL File 4*'. The active tab shows a SQL query: `create database project1;`. The right sidebar has a 'SQLAdditions' section with a message: 'Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.' Below this are 'Context Help' and 'Snippets' tabs. The bottom section is the 'Output' window, which shows the 'Action Output' of the executed command.

#	Time	Action	Message	Duration / Fetch
✓ 1	21:48:59	create database project1	1 row(s) affected	0.015 sec

Table: samplesuperstore

The screenshot shows a database management interface with a menu bar (File, Edit, View, Query, Database, Server, Tools, Scripting, Help) and a toolbar. The left sidebar contains a 'SCHEMAS' tree with a search filter and a list of objects including 'project1'. The main editor displays a SQL script with four lines: 'create database project1;', 'use project1;', 'show tables;', and 'select * from samplesuperstore;'. Below the script is a 'Result Grid' showing a table with columns: Ship Mode, Segment, Country, City, State, Postal Code, Region, and Category. The table contains 10 rows of data. The bottom section shows the 'Output' pane with a table of execution logs, including timestamps, actions, messages, and durations.

File Edit View Query Database Server Tools Scripting Help

Navigator: sql 1st SQL File 3* SQL File 4* x

SCHEMAS

Filter objects

- comp
- company
- compy
- project1
 - Tables
 - Views
 - Stored Procedures
 - Functions
- sql112
- sys

Administration Schemas

Information

Schema: project1

SQL File 4* x

Limit to 500 rows

```
1 • create database project1;
2 • use project1;
3 • show tables;
4 • select * from samplesuperstore;
```

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

Result Grid

	Ship Mode	Segment	Country	City	State	Postal Code	Region	Category
▶	Second Class	Consumer	United States	Henderson	Kentucky	42420	South	Furniture
	Second Class	Consumer	United States	Henderson	Kentucky	42420	South	Furniture
	Second Class	Corporate	United States	Los Angeles	California	90036	West	Office Supplies
	Standard Class	Consumer	United States	Fort Lauderdale	Florida	33311	South	Furniture
	Standard Class	Consumer	United States	Fort Lauderdale	Florida	33311	South	Office Supplies
	Standard Class	Consumer	United States	Los Angeles	California	90032	West	Furniture
	Standard Class	Consumer	United States	Los Angeles	California	90032	West	Office Supplies
	Standard Class	Consumer	United States	Los Angeles	California	90032	West	Technology
	Standard Class	Consumer	United States	Los Angeles	California	90032	West	Office Supplies
	Standard Class	Consumer	United States	Los Angeles	California	90032	West	Office Supplies

Result Grid

Form Editor

Field Types

Read Only Context Help Snippets

Output

Action Output

#	Time	Action	Message	Duration / Fetch
✓ 3	21:53:00	SHOW SESSION VARIABLES LIKE 'lower_case_table_names'	OK	0.000 sec
✓ 4	21:53:05	CREATE TABLE 'project1'. 'samplesuperstore' ('Ship Mode' text, 'Segment' text, 'Country' text, 'City' text, 'Stat...	OK	0.000 sec
✓ 5	21:53:05	PREPARE stmt FROM 'INSERT INTO 'project1'. 'samplesuperstore' ('Ship Mode', 'Segment', 'Country', 'City', 'St...	OK	0.000 sec
✓ 6	21:54:14	DEALLOCATE PREPARE stmt	OK	0.000 sec
✓ 7	21:54:17	use project1	0 row(s) affected	0.000 sec
✓ 8	21:54:21	select * from samplesuperstore LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

1) Write a query to display city and state in the samplesuperstore

The screenshot displays the SAP HANA Studio interface. The left sidebar shows the 'SCHEMAS' tree with 'project1' selected. The main editor shows a SQL script in 'SQL File 4*' with the following content:

```
1 • create database project1;
2 • use project1;
3 • show tables;
4 • select * from samplesuperstore;
5 • select City,State
6 • from samplesuperstore;
```

The 'Result Grid' below the editor shows the output of the query:

City	State
Henderson	Kentucky
Henderson	Kentucky
Los Angeles	California
Fort Lauderdale	Florida
Fort Lauderdale	Florida
Los Angeles	California
Los Angeles	California
Los Angeles	California
Los Angeles	California
Los Angeles	California
Los Angeles	California
Los Angeles	California

The bottom pane shows the 'Output' tab with 'Action Output' selected, displaying a log of database actions:

