
CentOS / RHEL Linux 安装 PostgreSQL 数据库服务器 (HA) CHS

技术参考, 2011-03-16

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备忘

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URLs 参考:

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<http://www.hawebs.org>

技术支持:

<http://www.ossez.com>

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相关工作:

技术文档格式化版本

摘要:

N/A

状态:

N/A

ODT 发行版本

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1 安装

PostgreSQL 服务器包包括程序文件用于创建和运行 PostgreSQL 服务器，同时也允许你创建和维护 PostgreSQL 数据库服务器。

PostgreSQL 是高级的关系数据库，PostgreSQL 几乎支持所有的 SQL 标准，包括事务，子查询和用户自定义函数。

你需要安装 `postgresql-server`，如果你期望创建和维护你自己的 PostgreSQL 数据库服务器。

这时候，你需要安装 PostgreSQL 包。

你同时还需要安装 PostgreSQL 客户端工具，这个工具称为 `postgrsql`。这个客户端工具包含所有的 HTML 帮助文件，同时还包括 PostgreSQL 的命令行工具，你可以用这个工具对 PostgreSQL 进行维护。

安装 PostgreSQL 服务器：

请使用 `root` 用户登录你的 CentOS 操作系统，然后执行下面的命令：

```
1 # yum install postgresql postgresql-server
```

输出内容如下：

```

2 Loading "installonlyn" plugin
3 Setting up Install Process
4 Setting up repositories
5 Reading repository metadata in from local files
6 Parsing package install arguments
7 Resolving Dependencies
8 --> Populating transaction set with selected packages. Please wait.
9 ---> Downloading header for postgresql-server to pack into transaction set.
10 postgresql-server-8.1.9-1 100% |=====| 87 kB 00:00
11 ---> Package postgresql-server.i386 0:8.1.9-1.el5 set to be updated
12 --> Running transaction check
13 --> Processing Dependency: postgresql = 8.1.9-1.el5 for package: postgresql-
14 server
15 --> Restarting Dependency Resolution with new changes.
16 --> Populating transaction set with selected packages. Please wait.
17 ---> Downloading header for postgresql to pack into transaction set.
18 postgresql-8.1.9-1.el5.i386 100% |=====| 119 kB 00:00
19 ---> Package postgresql.i386 0:8.1.9-1.el5 set to be updated
20 --> Running transaction check
21
22 Dependencies Resolved
23
24 =====
25 Package Arch Version Repository Size
26 =====
27 Installing:
28 postgresql-server i386 8.1.9-1.el5 updates 4.0 M
29 Installing for dependencies:
30 postgresql i386 8.1.9-1.el5 updates 2.8 M
31
32 Transaction Summary
33 =====
34 Install 2 Package(s)
35 Update 0 Package(s)
36 Remove 0 Package(s)
37
38 Total download size: 6.8 M
39 Is this ok [y/N]: y
40 Downloading Packages:
41 (1/2): postgresql-server- 100% |=====| 4.0 MB 00:05
42 (2/2): postgresql-8.1.9-1 100% |=====| 2.8 MB 00:04
43 Running Transaction Test
44 Finished Transaction Test
45 Transaction Test Succeeded
46 Running Transaction
47 Installing: postgresql ##### [1/2]
48 Installing: postgresql-server ##### [2/2]
49
50 Installed: postgresql-server.i386 0:8.1.9-1.el5
51 Dependency Installed: postgresql.i386 0:8.1.9-1.el5
52 Complete!

