

PostgreSQL

PostgreSQL
sustav za upravljanje bazama podataka

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Sadržaj

- Uvod
- Povijest
- Karakteristike
- Proširenje programskim jezicima
- Postavljanje poslužitelja
- pgAdmin III
- Zaključak



PostgreSQL – Uvod

- Sustav za upravljanje bazama podataka
- Objektno relacijske baze podataka
- Otvorenog kôda (BSD License)



PostgreSQL – Povijest

- Razvoj počeo na Sveučilištu Berkley
 - Ingres
 - Postgres
 - PostgreSQL
- PostgreSQL Global Development Group



PostgreSQL – Karakteristike

- Model klijent – poslužitelj
- Podržane transakcije uz pomoć MVCC
- SQL:2008 standard
- Primarni i strani ključevi, okidači...
- Geometriški tipovi podataka
- Vlastiti tipovi podataka



PostgreSQL – Karakteristike

- Prostor baze podataka

```
CREATE TABLESPACE alt_tablespace  
LOCATION '/home/postgres/data';
```



PostgreSQL – Karakteristike

- Faktor popunjenosti
- Identifikatori objekata – OID

```
CREATE TABLE book (  
...  
) WITH (FILLFACTOR=80, OIDS=FALSE)  
TABLESPACE alt_tablespace;
```



PostgreSQL – Karakteristike

- Indeksi
 - B–stablo
 - Hash
 - GiST
 - GIN



Proširenje programskim jezicima

- Jezici namjenjeni izvršavanju na:
 - Poslužiteljskoj strani
 - Klijentskoj strani



Jezici na poslužiteljskoj strani

- Proceduralni jezici
 - PL/pgSQL
 - PL/Tcl
 - PL/Perl
 - PL/Python



Jezici na klijentskoj strani

- API
 - C, C++
 - Python
 - Java



Postavljanje poslužitelja

- Instalacija na linux-u

```
$ chmod +x postgresql-8.3.6-1-linux.bin
```

```
$ ./postgresql-8.3.6-1-linux.bin
```



```
root@beata:~# ./postgresql-8.3.6-1-linux.bin
```

```
-----  
Welcome to the PostgreSQL Setup Wizard.  
-----
```

```
Please specify the directory where PostgreSQL will be installed.
```

```
Installation Directory [/opt/PostgreSQL/8.3]: /usr/local/pgsql/8.3  
-----
```

```
Please select a directory under which to store your data.
```

```
Data Directory [/usr/local/pgsql/8.3/data]:  
-----
```

```
Please provide a password for the database superuser (postgres).
```

```
Password :
```

```
Retype password :  
-----
```

```
Please select the port number the server should listen on.
```

```
Port [5432]: _
```

pgAdmin III

- PostgreSQL – otvoreni kôd
 - <http://pgfoundry.org>
- pgAdmin III
 - Grafičko sučelje
 - Služi za administraciju



pgAdmin III

File Edit Tools Display Help

PostgreSQL Database Server 8.1 (local)

Databases (10)

- ansi
 - Casts (256)
 - Languages (1)
 - Schemas (5)
 - information_schema
 - pg_catalog
 - pg_toast
 - pg_temp_1
 - public
 - Aggregates (0)
 - Conversions (0)
 - Domains (2)
 - Functions (18)
 - cipher_exists(text, text)
 - crypt(text, text)
 - decrypt(bytea, bytea, bytea, text)
 - decrypt_iv(bytea, bytea, bytea, text)
 - digest(bytea, text)

Properties Statistics Depends on Referenced by

Property	Value
Name	decrypt_iv
OID	17699
Owner	postgres
Argument count	4
Arguments	bytea, bytea, bytea, text
Return type	bytea
Language	c
Returns a set?	No
Object file	\$libdir/pgcrypto
Link symbol	pg_decrypt_iv
Volatility	VOLATILE
Security of definer?	No
Strict?	No
ACL	
System function?	No
Comment	

Function decrypt_iv

Properties Parameter Privileges SQL

Name: decrypt_iv

Owner: postgres

Arguments: bytea, bytea, bytea, text

OID: 17699

Return type: bytea

Language: c

Volatility: VOLATILE

Returns set

Strict

Security of definer

Comment:

Use replication:

Help Apply OK Cancel

pgAdmin III Query - ansi on localhost:5432 *

File Edit Query Help

ansi on localhost:5432

```
SELECT
*
FROM
pg_class
ORDER BY relname;
```

Row	relname (name)	relnamespace (oid)	reltype (oid)	relowner
1	applicable_roles	10623	10644	10
2	check_constraints	10623	10647	10
3	column_domain_usage	10623	10651	10
4	column_privileges	10623	10654	10
5	column_udt_usage	10623	10658	10
6	columns	10623	10662	10
7	constraint_column_usage	10623	10666	10
8	constraint_table_usage	10623	10670	10
9	data_type_privileges	10623	10785	10

```
bytea, bytea, text)
bytea, bytea, bytea, text);
crypt_iv(bytea, bytea, bytea, text)
t_iv'
a, bytea, bytea, text) OWNER TO postgres;
```

0.00 secs

OK. Ln 5 Col 18 208 rows. 50+240 ms

PostgreSQL - Zaključak

- Besplatan SUBP
- Popularan SUBP
 - Skype, Yahoo...



Pitanja

Hvala na pažnji ...