#	Time	Action	Message	Duration / Fetch
5	21:53:05	PREPARE stmt FROM 'INSERT INTO 'project1'.samplesuperstore' ('Ship Mode','Segment','Country','City','St...	OK	0.000 sec
6	21:54:14	DEALLOCATE PREPARE stmt	OK	0.000 sec
7	21:54:17	use project 1	0 row(s) affected	0.000 sec
8	21:54:21	select * from samplesuperstore LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec
9	21:58:09	use project 1	0 row(s) affected	0.000 sec
10	21:58:16	select City,State from samplesuperstore LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec

2) Write a query to display sales in the samplesuperstore

The screenshot displays the SAP HANA Studio interface. The left sidebar shows the 'SCHEMAS' tree with 'project1' selected. The main editor shows an SQL query in 'SQL File 4*':

```
2 • use project1;
3 • show tables;
4 • select * from samplesuperstore;
5 • select City,State
6   from samplesuperstore;
7 • select Sales
8   from samplesuperstore;
```

The 'Result Grid' shows the output of the query, displaying a single column 'Sales' with 10 rows of numerical values. The bottom pane shows the 'Output' window with a table of execution logs.

#	Time	Action	Message	Duration / Fetch
✓ 22	22:55:13	use project1	0 row(s) affected	0.000 sec
✓ 23	22:55:20	select profit from samplesuperstore where City='Colmbia' LIMIT 0, 500	0 row(s) returned	0.000 sec / 0.000 sec
✓ 24	22:55:53	use project1	0 row(s) affected	0.000 sec
✓ 25	22:55:58	select Profit from samplesuperstore where City='Colmbia' LIMIT 0, 500	0 row(s) returned	0.015 sec / 0.000 sec
✓ 26	22:57:15	use project1	0 row(s) affected	0.000 sec
✓ 27	22:57:21	select Sales from samplesuperstore LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec

3) Write a query to display sales of state florida in the samplesuperstore

The screenshot shows the SQL Developer interface with a query editor and a results grid. The query is as follows:

```
10 from samplesuperstore ;
11 select State,Sales
12 from samplesuperstore
13 where Region='East';
14 select Sales
15 from samplesuperstore
16 where State='florida';
```

The results grid displays the following data:

Sales
957.5775
22.368
95.616
233.86
620.6145
5.328
258.072
617.976
254.058
194.528
961.48
178.384

The Output window shows the following log:

#	Time	Action	Message	Duration / Fetch
3	12:35:07	select Sales from samplesuperstore where State='florida' LIMIT 0, 500	383 row(s) returned	0.000 sec / 0.000 sec
4	12:36:32	from samplesuperstore	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se...	0.000 sec
5	12:36:34	from samplesuperstore	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se...	0.000 sec
6	12:37:04	select * from samplesuperstore LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec
7	12:37:57	use project1	0 row(s) affected	0.000 sec
8	12:38:03	select Sales from samplesuperstore where State='florida' LIMIT 0, 500	383 row(s) returned	0.000 sec / 0.000 sec

4) Write a query to display sales & sub-category where profit is greater than 150 in samplesuperstore

The screenshot shows a SQL IDE interface with the following components:

- Navigator:** A tree view on the left showing a database schema with tables, views, stored procedures, and functions. The 'project1' database is selected.
- SQL Editor:** The main area for writing SQL queries. It contains the following code:

```
13 where Region='East';
14 select Sales
15 from samplesuperstore
16 where State='florida';
17 select Sales,'sub-category'
18 from samplesuperstore
19 where Profit > 150;
```
- Result Grid:** A table showing the results of the query. It has two columns: 'Sales' and 'sub-category'. The data is as follows:

Sales	sub-category
731.94	sub-category
1044.63	sub-category
1029.95	sub-category
787.53	sub-category
839.43	sub-category
1951.84	sub-category
944.93	sub-category
2001.86	sub-category
1503.25	sub-category
3347.37	sub-category
361.92	sub-category
725.84	sub-category
- Output:** A log of database actions and messages. It shows the execution of the query and the resulting row counts.

