

1.

The screenshot shows the pgAdmin 4 interface. On the left, the 'Servers' tree is expanded to show 'PostgreSQL 9.6'. The main pane displays a SQL query with three statements. The first statement selects 'ordnumber' and 'totalued' from 'orders'. The second statement selects 'name' and 'city' from 'agents' where 'name' is 'Smith'. The third statement selects 'pid', 'name', 'priceued', and 'quantity' from 'products'. The 'Data Output' tab shows the results of the first statement, which is a table with two columns: 'ordnumber' (integer) and 'totalued' (numeric). The results are 14 rows of data.

```
1 -- 1 --
2 select ordnumber,
3        totalued
4        from orders
5
6
7 -- 2 --
8 select name,
9        city
10       from agents
11       where name = 'Smith'
12
13
14 -- 3 --
15 select pid,
16        name,
17        priceued,
18        quantity
19       from products
```

ordnumber integer	totalued numeric
1011	450
1012	880
1015	1104
1016	500
1017	540
1018	540
1019	180
1020	600
1021	460
1022	720
1023	450
1024	400
1025	720
1026	744

Total query runtime: 103 msec
14 rows retrieved.

2.

The screenshot shows the pgAdmin 4 interface. On the left, the 'Servers' tree is expanded to show 'PostgreSQL 9.6'. The main pane displays a SQL query with three statements. The first statement selects 'ordnumber' and 'totalued' from 'orders'. The second statement selects 'name' and 'city' from 'agents' where 'name' is 'Smith'. The third statement selects 'pid', 'name', 'priceued', and 'quantity' from 'products'. The 'Data Output' tab shows the results of the second statement, which is a table with two columns: 'name' (text) and 'city' (text). The results are 2 rows of data.

```
1 -- 1 --
2 select ordnumber,
3        totalued
4        from orders
5
6
7 -- 2 --
8 select name,
9        city
10       from agents
11       where name = 'Smith'
12
13
14 -- 3 --
15 select pid,
16        name,
17        priceued,
18        quantity
19       from products
```

name text	city text
Smith	New York
Smith	Dallas

Total query runtime: 201 msec
2 rows retrieved.

3.

The screenshot shows the pgAdmin 4 interface. On the left, the 'Servers' tree is expanded to show the 'postgres' database. The main pane displays a SQL query titled 'Query-1' with the following content:

```
postgres on postgres@CMD
10 from agents
11 where name = 'Smith'
12 ;
13
14 -- 3 --
15 select pid,
16        name,
17        priceused,
18        quantity
19 from products
20 where quantity > 200100
21 order by quantity DESC
22 ;
23
24 -- 4 --
25 select city,
26        name
27 from customers
28 where city = 'Duluth'
```

Below the query, the 'Data Output' tab shows a table with 4 columns: pid, name, priceused, and quantity. The table contains 3 rows of data:

pid	name	priceused	quantity
p05	pencil	1	221400
p02	brush	0.5	203000
p08	eraser	1.25	200600

A green status bar at the bottom right indicates: 'Total query runtime: 142 msec, 3 rows retrieved'.

4.

The screenshot shows the pgAdmin 4 interface. On the left, the 'Servers' tree is expanded to show the 'postgres' database. The main pane displays a SQL query titled 'Query-1' with the following content:

```
postgres on postgres@CMD
16 name,
17 priceused,
18 quantity
19 from products
20 where quantity > 200100
21 order by quantity DESC
22 ;
23
24 -- 4 --
25 select city,
26        name
27 from customers
28 where city = 'Duluth'
29 ;
30
31 -- 5 --
32 select name,
33        city
34 from agents
```

Below the query, the 'Data Output' tab shows a table with 2 columns: city and name. The table contains 2 rows of data:

city	name
Duluth	Tiptop
Duluth	ACME

A green status bar at the bottom right indicates: 'Total query runtime: 132 msec, 2 rows retrieved'.

5.

The screenshot shows the pgAdmin 4 interface. On the left, the 'Servers' tree is expanded to show the 'public' schema. The main pane displays a SQL query in the 'Query-1' tab:

```
28 where city = 'Duluth'
29 ;
30
31 -- 5 --
32 select name,
33        city
34 from agents
35 where city <> 'New York'
36       and city <> 'Duluth'
37 ;
38
39 -- 6 --
40 select *
41 from products
42 where city <> 'Dallas'
43       and city <> 'Duluth'
44       and priceusd >= 1
45 order by pid ASC
46 ;
```

Below the query, the 'Data Output' tab shows the results of the query. The results are displayed in a table with 2 columns: 'name' and 'city'.

name	city
Jones	Newark
Perry	Tokyo
Smith	Dallas
Bond	London

A green status bar at the bottom right indicates: 'Total query runtime: 101 msec. 4 rows retrieved.'