```

界面截图

```
---> Package postgresql.i386 0:8.1.22-1.el5_5.1 set to be updated
---> Package postgresql-server.i386 0:8.1.22-1.el5_5.1 set to be updated
--> Finished Dependency Resolution

Dependencies Resolved

=====
Package                                Arch                                Version
=====
Reinstalling:
postgresql                                i386                                8.1.22-1.el5_5.1
postgresql-server                        i386                                8.1.22-1.el5_5.1
=====
Transaction Summary
=====
Remove          0 Package(s)
Reinstall       2 Package(s)
Downgrade       0 Package(s)

Total download size: 6.7 M
Is this ok [y/N]: y
Downloading Packages:
(1/2): postgresql-8.1.22-1.el5_5.1.i386.rpm
(2/2): postgresql-server-8.1.22-1.el5_5.1.i386.rpm
-----
Total
Running rpm_check_debug
Running Transaction Test
Finished Transaction Test
Transaction Test Succeeded
Running Transaction
  Installing      : postgresql
  Installing      : postgresql-server

Installed:
  postgresql.i386 0:8.1.22-1.el5_5.1                postgresql-server

Complete!
```

2 启动 PostgreSQL

启动 PGSQL， 请输入下面的命令：

```
53 [root@cn ~]# chkconfig postgresql on
54 [root@cn ~]# service postgresql start
```

输出如下：

```
55 Initializing database: [ OK ]
56 Starting postgresql service: [ OK ]
```

我们会看到 PGSQL 作为进程启动了。

```
-bash: postgresql: command not found
[root@cn ~]# yum reinstall postgresql postgresql-server
Loaded plugins: fastestmirror
Setting up Reinstall Process
Loading mirror speeds from cached hostfile
* addons: mirror.stanford.edu
* base: mirror.hmc.edu
* extras: mirrors.xmission.com
* updates: mirror.rwresd.org
Resolving Dependencies
--> Running transaction check
---> Package postgresql.i386 0:8.1.22-1.el5_5.1 set to be updated
---> Package postgresql-server.i386 0:8.1.22-1.el5_5.1 set to be updated
--> Finished Dependency Resolution

Dependencies Resolved

=====================================================================
Package Arch Version Repository Size
=====================================================================
Reinstalling:
 postgresql i386 8.1.22-1.el5_5.1 updates 2.9 M
 postgresql-server i386 8.1.22-1.el5_5.1 updates 3.8 M
Transaction Summary
-----
Remove 0 Package(s)
Reinstall 2 Package(s)
Downgrade 0 Package(s)

Total download size: 6.7 M
Is this ok [y/N]: Exiting on user Command
complete!
[root@cn ~]# chkconfig postgresql on
[root@cn ~]# service postgresql start
Initializing database: [ OK ]
Starting postgresql service: [ OK ]
[root@cn ~]#
```

3 连接 PostgreSQL 数据库

使用下面的命令连接数据库：

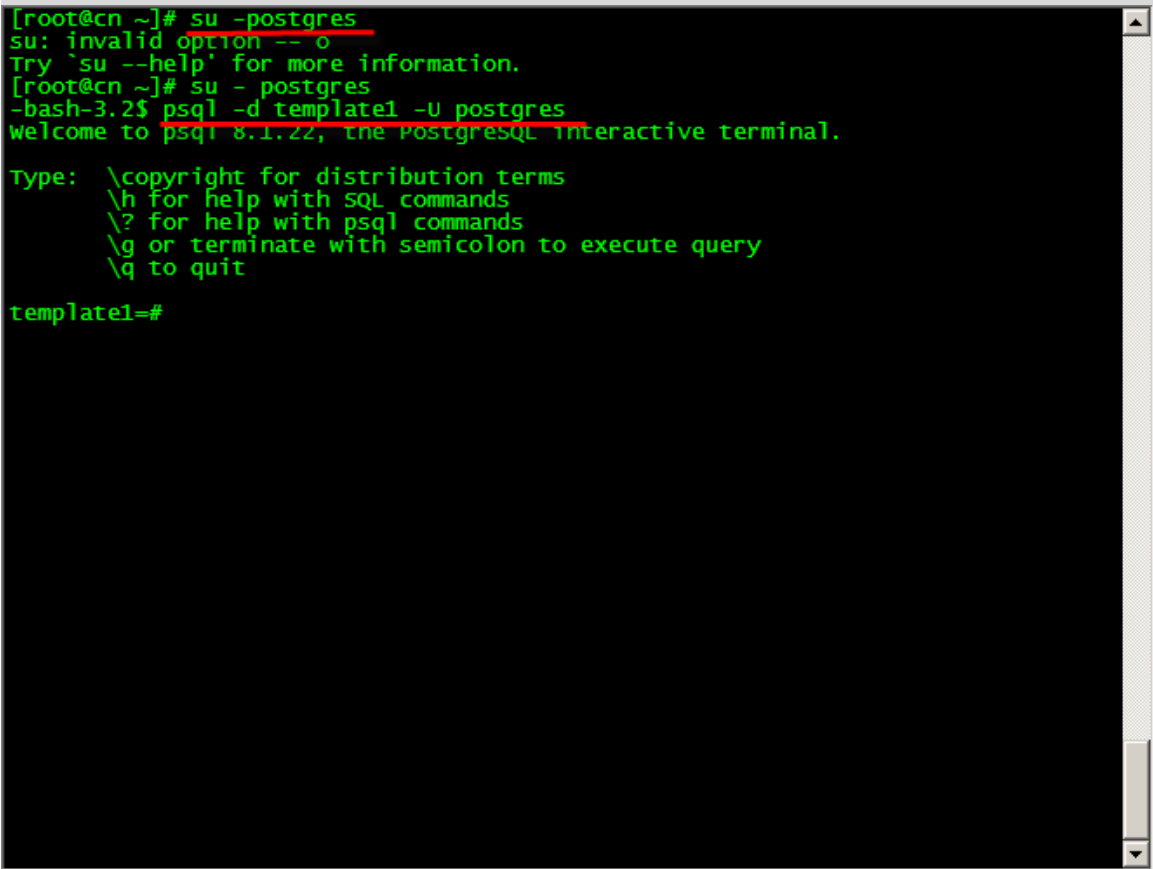
```
57 [root@cn ~]# su -postgres
```

使用命令行工具开始使用 PostgreSQL：

```
58 -bash-3.2$ psql -d template1 -U postgres
```

输出如下：

```
59 Welcome to psql 8.1.22, the PostgreSQL interactive terminal.  
60  
61 Type:  \copyright for distribution terms  
62        \h for help with SQL commands  
63        \? for help with psql commands  
64        \g or terminate with semicolon to execute query  
65        \q to quit  
66  
67 template1=#
```



```
[root@cn ~]# su -postgres  
su: invalid option -- o  
Try 'su --help' for more information.  
[root@cn ~]# su - postgres  
-bash-3.2$ psql -d template1 -U postgres  
welcome to psql 8.1.22, the PostgreSQL interactive terminal.  
  
Type:  \copyright for distribution terms  
        \h for help with SQL commands  
        \? for help with psql commands  
        \g or terminate with semicolon to execute query  
        \q to quit  
  
postgres=#
```


4 打开 TCP 5432 端口

打开 TCP 的 5432 端口

你需要编辑防火墙的端口配置能让用户能够远程连接数据库:

编辑 /etc/sysconfig/iptables 文件:

```
68 [root@cn ~]# vi /etc/sysconfig/iptables
```

添加一条记录:

```
69 -A RH-Firewall-1-INPUT -m state --state NEW -m tcp -p tcp --dport 5432-j ACCEPT
# Firewall configuration written by system-config-securitylevel
# Manual customization of this file is not recommended.
*filter
:INPUT ACCEPT [0:0]
:FORWARD ACCEPT [0:0]
:OUTPUT ACCEPT [0:0]
:RH-Firewall-1-INPUT - [0:0]
-A INPUT -j RH-Firewall-1-INPUT
-A FORWARD -j RH-Firewall-1-INPUT
-A RH-Firewall-1-INPUT -i lo -j ACCEPT
-A RH-Firewall-1-INPUT -p icmp --icmp-type any -j ACCEPT
-A RH-Firewall-1-INPUT -p 50 -j ACCEPT
-A RH-Firewall-1-INPUT -p 51 -j ACCEPT
-A RH-Firewall-1-INPUT -p udp --dport 5353 -d 224.0.0.251 -j ACCEPT
-A RH-Firewall-1-INPUT -p udp -m udp --dport 631 -j ACCEPT
-A RH-Firewall-1-INPUT -p tcp -m tcp --dport 631 -j ACCEPT
-A RH-Firewall-1-INPUT -m state --state ESTABLISHED,RELATED -j ACCEPT
-A RH-Firewall-1-INPUT -m state --state NEW -m tcp -p tcp --dport 22 -j ACCEPT
-A RH-Firewall-1-INPUT -m state --state NEW -m tcp -p tcp --dport 80 -j ACCEPT
-A RH-Firewall-1-INPUT -m state --state NEW -m tcp -p tcp --dport 8080 -j ACCEPT
-A RH-Firewall-1-INPUT -m state --state NEW -m tcp -p tcp --dport 8090 -j ACCEPT
-A RH-Firewall-1-INPUT -m state --state NEW -m tcp -p tcp --dport 8015 -j ACCEPT
-A RH-Firewall-1-INPUT -m state --state NEW -m tcp -p tcp --dport 8060 -j ACCEPT
-A RH-Firewall-1-INPUT -m state --state NEW -m tcp -p tcp --dport 5432 -j ACCEPT
-A RH-Firewall-1-INPUT -j REJECT --reject-with icmp-host-prohibited
COMMIT
~
~
~
~
~
~
~
~
-- INSERT --
```

重新启动配置, 使 TCP 配置生效:

```
70 [root@cn ~]# service iptables restart
```

服务器输出:

```
Flushing firewall rules: [ OK ]
Setting chains to policy ACCEPT: filter [ OK ]
Unloading iptables modules: [ OK ]
Applying iptables firewall rules: [ OK ]
Loading additional iptables modules: ip_conntrack_netbios_ns [ OK ]
```

```
-A INPUT -j RH-Firewall-1-INPUT
-A FORWARD -j RH-Firewall-1-INPUT
-A RH-Firewall-1-INPUT -i lo -j ACCEPT
-A RH-Firewall-1-INPUT -p icmp --icmp-type any -j ACCEPT
-A RH-Firewall-1-INPUT -p 50 -j ACCEPT
-A RH-Firewall-1-INPUT -p 51 -j ACCEPT
-A RH-Firewall-1-INPUT -p udp --dport 5353 -d 224.0.0.251 -j ACCEPT
-A RH-Firewall-1-INPUT -p udp -m udp --dport 631 -j ACCEPT
-A RH-Firewall-1-INPUT -p tcp -m tcp --dport 631 -j ACCEPT
-A RH-Firewall-1-INPUT -m state --state ESTABLISHED,RELATED -j ACCEPT
-A RH-Firewall-1-INPUT -m state --state NEW -m tcp -p tcp --dport 22 -j ACCEPT
-A RH-Firewall-1-INPUT -m state --state NEW -m tcp -p tcp --dport 80 -j ACCEPT
-A RH-Firewall-1-INPUT -m state --state NEW -m tcp -p tcp --dport 8080 -j ACCEPT
-A RH-Firewall-1-INPUT -m state --state NEW -m tcp -p tcp --dport 8090 -j ACCEPT
-A RH-Firewall-1-INPUT -m state --state NEW -m tcp -p tcp --dport 8015 -j ACCEPT
-A RH-Firewall-1-INPUT -m state --state NEW -m tcp -p tcp --dport 8060 -j ACCEPT
-A RH-Firewall-1-INPUT -m state --state NEW -m tcp -p tcp --dport 5432 -j ACCEPT
-A RH-Firewall-1-INPUT -j REJECT --reject-with icmp-host-prohibited
COMMIT

~
~
~
~
~
~
~
~
~

"/etc/sysconfig/iptables" 26L, 1354C written
[root@cn ~]# service iptables restart
Flushing firewall rules: [ OK ]
Setting chains to policy ACCEPT: filter [ OK ]
Unloading iptables modules: [ OK ]
Applying iptables firewall rules: [ OK ]
Loading additional iptables modules: ip_conntrack_netbios_ns [ OK ]
[root@cn ~]#
```