#	Time	Action	Message	Duration / Fetch
5	12:36:34	from samplesuperstore	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se...	0.000 sec
6	12:37:04	select * from samplesuperstore LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec
7	12:37:57	use project 1	0 row(s) affected	0.000 sec
8	12:38:03	select Sales from samplesuperstore where State='florida' LIMIT 0, 500	383 row(s) returned	0.000 sec / 0.000 sec
9	13:01:08	use project 1	0 row(s) affected	0.000 sec
10	13:01:14	select Sales,'sub-category' from samplesuperstore where Profit > 150 LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec

5) Write a query to display sales, sub-category and profit with deduction of 25% & hike of 25%

The screenshot shows a SQL IDE interface with a menu bar (File, Edit, View, Query, Database, Server, Tools, Scripting, Help) and a toolbar. The left sidebar contains a 'SCHEMAS' tree with a search filter and a list of objects including 'project1'. The main editor displays a SQL query in a file named 'SQL File 4*':

```
12 from samplesuperstore
13 where Region='East';
14 • select Sales
15 from samplesuperstore
16 where State='florid';
17 • select 'sub-category',Sales,Profit+Profit*25/100
18 from samplesuperstore;
```

Below the query editor is the 'Result Grid' showing 10 rows of data:

	sub-category	Sales	Profit+Profit*25/100
▶	sub-category	261.96	52.392
	sub-category	731.94	274.4774999999996
	sub-category	14.62	8.58925
	sub-category	957.5775	-478.78875
	sub-category	22.368	3.1455
	sub-category	48.86	17.71175
	sub-category	7.28	2.457
	sub-category	907.152	113.394
	sub-category	18.504	7.228124999999995
	sub-category	114.9	43.0875
	sub-category	1706.184	106.63650000000001
	sub-category	911.424	85.44600000000001

On the right, a 'SQLAdditions' panel displays a message: 'Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.'

At the bottom, the 'Output' pane shows 'Action Output' with a table of execution logs:

#	Time	Action	Message	Duration / Fetch
✓ 9	13:01:08	use project1	0 row(s) affected	0.000 sec
✓ 10	13:01:14	select Sales,'sub-category' from samplesuperstore where Profit > 150 LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec
✓ 11	13:17:45	use project1	0 row(s) affected	0.000 sec
✗ 12	13:17:59	select 'sub-category',Sales,Profit+Profit*25/100 from samplesuperstoer LIMIT 0, 500	Error Code: 1146. Table 'project1.samplesuperstoer' doesn't exist	0.000 sec
✓ 13	13:18:29	use project1	0 row(s) affected	0.000 sec
✓ 14	13:18:33	select 'sub-category',Sales,Profit+Profit*25/100 from samplesuperstore LIMIT 0, 500	500 row(s) returned	0.016 sec / 0.000 sec

6) Write a query to display profit of city fort Lauderdale in samplesuperstore

The screenshot displays the SAP HANA Studio interface. The main editor shows a SQL query in a file named 'SQL File 4*'. The query is as follows:

```
14 • select Sales
15   from samplesuperstore
16   where State='florida';
17 • select Profit
18   from samplesuperstore
19   where city='Fort Lauderdale';
20
```

The 'Result Grid' tab is active, showing the results of the second query. The results are as follows:

Profit
-383.031
2.5164
3.6288
5.7312
-29.4368
8.2848
-5.176
58.464
130.2885
14.595
-114.3534
239.976

The 'Output' pane at the bottom shows the execution log with the following entries:

#	Time	Action	Message	Duration / Fetch
✓ 25	14:55:10	select profit from samplesuperstore where city='Fort Landerdale' LIMIT 0, 500	0 row(s) returned	0.000 sec / 0.000 sec
✓ 26	14:55:58	use project 1	0 row(s) affected	0.000 sec
✓ 27	14:56:09	select Profit from samplesuperstore where city='Fort Landerdale' LIMIT 0, 500	0 row(s) returned	0.016 sec / 0.000 sec
✓ 28	14:56:21	select * from samplesuperstore LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec
✓ 29	14:56:50	use project 1	0 row(s) affected	0.000 sec
✓ 30	14:56:56	select Profit from samplesuperstore where city='Fort Lauderdale' LIMIT 0, 500	15 row(s) returned	0.000 sec / 0.000 sec

7) Write a query to display sales by region & country in the samplesuperstore

The screenshot displays the SAP HANA Studio interface. The main editor shows a SQL query in a file named 'SQL File 4*'. The query is as follows:

```
17 • select Profit
18   from samplesuperstore
19   where city='Fort Lauderdale';
20 • select Region, Country, sum(Sales)
21   from samplesuperstore
22   group by Region, Country;
```

Below the editor, the 'Result Grid' tab is active, showing the results of the query. The results are as follows:

Region	Country	sum(Sales)
South	United States	391721.9050000003
West	United States	725457.8245000006
Central	United States	501239.8908000005
East	United States	678781.2399999979

On the right side of the interface, a message states: 'Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.'