6.

The screenshot shows the pgAdmin 4 interface. On the left, the 'Servers' tree is expanded to show the 'public' schema. The main pane displays a SQL query in the 'Query-1' tab:

```
28 where city = 'Duluth'
29 ;
30
31 -- 5 --
32 select name,
33        city
34 from agents
35 where city <> 'New York'
36       and city <> 'Duluth'
37 ;
38
39 -- 6 --
40 select *
41 from products
42 where city <> 'Dallas'
43       and city <> 'Duluth'
44       and priceusd >= 1
45 order by pid ASC
46 ;
```

Below the query, the 'Data Output' tab shows the results of the query. The results are displayed in a table with 5 columns: 'pid', 'name', 'city', 'quantity', and 'priceusd'.

pid	name	city	quantity	priceusd
p07	case	Newark	100500	1
p08	eraser	Newark	200600	1.25

A green status bar at the bottom right indicates: 'Total query runtime: 100 msec. 2 rows retrieved.'

7.

The screenshot shows the pgAdmin 4 interface. On the left, the 'Servers' tree is expanded to show the 'public' schema. The main pane displays a SQL query with multiple clauses and comments. The query is as follows:

```

43  and city <> 'Duluth'
44  and prioread >= 1
45  order by pid ASC
46  /
47
48  -- 7 --
49  select *
50  from orders
51  where month = 'Jan'
52  or month = 'Feb'
53  /
54
55  -- 8 --
56  select *
57  from orders
58  where month = 'Feb'
59  and totalusd >= 600
60  /
61

```

The 'Data Output' tab shows the results of the query. The table has 8 columns: `ordnumb...`, `month`, `cid`, `aid`, `pid`, `qty`, `totalusd`, and `numeric`. The results are as follows:

ordnumb...	month	cid	aid	pid	qty	totalusd	numeric
1011	Jan	c001	a01	p01	1000	450	
1012	Jan	c002	a03	p03	1000	880	
1015	Jan	c003	a03	p05	1200	1104	
1016	Jan	c006	a01	p01	1000	500	
1017	Feb	c001	a06	p03	600	540	
1018	Feb	c001	a03	p04	600	540	
1019	Feb	c001	a02	p02	400	180	
1020	Feb	c006	a03	p07	600	600	
1021	Feb	c004	a06	p01	1000	460	

A green box at the bottom right indicates: 'Total query runtime: 136 msec. 9 rows retrieved.'

8.

The screenshot shows the pgAdmin 4 interface. On the left, the 'Servers' tree is expanded to show the 'public' schema. The main pane displays a simplified SQL query. The query is as follows:

```

49  select *
50  from orders
51  where month = 'Jan'
52  or month = 'Feb'
53  /
54
55  -- 8 --
56  select *
57  from orders
58  where month = 'Feb'
59  and totalusd >= 600
60  /
61
62  -- 9 --
63  select *
64  from orders
65  where cid = 'c006'
66  /

```

The 'Data Output' tab shows the results of the query. The table has 8 columns: `ordnumb...`, `month`, `cid`, `aid`, `pid`, `qty`, `totalusd`, and `numeric`. The results are as follows:

ordnumb...	month	cid	aid	pid	qty	totalusd	numeric
1020	Feb	c006	a03	p07	600	600	

A green box at the bottom right indicates: 'Total query runtime: 116 msec. 1 rows retrieved.'

9.

The screenshot shows the pgAdmin 4 web interface. On the left is the 'Browser' pane showing a tree view of the database structure. The main area is split into two panes: the top one contains a SQL query, and the bottom one displays the 'Data Output' table.

SQL Query:

```
-- 7 --
select *
from orders
where month = 'Jan'
or month = 'Feb'
/

-- 8 --
select *
from orders
where month = 'Feb'
and totalud >= 600
/

-- 9 --
select *
from orders
where cid = 'c006'
/
```

Data Output Table:

ordnumb.	month	cid	pid	qty	totalud
integer	character	character	character	integer	numeric
1016	Jan	c006	p01	1000	500
1020	Feb	c006	p07	600	600
1024	Mar	c006	p01	800	400

Total query runtime: 136 msec
3 rows retrieved