

# Astra Linux Special Edition x.7: PostgreSQL

- - PostgreSQL
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- Astra Linux Special Edition .10015-01 ( 1.7)
- Astra Linux Special Edition .10152-02 ( 4.7)

PostgreSQL Astra Linux Special Edition x.7. astra-ce (extended), . Astra Linux Special Edition .10015-01 ( 1.7) PostgreSQL:

- 11.10-astra.se5 - ( );
- 11.10-astra.se13 - ( 1);
- 11.12-astra.ce5 - astra-ce 1.7.2;
- 14+240astra4 - - astra-ce 1.7.2.



!

Astra Linux,  
 . , [Astra Linux Special Edition](#).

() [. 7.2.1]. Docker- rootless-, () [. 7.2.1] [. 7.2.7] .



PostgreSQL astra-ce , Astra Linux Special Edition ..  
 . [Astra Linux Special Edition x.7:](#) , .

PostgreSQL 14 astra-ce 1.7.2 PostgreSQL 11 11:

```
pg_dropcluster 11 <__>
```

## PostgreSQL

PostgreSQL («---») — - (). PostgreSQL SQL SQL:2011.

- ;
- : PL/pgSQL, PL/Perl, PL/Python PL/Tcl; PL/Java, PL/PHP, PL/Py, PL/R, PL/Ruby, PL/Scheme, PL/sh PL/V8, C;
- ;
- (, ) PostGIS;
- JSON ;
- ( , , , , ).
- - , DML-, INSERT , . (.);
- - (. rules) DML-, . SQL- . (. views): , , / , . , , , , ;
- - PostgreSQL : B-, , GiST, GIN, BRIN, Bloom. PostgreSQL :
  - , — ORDER BY ... DESC ;
  - , ;
  - , /;
  - , ( ); ( , ) ;
  - .
- (MVCC) - PostgreSQL Multiversion Concurrency Control (MVCC). ACID ;
- :
  - :
    - ;
    - ;
    - ;
    - ( , );
    - ;
  - ( BLOB);
  - «/» ( , , , );
  - ;
  - ;

- o ;
- o (RANGE);
- o :
  - IP IPv6-;
  - CIDR-;
  - MAC-;
  - UUID-
  - XML-
- o ;
- o JSON;
- o ;
- o ;
- o ;
- o (GiST());
- o : PostgreSQL . . :
  - ;
  - ;
  - ( );
  - ( );
  - ;
  - ( );
  - ;
  - : ( ). , , ( ) . , , , , ;
- o ACID;
- o ANSI, SQL-92, SQL-99, SQL:2003, SQL:2011;
- o OUTER JOIN, UNION, UNION ALL, EXCEPT, INTERSECT ;
- o ;
- o ;
- o ;
- o ;
- o (UTF-8);
- o Perl;
- o SSL, SELinux Kerberos;
- o
- o , SHA1, MD5, XML;
- o , .. (API);
- o SQL- ;

## PostgreSQL

PostgreSQL, Astra Linux Special Edition [Astra Linux Special Edition .10015-01 \( 1.7\)](#) .

PostgreSQL : <https://www.postgresql.org/docs/>

1. :
  - a. ;
  - b. PostgreSQL - , astra-ce. astra-ce .

2. :

```
sudo apt update
```

3. : ( . [Fly-astra-update](#) [astra-update](#) - ).
4. :

```
apt policy postgresql-11
```

5. postgresql-11 :

```
sudo apt install postgresql-11
```

postgresql-11 :

```
sudo apt install postgresql-11=<_>
```

6. , postgresql :

```
systemctl status postgresql
```

```
postgresql.service - PostgreSQL RDBMS
  Loaded: loaded (/lib/systemd/system/postgresql.service; enabled;
  vendor preset: enabled)
  Active: active (exited) since Fri 2021-09-10 12:48:20 MSK; 1min 26s
  ago
  Main PID: 4338 (code=exited, status=0/SUCCESS)
  Tasks: 0 (limit: 4637)
  Memory: 0B
  CGroup: /system.slice/postgresql.service
```

## PostgreSQL

1. postgres:

```
sudo su - postgres
```

postgres:

- a. :

```
psql -c "alter user postgres with password '<_>'"
```

```
• <> ;
• ;
• .
```

- b. postgres:

```
exit
```

2. c , /etc/postgresql/11/main/postgresql.conf listen\_addresses:

- a. - postgresql :

```
listen_addresses = '*'
```

- b. :

- i. postgresql IPv4:

```
listen_addresses = '0.0.0.0'
```

- ii. postgresql IPv6:

```
listen_addresses = ':::'
```

- iii. IP- , :

```
listen_addresses = '192.168.1.2,10.0.0.2'
```

3. , postgresql: iv. , UNIX(. ).

```
sudo systemctl restart postgresql
```

4. , postgresql, :

```
ss -tunelp | grep uid:`id -u postgres`
```

```
tcp        LISTEN    0          1024          0.0.0.0:
5432       0.0.0.0:*        uid:107 ino:32947 sk:5 <->
tcp        LISTEN    0          1024          [::]:
5432       [::]:*        uid:107 ino:32948 sk:9 v6only:1 <->
>
```

```
, (listen_addresses = '*', 5432 IPv4 IPv6);
```

5. , postgresql ( - 5432):  
a. ufw:

```
sudo ufw allow 5432/tcp
```

- b. firewalld:

```
sudo firewall-cmd --add-service=postgresql --zone=internal --
permanent
```

1. postgres:

```
sudo su - postgres
```

postgres:

- a. test\_user1:

```
createuser test_user1
```

- b. test\_db, :

```
createdb test_db -O test_user1
```

- c. :

```
psql -c "alter user test_user1 with password '<_>'"
```

- d. :

```
psql test_db
```

```
psql (11.12 (Debian 11.12-astra.ce5))
"help", .
test_db=#
```

:

- i. :

```
create table test_table ( id int,first_name text, last_name
text );
```

```
CREATE TABLE
```

ii. :

```
insert into test_table (id,first_name,last_name) values  
(2,'','');
```

```
INSERT 0 1
```

iii. :

```
select * from test_table;
```

```
id | first_name | last_name  
----+-----+-----  
  1 |           |  
(1 )
```

iv. :

```
exit
```

e. :

```
dropdb test_db
```

f. postgres:

```
exit
```