At the bottom of the interface, the 'Output' tab is active, showing a log of actions. The log includes the following entries:

#	Time	Action	Message	Duration / Fetch
31	15:07:04	use project 1	0 row(s) affected	0.000 sec
32	15:07:11	select Shipmode, Sales from samplesuperstore GROUP BY Shipmode LIMIT 0, 500	Error Code: 1054. Unknown column 'Shipmode' in field list	0.000 sec
33	15:08:49	use project 1	0 row(s) affected	0.000 sec
34	15:09:03	select region, country, sales from samplesuperstore group by region, country LIMIT 0, 500	Error Code: 1055. Expression #3 of SELECT list is not in GROUP BY clause and contains nonaggregated colu...	0.000 sec
35	15:10:45	use project 1	0 row(s) affected	0.000 sec
36	15:10:48	select Region, Country, sum(Sales) from samplesuperstore group by Region, Country LIMIT 0, 500	4 row(s) returned	0.015 sec / 0.000 sec

8) Write a query to display total quantity sold by state in the samplesuperstore

The screenshot shows a SQL IDE interface with the following components:

- Navigator:** A tree view on the left showing the database schema. The 'project1' folder is expanded, showing 'Tables', 'Views', 'Stored Procedures', and 'Functions'. The 'sys' folder is also visible.
- SQL Editor:** The main area for writing SQL queries. The current query is:

```
21 from samplesuperstore
22 group by Region,Country;
23 select State,sum(Quantity)
24 from samplesuperstore
25 group by State;
```
- Result Grid:** A table showing the results of the query. The columns are 'State' and 'sum(Quantity)'. The data is as follows:

State	sum(Quantity)
Kentucky	523
California	7667
Florida	1379
North Carolina	983
Washington	1883
Texas	3724
Wisconsin	463
Utah	219
Nebraska	136
Pennsylvania	2153
Illinois	1845
Minnesota	331
- Output:** A log of database actions at the bottom. The actions are as follows:

#	Time	Action	Message	Duration / Fetch
33	15:08:49	use project 1	0 row(s) affected	0.000 sec
34	15:09:03	select region,country,sales from samplesuperstore group by region,country LIMIT 0, 500	Error Code: 1055. Expression #3 of SELECT list is not in GROUP BY clause and contains nonaggregated colu...	0.000 sec
35	15:10:45	use project 1	0 row(s) affected	0.000 sec
36	15:10:48	select Region,Country,sum(Sales) from samplesuperstore group by Region,Country LIMIT 0, 500	4 row(s) returned	0.015 sec / 0.000 sec
37	15:18:40	use project 1	0 row(s) affected	0.000 sec
38	15:18:46	select State,sum(Quantity) from samplesuperstore group by State LIMIT 0, 500	49 row(s) returned	0.016 sec / 0.000 sec

9) Write a query to display average discount by segment

The screenshot shows a SQL IDE interface with a menu bar (File, Edit, View, Query, Database, Server, Tools, Scripting, Help) and a toolbar. The left sidebar contains a 'SCHEMAS' panel with a search filter and a tree view showing a database structure with 'project1' selected. The main editor displays a SQL query in a file named 'SQL File 4*'. The query is as follows:

```
24 from samplesuperstore
25 group by State;
26 select Segment, avg(Discount)
27 from samplesuperstore
28 group by Segment;
```

Below the editor, the 'Result Grid' is visible, showing the results of the query:

Segment	avg(Discount)
Consumer	0.15814101329224042
Corporate	0.15822847682118915
Home Office	0.14712843522153524

On the right side, the 'SQLAdditions' panel displays a message: 'Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.'

At the bottom, the 'Output' panel shows a log of actions and messages:

#	Time	Action	Message	Duration / Fetch
38	15:18:46	select State,sum(Quantity) from samplesuperstore group by State LIMIT 0, 500	49 row(s) returned	0.016 sec / 0.000 sec
39	15:23:26	use project1	0 row(s) affected	0.000 sec
40	15:23:42	ect avg(Sales) from(select Customer,sum(Sales) from samplesuperstore group by Customer)AS avg_Sale	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se...	0.000 sec
41	15:24:37	select * from samplesuperstore LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec
42	15:30:12	use project1	0 row(s) affected	0.000 sec
43	15:30:19	select Segment,avg(Discount) from samplesuperstore group by Segment LIMIT 0, 500	3 row(s) returned	0.016 sec / 0.000 sec

10) Write a query to display quantity sold by state & city in California state

The screenshot shows a SQL IDE interface with a query editor, a result grid, and an output pane.

Query Editor: The query is as follows:

```
28 group by Segment;
29 select City,sum(Quantity)
30 from samplesuperstore
31 where State='California'
32 group by City;
```

Result Grid: The result grid displays the following data:

City	sum(Quantity)
Los Angeles	2879
San Francisco	1935
Roseville	55
Pasadena	97
San Jose	159
Redlands	61
Whittier	4
Santa Clara	23
San Diego	670
Brentwood	66
Inglewood	53
Long Beach	114

Output Pane: The output pane shows the execution log with the following entries:

#	Time	Action	Message	Duration / Fetch
40	15:23:42	ect avg(Sales) from(select Customer,sum(Sales) from samplesuperstore group by Customer)AS avg_Sale	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se...	0.000 sec
41	15:24:37	select * from samplesuperstore LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec
42	15:30:12	use project 1	0 row(s) affected	0.000 sec
43	15:30:19	select Segment,avg(Discount) from samplesuperstore group by Segment LIMIT 0, 500	3 row(s) returned	0.016 sec / 0.000 sec
44	15:35:41	use project 1	0 row(s) affected	0.000 sec
45	15:35:51	select City,sum(Quantity) from samplesuperstore where State='California' group by City LIMIT 0, 500	81 row(s) returned	0.000 sec / 0.000 sec

The screenshot displays the SQL Developer environment. The top menu bar includes File, Edit, View, Query, Database, Server, Tools, Scripting, and Help. The left sidebar shows the Navigator pane with a tree view of schemas: comp, company, compy, project1 (expanded), Tables, Views, Stored Procedures, Functions, sql112, and sys. The main editor window shows a SQL file with the following query:

```

29 • select City,sum(Quantity)
30   from samplesuperstore
31  where State='California'
32  group by City;
33 • select avg(Sales)
34   from samplesuperstore
35

```

Below the editor, the Result Grid shows the execution results:

avg(Sales)
229.8580008304938

The right sidebar contains the SQLAdditions pane with a message: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help." Below this are buttons for Result Grid, Form Editor, and Field Types.

At the bottom, the Output pane shows the Action Output log:

#	Time	Action	Message	Duration / Fetch
✓ 42	15:30:12	use project1	0 row(s) affected	0.000 sec
✓ 43	15:30:19	select Segment,avg(Discount) from samplesuperstore group by Segment LIMIT 0, 500	3 row(s) returned	0.016 sec / 0.000 sec
✓ 44	15:35:41	use project1	0 row(s) affected	0.000 sec
✓ 45	15:35:51	select City,sum(Quantity) from samplesuperstore where State='California' group by City LIMIT 0, 500	81 row(s) returned	0.000 sec / 0.000 sec
✓ 46	15:39:55	use project1	0 row(s) affected	0.000 sec
✓ 47	15:40:04	select avg(Sales) from samplesuperstore LIMIT 0, 500	1 row(s) returned	0.000 sec / 0.000 sec

12) Write samplesu

The screenshot displays the SQL Developer environment. The top menu bar includes File, Edit, View, Query, Database, Server, Tools, Scripting, and Help. The Navigator pane on the left shows a tree structure with Schemas (comp, company, compy, project1, sql112, sys) and Tables (Views, Stored Procedures, Functions). The main query editor shows a SQL query: `select State,sum(Sales) from samplesuperstore where Region='West' group by State order by sum(Sales) desc limit 6;`. Below the query editor is the Result Grid, which displays the following data:

State	sum(Sales)
California	457687.631500001
Washington	138641.26999999993
Arizona	35282.001
Colorado	32108.117999999995
Oregon	17431.149999999999
Nevada	16729.102

Below the Result Grid is the Action Output pane, which shows a log of database actions. The log includes the following entries:

#	Time	Action	Message	Duration / Fetch
47	15:40:04	select avg(Sales) from samplesuperstore LIMIT 0, 500	1 row(s) returned	0.000 sec / 0.000 sec
48	15:42:51	use project1	0 row(s) affected	0.000 sec
49	15:42:57	select avg(Sales) from samplesuperstore LIMIT 0, 500	1 row(s) returned	0.000 sec / 0.000 sec
50	15:46:25	use project1	0 row(s) affected	0.000 sec
51	15:46:25	use project1	0 row(s) affected	0.000 sec
52	15:47:03	select State,sum(Sales) from samplesuperstore where Region='West' group by State order by sum(Sales) desc li...	6 row(s) returned	0.015 sec / 0.000 sec

13) Write a query to display sales by category & sub-category in the samplesuperstore

FileEditViewQueryDatabaseServerToolsScriptingHelp

SQL File 4*

Limit to 500 rows

37 where Region='West'

38 group by State

39 order by sum(Sales)

40 desc limit 6;

41 select Category,'Sub-category',sum(Sales)

42 from samplesuperstore

43 group by Category,'Sub-category';

Result Grid

	Category	Sub-category	sum(Sales)
▶	Furniture	Sub-category	741999.7952999998
	Office Supplies	Sub-category	719047.0320000029
	Technology	Sub-category	836154.0329999966

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

AdministrationSchemas

Information

No object selected

Output

Action Output

#	Time	Action	Message	Duration / Fetch
✓ 49	15:42:57	select avg(Sales) from samplesuperstore LIMIT 0, 500	1 row(s) returned	0.000 sec / 0.000 sec
✓ 50	15:46:25	use project1	0 row(s) affected	0.000 sec
✓ 51	15:46:25	use project1	0 row(s) affected	0.000 sec
✓ 52	15:47:03	select State,sum(Sales) from samplesuperstore where Region='West' group by State order by sum(Sales) desc li...	6 row(s) returned	0.015 sec / 0.000 sec
✓ 53	15:52:24	use project1	0 row(s) affected	0.000 sec
✓ 54	15:52:33	select Category,'Sub-category',sum(Sales) from samplesuperstore group by Category,'Sub-category' LIMIT 0, 500	3 row(s) returned	0.016 sec / 0.000 sec

14) Write a query to display top 3 customer by sales in the samplesuperstore

The screenshot displays the SAP HANA Studio interface. The main editor shows a SQL query to find the top 3 cities by sales in the 'samplesuperstore' table. The query is as follows:

```
43 group by Category, 'Sub-category';
44 select City, sum(Sales)
45 from samplesuperstore
46 group by City
47 order by sum(Sales)
48 desc limit 3;
49
```

Below the query editor, the 'Result Grid' shows the following data:

City	sum(Sales)
New York City	256368.161
Los Angeles	175851.341
Seattle	119540.742

On the right side, a message states: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."

At the bottom, the 'Output' pane shows the 'Action Output' table:

#	Time	Action	Message	Duration / Fetch
53	15:52:24	use project 1	0 row(s) affected	0.000 sec
54	15:52:33	select Category, 'Sub-category', sum(Sales) from samplesuperstore group by Category, 'Sub-category' LIMIT 0, 500	3 row(s) returned	0.016 sec / 0.000 sec
55	15:56:16	use project 1	0 row(s) affected	0.000 sec
56	15:56:24	select Category, sum(Profit) from samplesuperstore group by Category order by sum(Profit) desc limit 3	3 row(s) returned	0.016 sec / 0.000 sec
57	15:58:13	use project 1	0 row(s) affected	0.000 sec
58	15:58:20	select City, sum(Sales) from samplesuperstore group by City order by sum(Sales) desc limit 3	3 row(s) returned	0.015 sec / 0.000 sec

15) Write a query to display total sales by city & region in the samplesuperstore

The screenshot shows a SQL IDE interface with the following components:

- Navigator:** A tree view on the left showing the database schema. The 'project1' schema is selected, showing tables, views, stored procedures, and functions.
- SQL Editor:** The main area for writing SQL queries. It contains two queries:

```
7 • select State,sum(Profit)
8   from samplesuperstore
9   group by State;
10 • select Region,sum(Sales)
11   from samplesuperstore
12   group by Region;
```
- Result Grid:** A table showing the results of the second query. It has two columns: 'Region' and 'sum(Sales)'. The data is as follows:

Region	sum(Sales)
South	391721.9050000003
West	725457.8245000006
Central	501239.8908000005
East	678781.2399999999
- SQLAdditions:** A panel on the right with a message: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."
- Output:** A panel at the bottom showing the execution log. It includes a table with columns: #, Time, Action, Message, and Duration / Fetch.

#	Time	Action	Message	Duration / Fetch
18	16:27:03	use project 1	0 row(s) affected	0.000 sec
19	16:27:07	select State,sum(Profit) from samplesuperstore group by State LIMIT 0, 500	49 row(s) returned	0.032 sec / 0.000 sec
20	16:38:15	use project 1	0 row(s) affected	0.000 sec
21	16:38:22	select Shipmode,sum(Sales) from samplesuperstore group by Shipmode LIMIT 0, 500	Error Code: 1054. Unknown column 'Shipmode' in 'field list'	0.000 sec
22	16:39:57	use project 1	0 row(s) affected	0.000 sec
23	16:40:01	select Region,sum(Sales) from samplesuperstore group by Region LIMIT 0, 500	4 row(s) returned	0.032 sec / 0.000 sec

16) Write a query to display profit by state in the samplesuperstore

The screenshot shows the SAP HANA Studio interface. The main editor displays a SQL query with two parts. The first part, which is commented out, selects Segment, Shipmode, and sum(Sales) from samplesuperstore where Segment='Consumer', grouped by Shipmode. The second part, which is active, selects State and sum(Profit) from samplesuperstore, grouped by State. The result grid below shows the output of the active query, displaying 10 rows of data for various US states.

SQL Query:

```
3 • select Segment, Shipmode, sum(Sales)
4   from samplesuperstore
5   where Segment='Consumer'
6   group by Shipmode;
7 • select State, sum(Profit)
8   from samplesuperstore
9   group by State;
```

Result Grid:

State	sum(Profit)
Kentucky	11199.6966000000005
California	76381.38710000017
Florida	-3399.3017
North Carolina	-7490.912200000003
Washington	33402.651699999995
Texas	-25729.3563
Wisconsin	8401.800399999998
Utah	2546.5335000000005
Nebraska	2037.0942000000007
Pennsylvania	-15559.960300000013
Illinois	-12607.886999999998
Minnesota	10823.1874

Action Output Log:

#	Time	Action	Message	Duration / Fetch
14	16:24:26	select Segment, Shipmode, sum(Sales) from samplesuperstore where Segment='Consumer' group by Shipmode ...	Error Code: 1054. Unknown column 'Shipmode' in 'field list'	0.000 sec
15	16:25:45	use project1	0 row(s) affected	0.000 sec
16	16:25:51	select Category, sum(Profit) from samplesuperstore group by Category LIMIT 0, 500	3 row(s) returned	0.016 sec / 0.000 sec
17	16:26:19	select * from samplesuperstore LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec
18	16:27:03	use project1	0 row(s) affected	0.000 sec
19	16:27:07	select State, sum(Profit) from samplesuperstore group by State LIMIT 0, 500	49 row(s) returned	0.032 sec / 0.000 sec

17) Write a query to display total profit by region in the samplesuperstore

The screenshot displays the SAP HANA Studio interface. The left sidebar shows the 'SCHEMAS' tree with 'project1' selected. The main editor shows two SQL queries. The first query calculates total profit by state, and the second query calculates total sales by region. The results of the second query are shown in a table below the editor. The bottom pane shows the 'Output' window with a log of actions and their results.

SQL Queries:

```
7 • select State,sum(Profit)
8   from samplesuperstore
9   group by State;
10 • select Region,sum(Sales)
11   from samplesuperstore
12   group by Region;
```

Result Grid:

Region	sum(Sales)
South	391721.9050000003
West	725457.8245000006
Central	501239.8908000005
East	678781.2399999979

Output Log:

#	Time	Action	Message	Duration / Fetch
✓ 18	16:27:03	use project1	0 row(s) affected	0.000 sec
✓ 19	16:27:07	select State,sum(Profit) from samplesuperstore group by State LIMIT 0, 500	49 row(s) returned	0.032 sec / 0.000 sec
✓ 20	16:38:15	use project1	0 row(s) affected	0.000 sec
✗ 21	16:38:22	select Shipmode,sum(Sales) from samplesuperstore group by Shipmode LIMIT 0, 500	Error Code: 1054. Unknown column 'Shipmode' in 'field list'	0.000 sec
✓ 22	16:39:57	use project1	0 row(s) affected	0.000 sec
✓ 23	16:40:01	select Region,sum(Sales) from samplesuperstore group by Region LIMIT 0, 500	4 row(s) returned	0.032 sec / 0.000 sec

18) Write a query to display category name in uppercase and their original forms in the samplesuperstore

The screenshot displays the SAP HANA Studio interface. The left sidebar shows the 'SCHEMAS' tree with 'project1' selected. The main editor shows a SQL query in 'SQL File 4*':

```
8 from samplesuperstore
9 group by State;
10 • select Region,sum(Sales)
11 from samplesuperstore
12 group by Region;
13 • select upper(Category),Category
14 from samplesuperstore
```

The 'Result Grid' shows the output of the query:

upper(Category)	Category
FURNITURE	Furniture
FURNITURE	Furniture
OFFICE SUPPLIES	Office Supplies
FURNITURE	Furniture
OFFICE SUPPLIES	Office Supplies
FURNITURE	Furniture
OFFICE SUPPLIES	Office Supplies
TECHNOLOGY	Technology
OFFICE SUPPLIES	Office Supplies
OFFICE SUPPLIES	Office Supplies
FURNITURE	Furniture
TECHNOLOGY	Technology

The bottom 'Output' pane shows the 'Action Output' table:

#	Time	Action	Message	Duration / Fetch
✓ 20	16:38:15	use project1	0 row(s) affected	0.000 sec
✗ 21	16:38:22	select Shipmode,sum(Sales) from samplesuperstore group by Shipmode LIMIT 0, 500	Error Code: 1054. Unknown column 'Shipmode' in 'field list'	0.000 sec
✓ 22	16:39:57	use project1	0 row(s) affected	0.000 sec
✓ 23	16:40:01	select Region,sum(Sales) from samplesuperstore group by Region LIMIT 0, 500	4 row(s) returned	0.032 sec / 0.000 sec
✓ 24	16:43:41	use project1	0 row(s) affected	0.000 sec
✓ 25	16:43:46	select upper(Category),Category from samplesuperstore LIMIT 0, 500	500 row(s) returned	0.016 sec / 0.000 sec

19) Write a query to display city in the samplesuperstore table that start with 'L'

The screenshot displays the SAP HANA Studio interface. The central editor shows a SQL query in 'SQL File 4*' with the following code:

```
12 group by Region;  
13 select upper(Category),Category  
14 from samplesuperstore  
15 select City  
16 from samplesuperstore  
17 where city like 'L%';  
18
```

Below the editor, the 'Result Grid' shows the output of the query, displaying a list of cities, all of which are 'Los Angeles'.

On the right side, a message box states: 'Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.'

At the bottom, the 'Output' pane shows the 'Action Output' table, which records the execution of the query and its results.

#	Time	Action	Message	Duration / Fetch
27	16:47:44	use project 1	0 row(s) affected	0.000 sec
28	16:47:49	select City from samplesuperstore where city='L%' LIMIT 0, 500	0 row(s) returned	0.016 sec / 0.000 sec
29	16:48:35	use project 1	0 row(s) affected	0.000 sec
30	16:48:42	select City from samplesuperstore where city like = 'L%'	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se...	0.000 sec
31	16:49:15	use project 1	0 row(s) affected	0.000 sec
32	16:49:19	select City from samplesuperstore where city like 'L%' LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec

20) Write a query to display length of the state name and states in the samplesuperstore

The screenshot shows a SQL IDE interface with a query editor, a result grid, and an output pane. The query editor contains the following SQL code:

```
1 use project1;
2 select * from samplesuperstore;
3 select length(State),State
4 from samplesuperstore;
```

The result grid displays the following data:

	length(State)	State
8	8	Kentucky
8	8	Kentucky
10	10	California
7	7	Florida
7	7	Florida
10	10	California
10	10	California
10	10	California
10	10	California
10	10	California
10	10	California
10	10	California

The output pane shows the following log entries:

#	Time	Action	Message	Duration / Fetch
32	16:49:19	select City from samplesuperstore where city like 'L%' LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec
33	20:18:02	se project	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se...	0.000 sec
34	20:18:08	use project1	0 row(s) affected	0.000 sec
35	20:18:18	select lenght(State),State from samplesuperstore LIMIT 0, 500	Error Code: 1305. FUNCTION project1.lenght does not exist	0.015 sec
36	20:19:04	use project1	0 row(s) affected	0.000 sec
37	20:19:09	select length(State),State from samplesuperstore LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec