

คู่มือการติดตั้ง Database และ Application

คู่มือการติดตั้ง Database และ Application ซึ่งมีขั้นตอนการติดตั้งหลัก ดังต่อไปนี้

1. การติดตั้ง ORACLE Java 1.7.0
2. การติดตั้ง INSTALL POSTGRES 9.2.4 และ POSTGIS 2.0
 - a. ทำการติดตั้ง DATABASE POSTGRES SQL 9.2
 - b. ทำการติดตั้ง POSTGIS 2.0
3. INSTALL APACHE TOMCAT 7.0
4. DEPLOY ALFRESCO & CONFIG
5. CONFIG SERVICE LEVEL 3,5 Postgresql 9.2
6. DEPLOY HIGHWAY APP

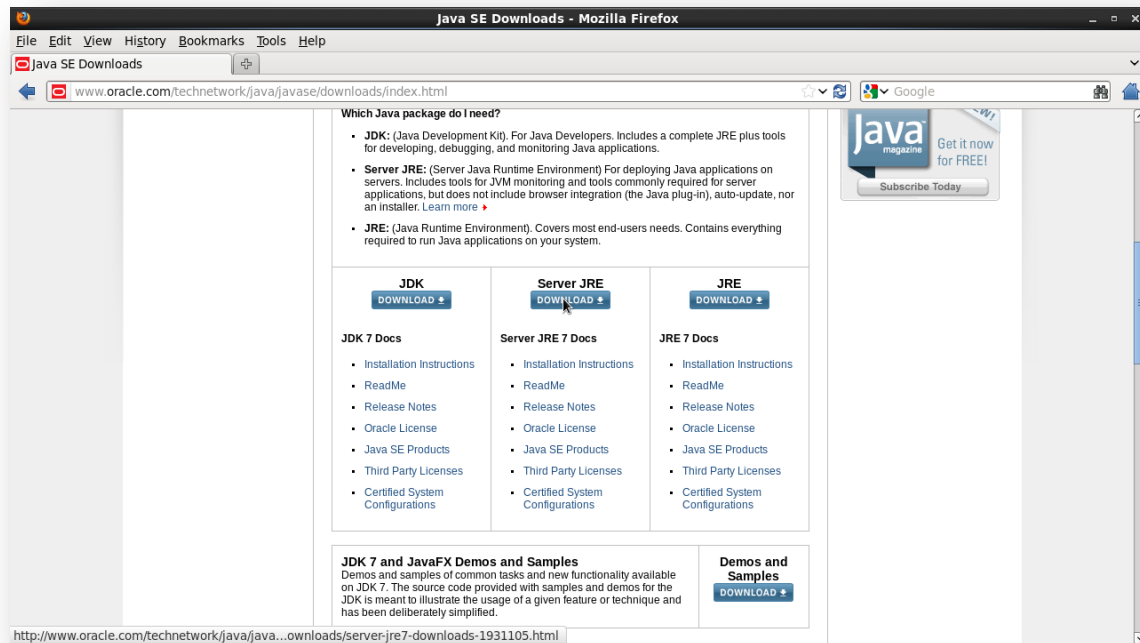
ขั้นตอนการติดตั้ง ของ Database และ Application มีรายละเอียด ดังต่อไปนี้

1. การติดตั้ง ORACLE Java 1.7.0

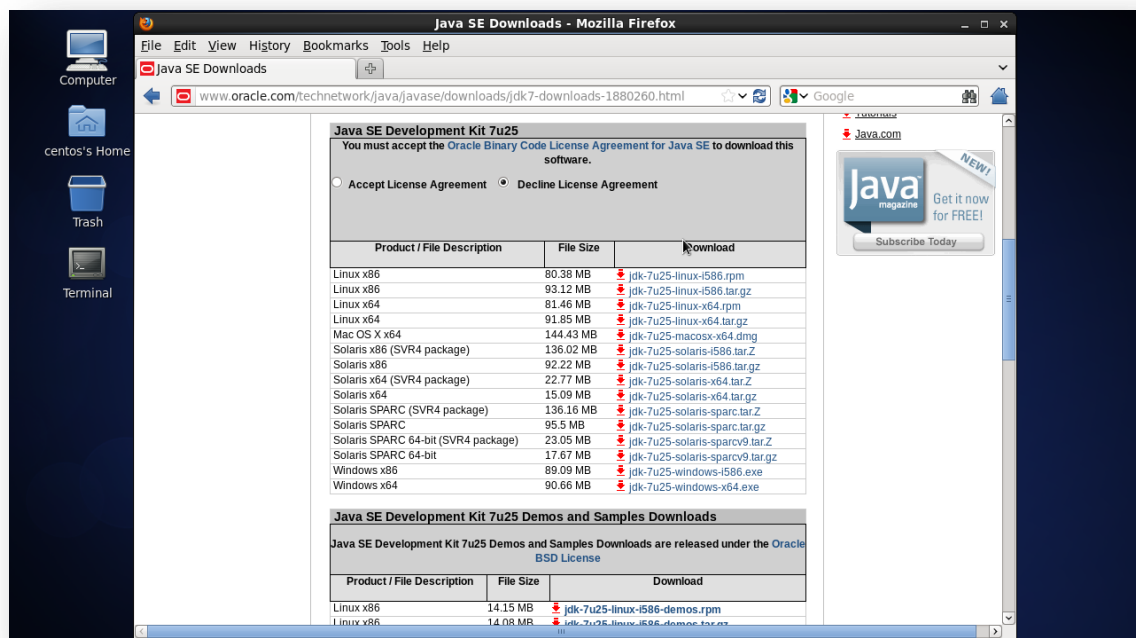
Download Java 1.7.0 ที่

<http://www.oracle.com/technetwork/java/javase/downloads/index.html>

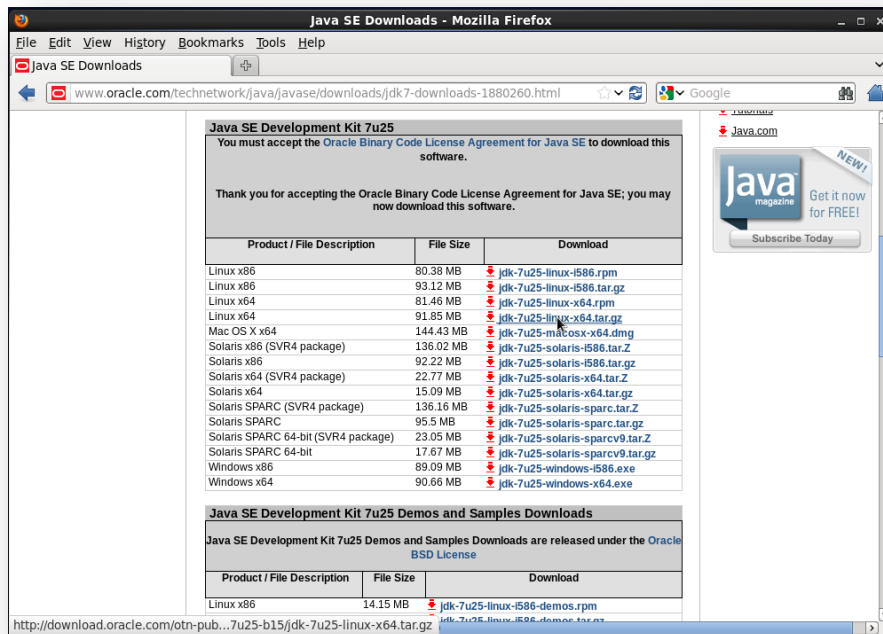
จะปรากฏหน้าจอให้ Download JDK



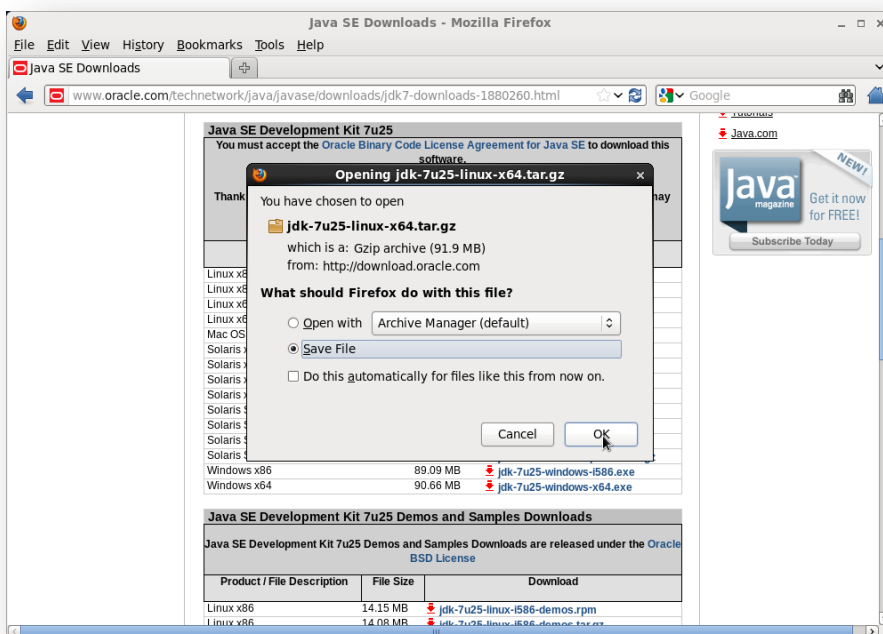
เลือก Accept license Agreement จะปรากฏหน้าจอ



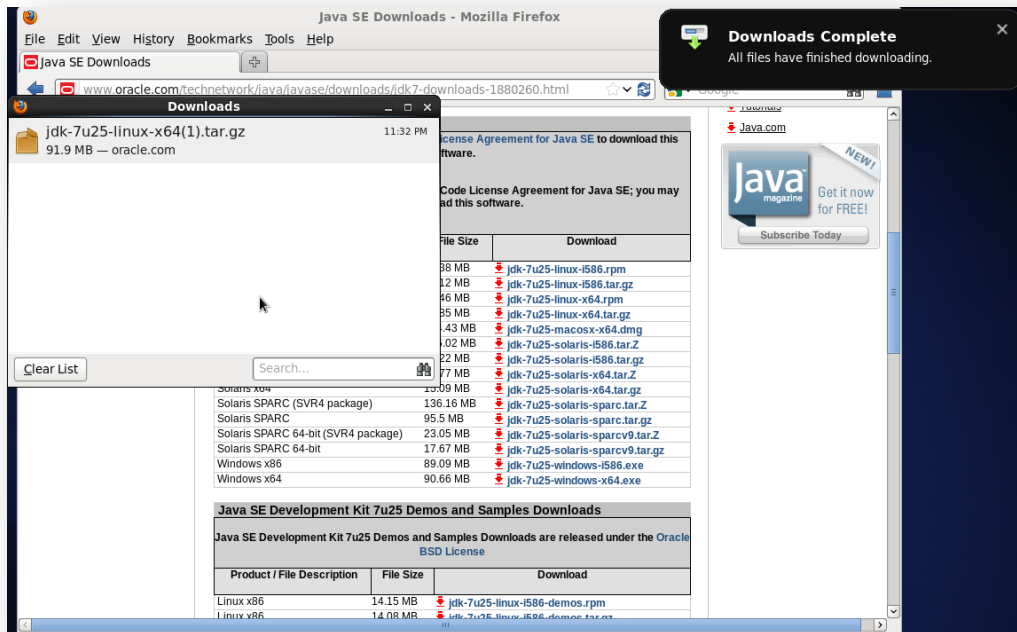
ให้ Download File :- JDK-7u25-Linux-x64.tar.gz



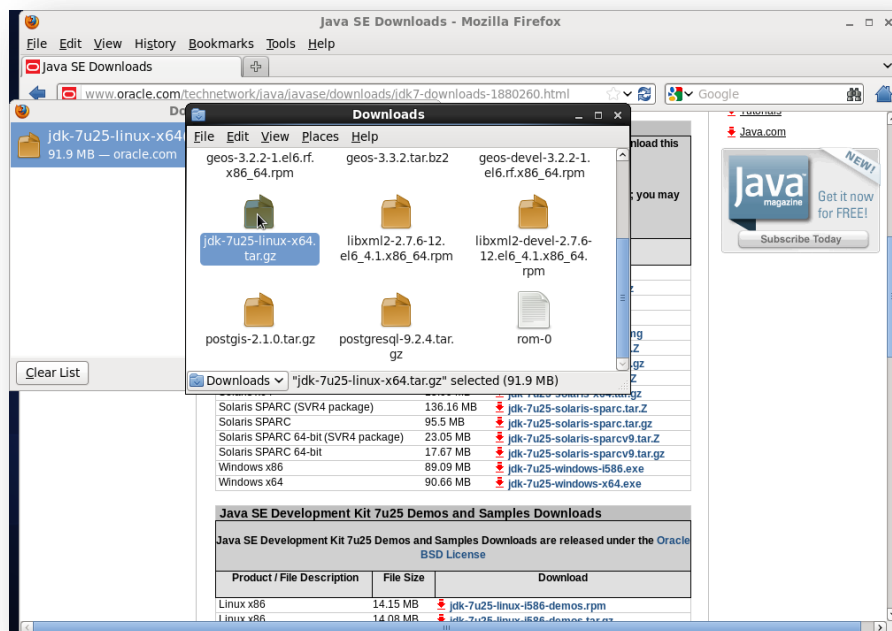
ให้ทำการ Save File > กดปุ่ม OK



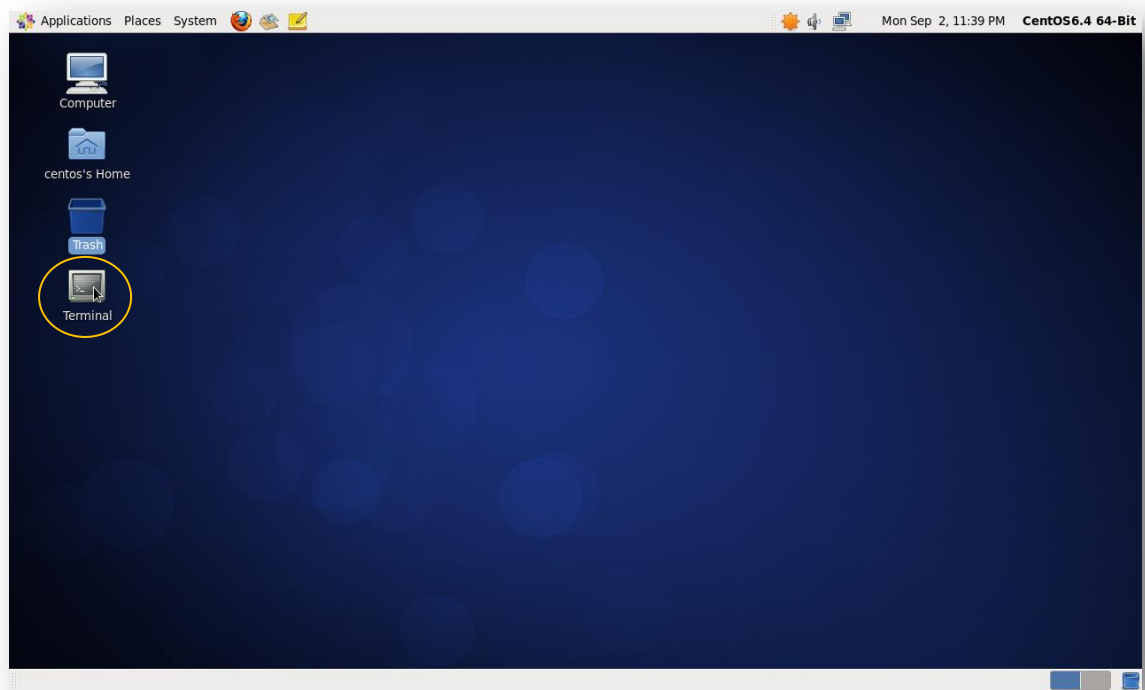
เมื่อ Download File เรียบร้อยจะมี Message Download Complete



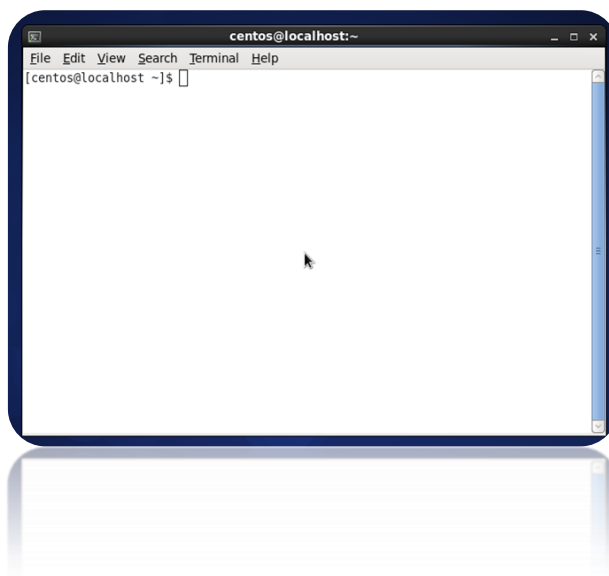
เราสามารถตรวจสอบได้ว่า File ที่ Download ไปถูกเก็บที่ Folder ไດ โดยคลิกขวาที่ File > เลือก Open Containing Folder



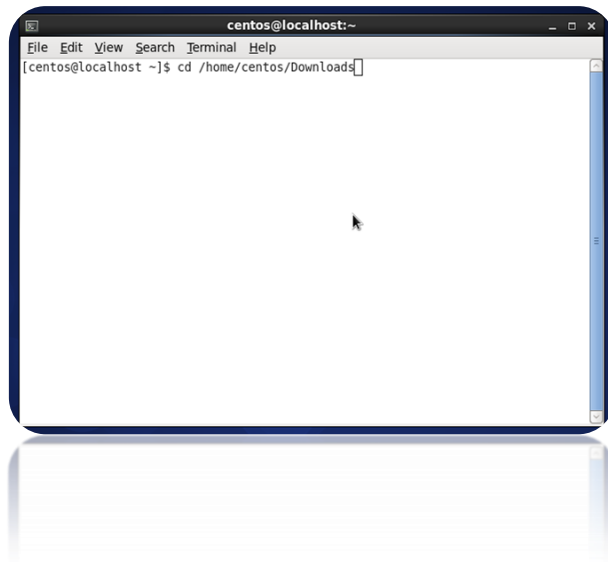
ทำการเปิด Terminal โดย Double Click ที่ Item Terminal



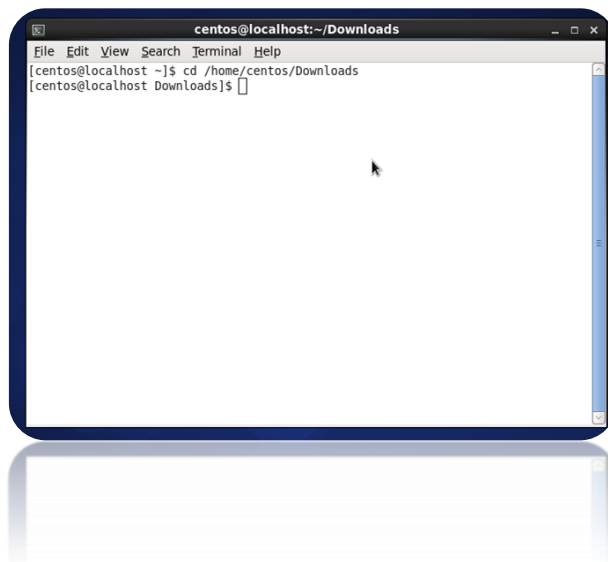
จะปรากฏหน้าจอ Windows



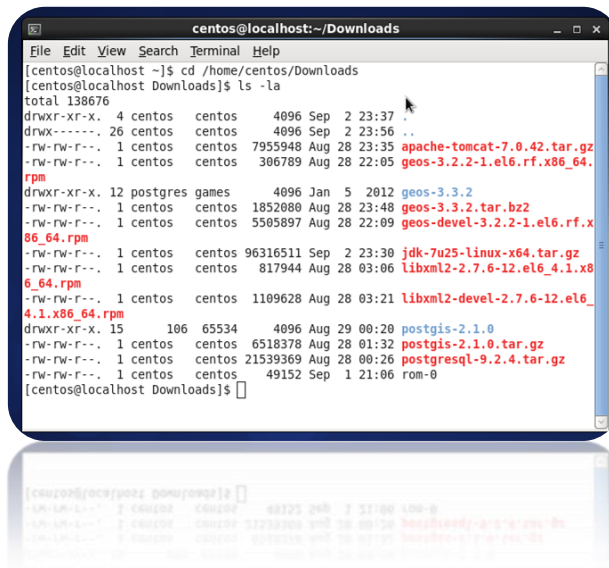
เข้าไปที่ Folder Downloads โดยใช้คำสั่ง `cd /home/owner/Downloads` หรือ `cd /home/owner/Downloads`



จะปรากฏ Path Downloads



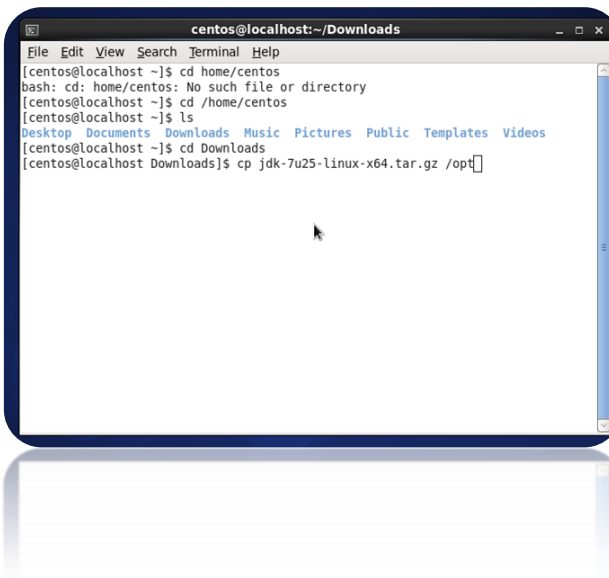
ให้ใช้คำสั่ง `Ls -la` เพื่อ List ดู File ภายใน Folder Download ทั้งหมด



```
centos@localhost:~/Downloads
File Edit View Search Terminal Help
[centos@localhost ~]$ cd /home/centos/Downloads
[centos@localhost Downloads]$ ls -la
total 138676
drwxr-xr-x. 4 centos centos 4096 Sep 2 23:37 .
drwx----- 26 centos centos 4096 Sep 2 23:56 ..
-rw-rw-r--. 1 centos centos 7955948 Aug 28 23:35 apache-tomcat-7.0.42.tar.gz
-rw-rw-r--. 1 centos centos 306789 Aug 28 22:05 geos-3.2.2-1.el6.rf.x86_64.rpm
drwxr-xr-x. 12 postgres games 4096 Jan 5 2012 geos-3.3.2
-rw-rw-r--. 1 centos centos 1852080 Aug 28 23:48 geos-3.3.2.tar.bz2
-rw-rw-r--. 1 centos centos 5505897 Aug 28 22:09 geos-devel-3.2.2-1.el6.rf.x86_64.rpm
-rw-rw-r--. 1 centos centos 96316511 Sep 2 23:30 jdk-7u25-linux-x64.tar.gz
-rw-rw-r--. 1 centos centos 817944 Aug 28 03:06 libxml2-2.7.6-12.el6_4.1.x86_64.rpm
-rw-rw-r--. 1 centos centos 1109628 Aug 28 03:21 libxml2-devel-2.7.6-12.el6_4.1.x86_64.rpm
drwxr-xr-x. 15 106 65534 4096 Aug 29 00:20 postgres-2.1.0
-rw-rw-r--. 1 centos centos 6518378 Aug 28 01:32 postgres-2.1.0.tar.gz
-rw-rw-r--. 1 centos centos 21539369 Aug 28 00:26 postgresql-9.2.4.tar.gz
-rw-rw-r--. 1 centos centos 49152 Sep 1 21:06 rom-0
[centos@localhost Downloads]$
```

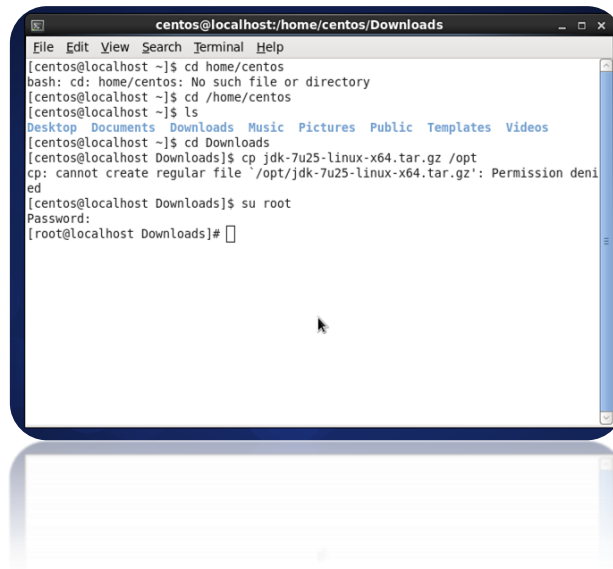
ให้ Copy File `jdk-7u25-linux-x86.tar.gz` ไปที่ Folder `/opt` โดยใช้คำสั่ง :-

`cp jdk-7u25-linux-x64.tar.gz /opt`



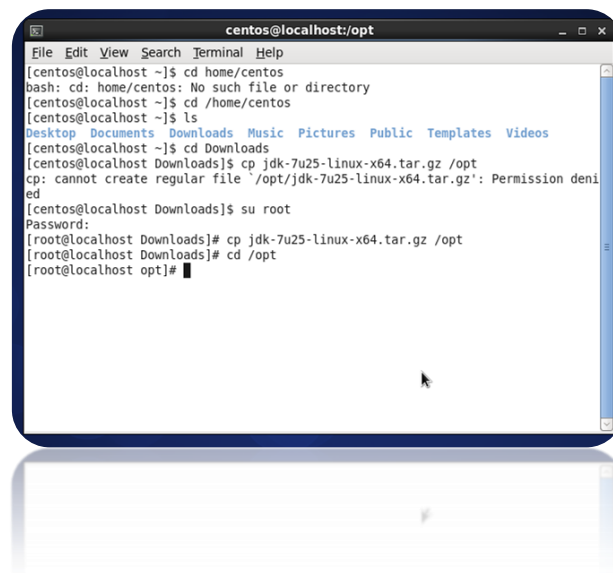
```
centos@localhost:~/Downloads
File Edit View Search Terminal Help
[centos@localhost ~]$ cd home/centos
bash: cd: home/centos: No such file or directory
[centos@localhost ~]$ cd /home/centos
[centos@localhost ~]$ ls
Desktop Documents Downloads Music Pictures Public Templates Videos
[centos@localhost ~]$ cd Downloads
[centos@localhost Downloads]$ cp jdk-7u25-linux-x64.tar.gz /opt
```

ในกรณีที่ Copy File แล้วขึ้น Permission denied เนื่องจากสิทธิ์ในการ Copy จะต้องเป็นสิทธิ์ระดับ root
จึงต้องใช้คำสั่ง su root



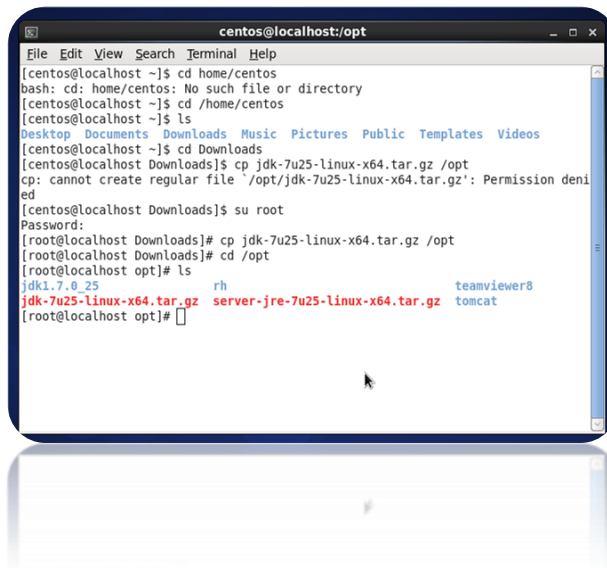
```
centos@localhost:/home/centos/Downloads
File Edit View Search Terminal Help
[centos@localhost ~]$ cd home/centos
bash: cd: home/centos: No such file or directory
[centos@localhost ~]$ cd /home/centos
[centos@localhost ~]$ ls
Desktop Documents Downloads Music Pictures Public Templates Videos
[centos@localhost ~]$ cd Downloads
[centos@localhost Downloads]$ cp jdk-7u25-linux-x64.tar.gz /opt
cp: cannot create regular file '/opt/jdk-7u25-linux-x64.tar.gz': Permission denied
[centos@localhost Downloads]$ su root
Password:
[root@localhost Downloads]#
```

เมื่อ Copy file เสร็จแล้วให้เปลี่ยนไปเข้าที่ Folder opt โดยใช้คำสั่ง cd /opt



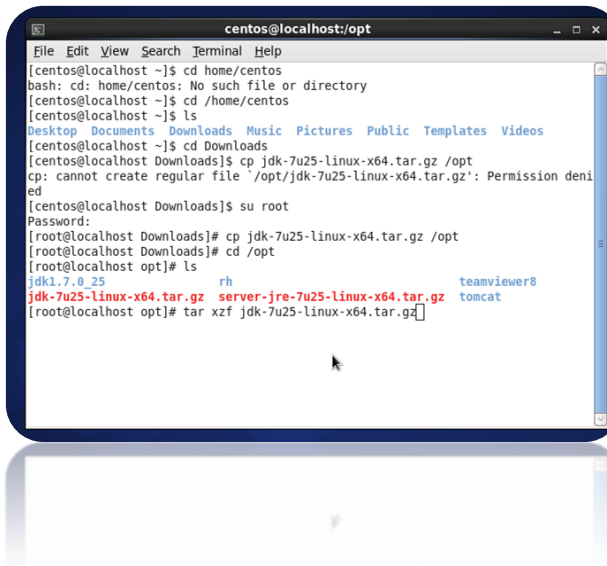
```
centos@localhost:/opt
File Edit View Search Terminal Help
[centos@localhost ~]$ cd home/centos
bash: cd: home/centos: No such file or directory
[centos@localhost ~]$ cd /home/centos
[centos@localhost ~]$ ls
Desktop Documents Downloads Music Pictures Public Templates Videos
[centos@localhost ~]$ cd Downloads
[centos@localhost Downloads]$ cp jdk-7u25-linux-x64.tar.gz /opt
cp: cannot create regular file '/opt/jdk-7u25-linux-x64.tar.gz': Permission denied
[centos@localhost Downloads]$ su root
Password:
[root@localhost Downloads]# cp jdk-7u25-linux-x64.tar.gz /opt
[root@localhost Downloads]# cd /opt
[root@localhost opt]#
```

ให้ใช้คำสั่ง ls เพื่อดู File ที่ copy

A terminal window titled 'centos@localhost/opt' showing a series of commands and their outputs. The user navigates to the Downloads directory and attempts to copy a file to /opt, which fails due to permission issues. They then switch to root and successfully copy the file. Finally, they run 'ls' to list the contents of the /opt directory, showing the copied file and other existing files.

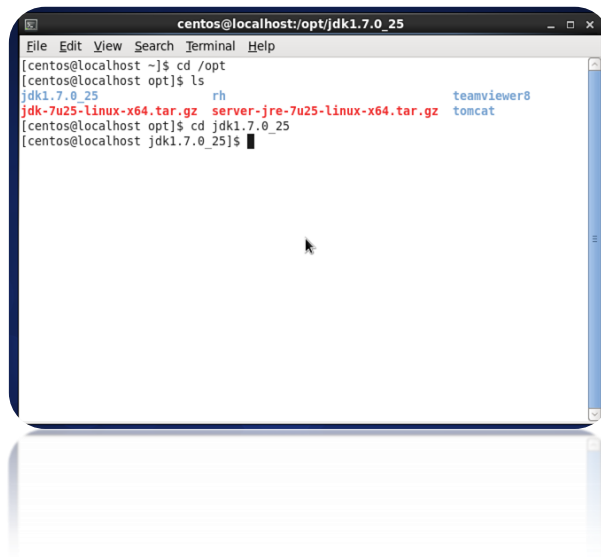
```
centos@localhost/opt
File Edit View Search Terminal Help
[centos@localhost ~]$ cd home/centos
bash: cd: home/centos: No such file or directory
[centos@localhost ~]$ cd /home/centos
[centos@localhost ~]$ ls
Desktop Documents Downloads Music Pictures Public Templates Videos
[centos@localhost ~]$ cd Downloads
[centos@localhost Downloads]$ cp jdk-7u25-linux-x64.tar.gz /opt
cp: cannot create regular file '/opt/jdk-7u25-linux-x64.tar.gz': Permission denied
[centos@localhost Downloads]$ su root
Password:
[root@localhost Downloads]# cp jdk-7u25-linux-x64.tar.gz /opt
[root@localhost Downloads]# cd /opt
[root@localhost opt]# ls
jdk1.7.0_25      rh      teamviewer8
jdk-7u25-linux-x64.tar.gz  server-jre-7u25-linux-x64.tar.gz  tomcat
[root@localhost opt]#
```

ให้ใช้คำสั่งเพื่อแตก File โดยใช้คำสั่ง #tar xzf jdk-7u25-linux-x64.tar.gz

A terminal window titled 'centos@localhost/opt' showing the same sequence of commands as the previous screenshot, but with an additional 'tar xzf' command executed at the end to extract the contents of the copied file.

```
centos@localhost/opt
File Edit View Search Terminal Help
[centos@localhost ~]$ cd home/centos
bash: cd: home/centos: No such file or directory
[centos@localhost ~]$ cd /home/centos
[centos@localhost ~]$ ls
Desktop Documents Downloads Music Pictures Public Templates Videos
[centos@localhost ~]$ cd Downloads
[centos@localhost Downloads]$ cp jdk-7u25-linux-x64.tar.gz /opt
cp: cannot create regular file '/opt/jdk-7u25-linux-x64.tar.gz': Permission denied
[centos@localhost Downloads]$ su root
Password:
[root@localhost Downloads]# cp jdk-7u25-linux-x64.tar.gz /opt
[root@localhost Downloads]# cd /opt
[root@localhost opt]# ls
jdk1.7.0_25      rh      teamviewer8
jdk-7u25-linux-x64.tar.gz  server-jre-7u25-linux-x64.tar.gz  tomcat
[root@localhost opt]# tar xzf jdk-7u25-linux-x64.tar.gz
```

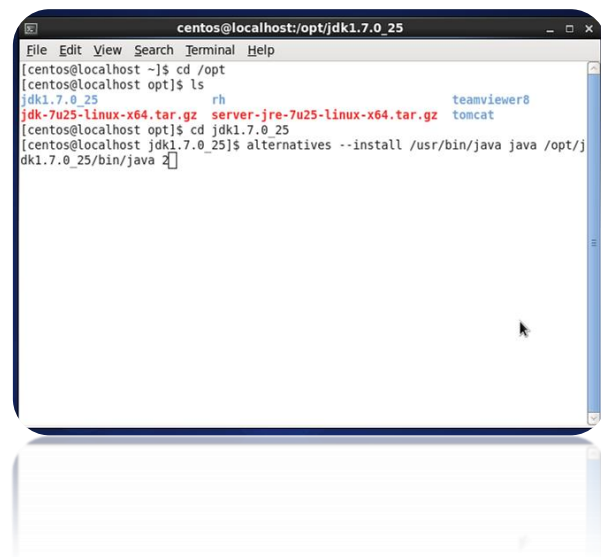
เมื่อแตก File เรียบร้อยแล้ว ให้เข้าไปที่ Folder jdk1.7.0_25 โดยใช้คำสั่ง `cd /jdk1.7.0_25`



```
centos@localhost:opt/jdk1.7.0_25
File Edit View Search Terminal Help
[centos@localhost ~]$ cd /opt
[centos@localhost opt]$ ls
jdk1.7.0_25      rh      teamviewer8
jdk-7u25-linux-x64.tar.gz  server-jre-7u25-linux-x64.tar.gz  tomcat
[centos@localhost opt]$ cd jdk1.7.0_25
[centos@localhost jdk1.7.0_25]$
```

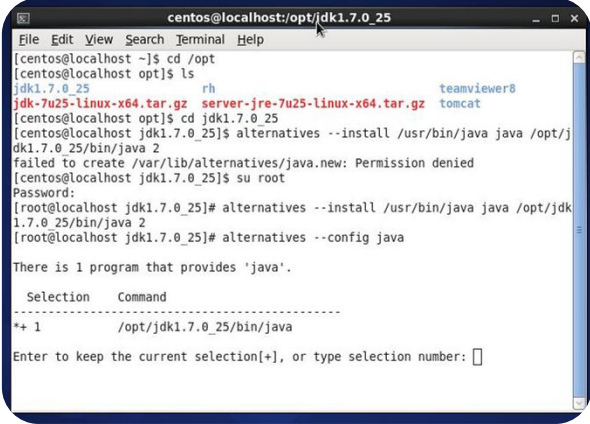
ให้ทำการติดตั้ง JAVA โดยใช้คำสั่ง

`#alternatives --install /usr/bin/java java /opt/jdk1.7.0_25/bin/java 2`



```
centos@localhost:opt/jdk1.7.0_25
File Edit View Search Terminal Help
[centos@localhost ~]$ cd /opt
[centos@localhost opt]$ ls
jdk1.7.0_25      rh      teamviewer8
jdk-7u25-linux-x64.tar.gz  server-jre-7u25-linux-x64.tar.gz  tomcat
[centos@localhost opt]$ cd jdk1.7.0_25
[centos@localhost jdk1.7.0_25]$ alternatives --install /usr/bin/java java /opt/j
jdk1.7.0_25/bin/java 2
```

ให้ทำการเลือก JAVA เพื่อใช้งานโดยใช้คำสั่ง #alternatives --config java จะปรากฏหน้าจอ



```
centos@localhost:~$ cd /opt
centos@localhost opt$ ls
jdk1.7.0_25      rh      teamviewer8
jdk-7u25-linux-x64.tar.gz  server-jre-7u25-linux-x64.tar.gz  tomcat
centos@localhost opt$ cd jdk1.7.0_25
centos@localhost jdk1.7.0_25$ alternatives --install /usr/bin/java java /opt/jdk1.7.0_25/bin/java 2
failed to create /var/lib/alternatives/java.new: Permission denied
centos@localhost jdk1.7.0_25$ su root
Password:
[root@localhost jdk1.7.0_25]# alternatives --install /usr/bin/java java /opt/jdk1.7.0_25/bin/java 2
[root@localhost jdk1.7.0_25]# alternatives --config java

There is 1 program that provides 'java'.

  Selection    Command
  -----
*+ 1           /opt/jdk1.7.0_25/bin/java

Enter to keep the current selection[+], or type selection number: 
```

ให้ใส่เลข 1 หรือ เลขอื่นๆ เพื่อยืนยันการเลือก วิธีการตรวจสอบ JAVA VERSION บนเครื่อง SERVER CENTOS ให้ใช้คำสั่ง #Java -version

2 . การติดตั้ง INSTALL POSTGRES 9.2.4 และ POSTGIS 2.0

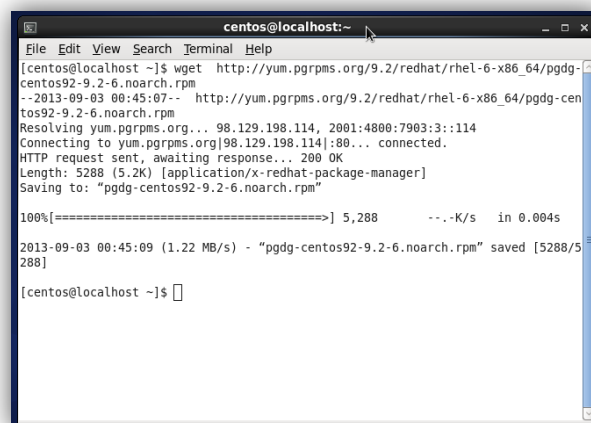
เข้าที่ Terminal เพื่อ Download File ติดตั้งจาก Web โดยใช้คำสั่ง

wget http://yum.pgrps.org/9.2/redhat/rhel-6-x86_64/pgdg-centos92-9.2-6.noarch.rpm



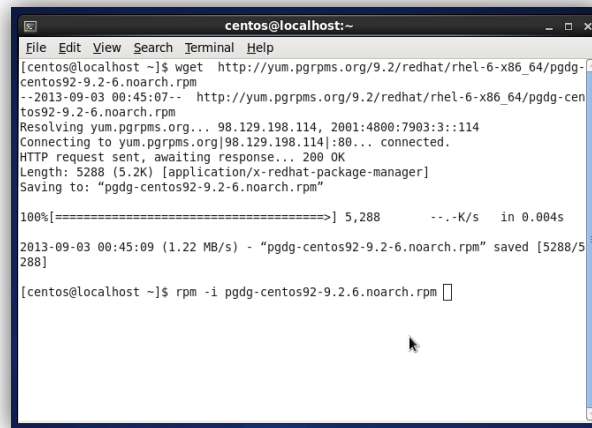
```
centos@localhost:~  
File Edit View Search Terminal Help  
[centos@localhost ~]$ wget http://yum.pgrps.org/9.2/redhat/rhel-6-x86_64/pgdg-centos92-9.2-6.noarch.rpm
```

เมื่อ Download เสร็จจะปรากฏ File ที่ Download มา

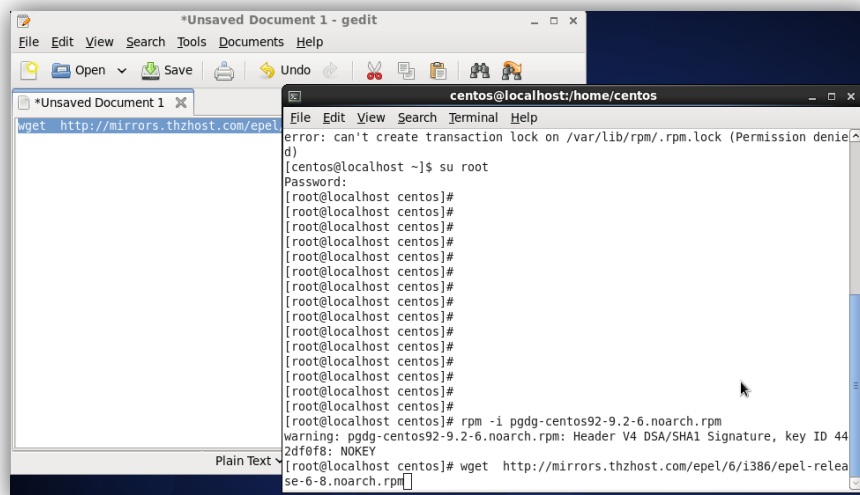


```
centos@localhost:~  
File Edit View Search Terminal Help  
[centos@localhost ~]$ wget http://yum.pgrps.org/9.2/redhat/rhel-6-x86_64/pgdg-centos92-9.2-6.noarch.rpm  
--2013-09-03 00:45:07-- http://yum.pgrps.org/9.2/redhat/rhel-6-x86_64/pgdg-centos92-9.2-6.noarch.rpm  
Resolving yum.pgrps.org... 98.129.198.114, 2001:4800:7903:3::114  
Connecting to yum.pgrps.org[98.129.198.114]:80... connected.  
HTTP request sent, awaiting response... 200 OK  
Length: 5288 (5.2K) [application/x-redhat-package-manager]  
Saving to: "pgdg-centos92-9.2-6.noarch.rpm"  
  
100%[=====] 5,288 --.-K/s in 0.004s  
  
2013-09-03 00:45:09 (1.22 MB/s) - "pgdg-centos92-9.2-6.noarch.rpm" saved [5288/5288]  
  
[centos@localhost ~]$
```

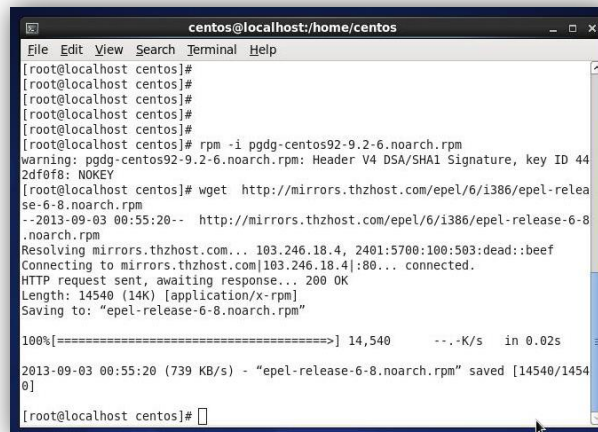
```
rpm -i pgdg-centos92-9.2-6.noarch.rpm
```



```
wget http://mirrors.thzhost.com/epel/6/i386/epel-release-6-8.noarch.rpm
```



จะปรากฏ file ที่ Download มาคือ file epel-release-6-8.noarch.rpm



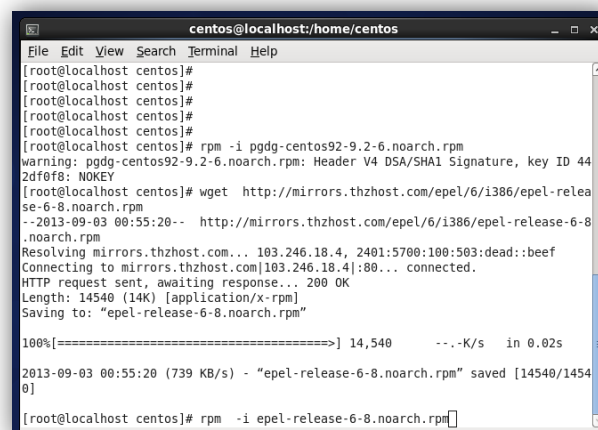
```
centos@localhost:/home/centos
File Edit View Search Terminal Help
[root@localhost centos]#
[root@localhost centos]#
[root@localhost centos]#
[root@localhost centos]#
[root@localhost centos]# rpm -i pgdg-centos92-9.2-6.noarch.rpm
warning: pgdg-centos92-9.2-6.noarch.rpm: Header V4 DSA/SHA1 Signature, key ID 44
2df0f8: NOKEY
[root@localhost centos]# wget http://mirrors.thzhost.com/epel/6/i386/epel-relea
se-6-8.noarch.rpm
--2013-09-03 00:55:20-- http://mirrors.thzhost.com/epel/6/i386/epel-release-6-8
.noarch.rpm
Resolving mirrors.thzhost.com... 103.246.18.4, 2401:5700:100:503:dead:beef
Connecting to mirrors.thzhost.com|103.246.18.4|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 14540 (14K) [application/x-rpm]
Saving to: "epel-release-6-8.noarch.rpm"

100%[=====] 14,540 --.-K/s in 0.02s

2013-09-03 00:55:20 (739 KB/s) - "epel-release-6-8.noarch.rpm" saved [14540/1454
0]

[root@localhost centos]#
```

ทำการแตก File โดยใช้คำสั่ง rpm -i epel-release-6-8.noarch.rpm



```
centos@localhost:/home/centos
File Edit View Search Terminal Help
[root@localhost centos]#
[root@localhost centos]#
[root@localhost centos]#
[root@localhost centos]#
[root@localhost centos]# rpm -i pgdg-centos92-9.2-6.noarch.rpm
warning: pgdg-centos92-9.2-6.noarch.rpm: Header V4 DSA/SHA1 Signature, key ID 44
2df0f8: NOKEY
[root@localhost centos]# wget http://mirrors.thzhost.com/epel/6/i386/epel-relea
se-6-8.noarch.rpm
--2013-09-03 00:55:20-- http://mirrors.thzhost.com/epel/6/i386/epel-release-6-8
.noarch.rpm
Resolving mirrors.thzhost.com... 103.246.18.4, 2401:5700:100:503:dead:beef
Connecting to mirrors.thzhost.com|103.246.18.4|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 14540 (14K) [application/x-rpm]
Saving to: "epel-release-6-8.noarch.rpm"

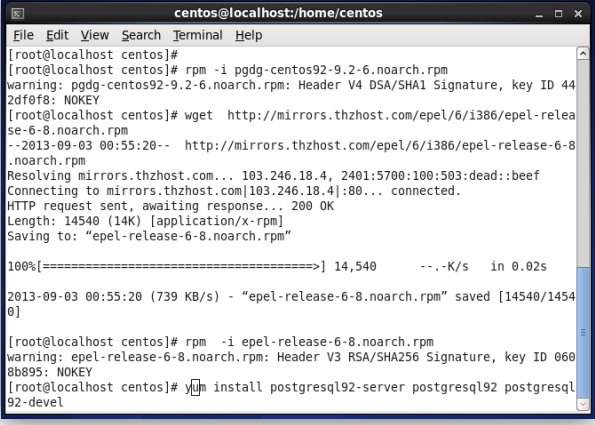
100%[=====] 14,540 --.-K/s in 0.02s

2013-09-03 00:55:20 (739 KB/s) - "epel-release-6-8.noarch.rpm" saved [14540/1454
0]

[root@localhost centos]# rpm -i epel-release-6-8.noarch.rpm
```

2.1 ทำการติดตั้ง DATABASE POSTGRESQL 9.2

โดยใช้คำสั่ง :- `yum install postgresql92-server postgresql92 postgresql92-devel`



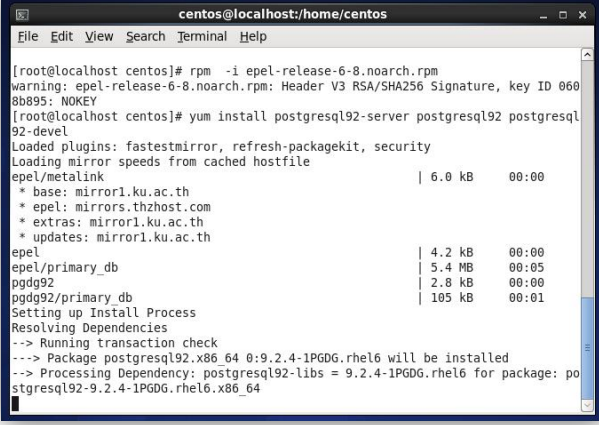
```
centos@localhost:/home/centos
[root@localhost centos]# rpm -i pgdg-centos92-9.2-6.noarch.rpm
warning: pgdg-centos92-9.2-6.noarch.rpm: Header V4 DSA/SHA1 Signature, key ID 44
2df0f8: NOKEY
[root@localhost centos]# wget http://mirrors.thzhost.com/epel/6/i386/epel-relea
se-6-8.noarch.rpm
--2013-09-03 00:55:20-- http://mirrors.thzhost.com/epel/6/i386/epel-release-6-8
.noarch.rpm
Resolving mirrors.thzhost.com... 103.246.18.4, 2401:5700:100:503:dead::beef
Connecting to mirrors.thzhost.com[103.246.18.4]:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 14540 (14K) [application/x-rpm]
Saving to: "epel-release-6-8.noarch.rpm"

100%[=====] 14,540 --.-K/s in 0.02s

2013-09-03 00:55:20 (739 KB/s) - "epel-release-6-8.noarch.rpm" saved [14540/1454
0]

[root@localhost centos]# rpm -i epel-release-6-8.noarch.rpm
warning: epel-release-6-8.noarch.rpm: Header V3 RSA/SHA256 Signature, key ID 060
8b895: NOKEY
[root@localhost centos]# yum install postgresql92-server postgresql92 postgresql
92-devel
```

จะปรากฏ File ที่หน้าจอ



```
centos@localhost:/home/centos
[root@localhost centos]# rpm -i epel-release-6-8.noarch.rpm
warning: epel-release-6-8.noarch.rpm: Header V3 RSA/SHA256 Signature, key ID 060
8b895: NOKEY
[root@localhost centos]# yum install postgresql92-server postgresql92 postgresql
92-devel
Loaded plugins: fastestmirror, refresh-packagekit, security
Loading mirror speeds from cached hostfile
epel/metalink | 6.0 kB 00:00
* base: mirror1.ku.ac.th
* epel: mirrors.thzhost.com
* extras: mirror1.ku.ac.th
* updates: mirror1.ku.ac.th
epel | 4.2 kB 00:00
epel/primary_db | 5.4 MB 00:05
pgdg92 | 2.8 kB 00:00
pgdg92/primary_db | 105 kB 00:01
Setting up Install Process
Resolving Dependencies
--> Running transaction check
--> Package postgresql92.x86_64 9.2.4-1PGDG.rhel6 will be installed
--> Processing Dependency: postgresql92-libs = 9.2.4-1PGDG.rhel6 for package: po
stgresql92-9.2.4-1PGDG.rhel6.x86_64
```

ยืนยันการติดตั้ง โดยเลือก Y

```
centos@localhost:/home/centos
File Edit View Search Terminal Help
---> Package postgresql92-server.x86_64 0:9.2.4-1PGDG.rhel6 will be installed
--> Running transaction check
---> Package postgresql92-libs.x86_64 0:9.2.4-1PGDG.rhel6 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

=====
Package                Arch      Version      Repository    Size
=====
Installing:
postgresql92            x86_64    9.2.4-1PGDG.rhel6    pgdg92        970 k
postgresql92-devel      x86_64    9.2.4-1PGDG.rhel6    pgdg92        1.4 M
postgresql92-server     x86_64    9.2.4-1PGDG.rhel6    pgdg92        3.8 M
Installing for dependencies:
postgresql92-libs       x86_64    9.2.4-1PGDG.rhel6    pgdg92        185 k
=====

Transaction Summary
-----
Install      4 Package(s)

Total download size: 6.4 M
Installed size: 28 M
Is this ok [y/N]:
```

เมื่อการติดตั้งเรียบร้อยแล้วจะปรากฏข้อความ Complete

```
centos@localhost:/home/centos
File Edit View Search Terminal Help
Running rpm check debug
Running Transaction Test
Transaction Test Succeeded
Running Transaction
Warning: RPMDB altered outside of yum.
Installing : postgresql92-libs-9.2.4-1PGDG.rhel6.x86_64        1/4
Installing : postgresql92-9.2.4-1PGDG.rhel6.x86_64           2/4
Installing : postgresql92-devel-9.2.4-1PGDG.rhel6.x86_64      3/4
Installing : postgresql92-server-9.2.4-1PGDG.rhel6.x86_64     4/4
Verifying  : postgresql92-devel-9.2.4-1PGDG.rhel6.x86_64     1/4
Verifying  : postgresql92-server-9.2.4-1PGDG.rhel6.x86_64    2/4
Verifying  : postgresql92-9.2.4-1PGDG.rhel6.x86_64           3/4
Verifying  : postgresql92-libs-9.2.4-1PGDG.rhel6.x86_64      4/4

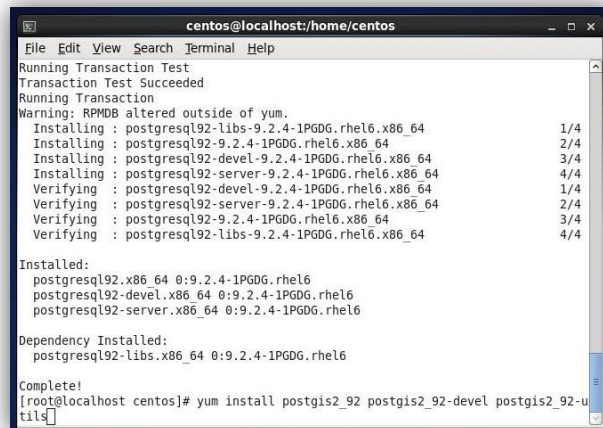
Installed:
postgresql92.x86_64 0:9.2.4-1PGDG.rhel6
postgresql92-devel.x86_64 0:9.2.4-1PGDG.rhel6
postgresql92-server.x86_64 0:9.2.4-1PGDG.rhel6

Dependency Installed:
postgresql92-libs.x86_64 0:9.2.4-1PGDG.rhel6

Complete!
[root@localhost centos]#
```

2.2 ทำการติดตั้ง POSTGIS 2.0

โดยใช้คำสั่ง :- `yum install postgis2_92 postgis2_92-devel postgis2_92-utils`



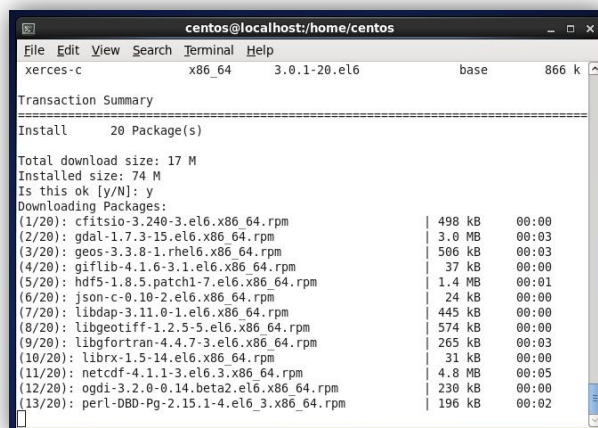
```
centos@localhost/home/centos
File Edit View Search Terminal Help
Running Transaction Test
Transaction Test Succeeded
Running Transaction
Warning: RPMDB altered outside of yum.
Installing : postgresql92-libs-9.2.4-1PGDG.rhel6.x86_64 1/4
Installing : postgresql92-9.2.4-1PGDG.rhel6.x86_64 2/4
Installing : postgresql92-devel-9.2.4-1PGDG.rhel6.x86_64 3/4
Installing : postgresql92-server-9.2.4-1PGDG.rhel6.x86_64 4/4
Verifying : postgresql92-devel-9.2.4-1PGDG.rhel6.x86_64 1/4
Verifying : postgresql92-server-9.2.4-1PGDG.rhel6.x86_64 2/4
Verifying : postgresql92-9.2.4-1PGDG.rhel6.x86_64 3/4
Verifying : postgresql92-libs-9.2.4-1PGDG.rhel6.x86_64 4/4

Installed:
postgresql92.x86_64 0:9.2.4-1PGDG.rhel6
postgresql92-devel.x86_64 0:9.2.4-1PGDG.rhel6
postgresql92-server.x86_64 0:9.2.4-1PGDG.rhel6

Dependency Installed:
postgresql92-libs.x86_64 0:9.2.4-1PGDG.rhel6

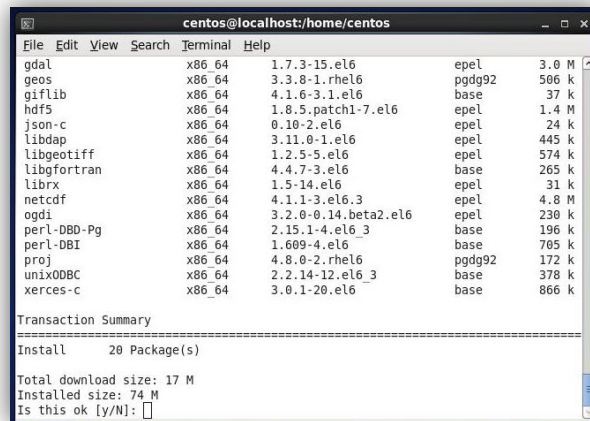
Complete!
[root@localhost centos]# yum install postgis2_92 postgis2_92-devel postgis2_92-u
tils
```

จะปรากฏ List Package



```
centos@localhost/home/centos
File Edit View Search Terminal Help
xerces-c x86_64 3.0.1-20.el6 base 866 k
Transaction Summary
Install 20 Package(s)
Total download size: 17 M
Installed size: 74 M
Is this ok [y/N]: y
Downloading Packages:
(1/20): cfitsio-3.240-3.el6.x86_64.rpm | 498 kB 00:00
(2/20): gdal-1.7.3-15.el6.x86_64.rpm | 3.0 MB 00:03
(3/20): geos-3.3.8-1.rhel6.x86_64.rpm | 506 kB 00:03
(4/20): giflib-4.1.6-3.1.el6.x86_64.rpm | 37 kB 00:00
(5/20): hdf5-1.8.5.patch1-7.el6.x86_64.rpm | 1.4 MB 00:01
(6/20): json-c-0.10-2.el6.x86_64.rpm | 24 kB 00:00
(7/20): libdap-3.11.0-1.el6.x86_64.rpm | 445 kB 00:00
(8/20): libgeotiff-1.2.5-5.el6.x86_64.rpm | 574 kB 00:00
(9/20): libfortran-4.4.7-3.el6.x86_64.rpm | 265 kB 00:03
(10/20): librx-1.5-14.el6.x86_64.rpm | 31 kB 00:00
(11/20): netcdf-4.1.1-3.el6.x86_64.rpm | 4.8 MB 00:05
(12/20): ogdi-3.2.0-0.14.beta2.el6.x86_64.rpm | 230 kB 00:00
(13/20): perl-DBD-Pg-2.15.1-4.el6_3.x86_64.rpm | 196 kB 00:02
```

ให้ยืนยันการติดตั้ง โดยเลือก Y

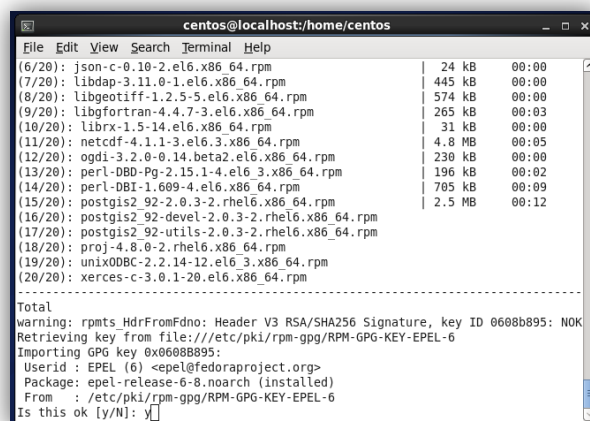


```
centos@localhost:/home/centos
File Edit View Search Terminal Help
gdal x86_64 1.7.3-15.el6 epel 3.0 M
geos x86_64 3.3.8-1.rhel6 pgdg92 506 k
giflib x86_64 4.1.6-3.1.el6 base 37 k
hdf5 x86_64 1.8.5.patch1-7.el6 epel 1.4 M
json-c x86_64 0.10-2.el6 epel 24 k
libdap x86_64 3.11.0-1.el6 epel 445 k
libgeotiff x86_64 1.2.5-5.el6 epel 574 k
libgfortran x86_64 4.4.7-3.el6 base 265 k
librx x86_64 1.5-14.el6 epel 31 k
netcdf x86_64 4.1.1-3.el6_3 epel 4.8 M
ogdi x86_64 3.2.0-0.14.beta2.el6 epel 230 k
perl-DBD-Pg x86_64 2.15.1-4.el6_3 base 196 k
perl-DBI x86_64 1.609-4.el6 base 705 k
proj x86_64 4.8.0-2.rhel6 pgdg92 172 k
unixODBC x86_64 2.2.14-12.el6_3 base 378 k
xerces-c x86_64 3.0.1-20.el6 base 866 k

Transaction Summary
=====
Install      20 Package(s)

Total download size: 17 M
Installed size: 74 M
Is this ok [y/N]:
```

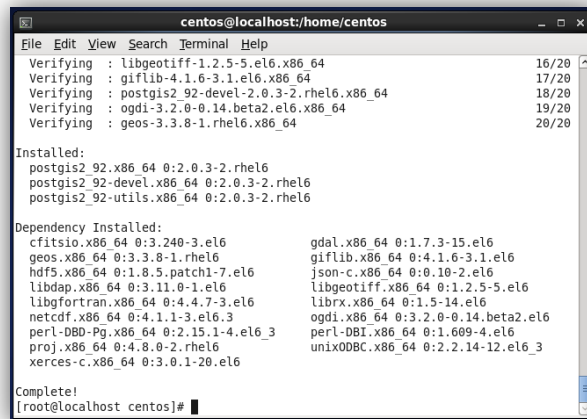
ให้ยืนยันการติดตั้ง package อีกครั้ง โดยเลือก Y



```
centos@localhost:/home/centos
File Edit View Search Terminal Help
(6/20): json-c-0.10-2.el6.x86_64.rpm | 24 kB 00:00
(7/20): libdap-3.11.0-1.el6.x86_64.rpm | 445 kB 00:00
(8/20): libgeotiff-1.2.5-5.el6.x86_64.rpm | 574 kB 00:00
(9/20): libgfortran-4.4.7-3.el6.x86_64.rpm | 265 kB 00:03
(10/20): librx-1.5-14.el6.x86_64.rpm | 31 kB 00:00
(11/20): netcdf-4.1.1-3.el6_3.x86_64.rpm | 4.8 MB 00:05
(12/20): ogdi-3.2.0-0.14.beta2.el6.x86_64.rpm | 230 kB 00:00
(13/20): perl-DBD-Pg-2.15.1-4.el6_3.x86_64.rpm | 196 kB 00:02
(14/20): perl-DBI-1.609-4.el6.x86_64.rpm | 705 kB 00:09
(15/20): postgres2.92-devel-2.0.3-2.rhel6.x86_64.rpm | 2.5 MB 00:12
(16/20): postgres2.92-utils-2.0.3-2.rhel6.x86_64.rpm
(17/20): proj-4.8.0-2.rhel6.x86_64.rpm
(18/20): unixODBC-2.2.14-12.el6_3.x86_64.rpm
(19/20): xerces-c-3.0.1-20.el6.x86_64.rpm
(20/20): xerces-c-3.0.1-20.el6.x86_64.rpm

Total
warning: rpmts_HdrFromFdno: Header V3 RSA/SHA256 Signature, key ID 0608B895: NOK
Retrieving key from file:///etc/pki/rpm-gpg/RPM-GPG-KEY-EPEL-6
Importing GPG key 0x0608B895:
  Userid : EPEL (6) <epel@fedoraproject.org>
  Package: epel-release-6-8.noarch (installed)
  From    : /etc/pki/rpm-gpg/RPM-GPG-KEY-EPEL-6
Is this ok [y/N]: Y
```

เมื่อการติดตั้งเรียบร้อยแล้วจะปรากฏข้อความ Complete



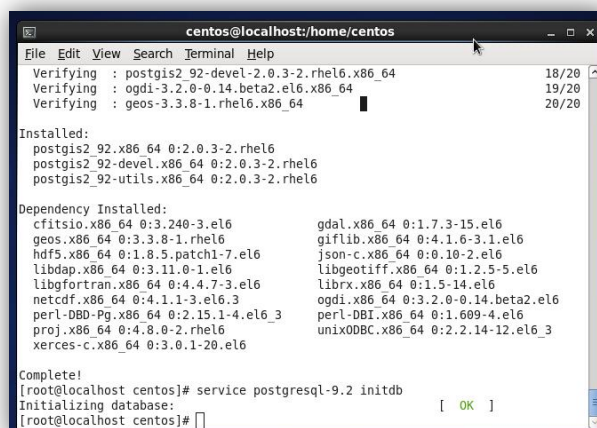
```
centos@localhost:/home/centos
File Edit View Search Terminal Help
Verifying : libgeotiff-1.2.5-5.el6.x86_64 16/20
Verifying : giflib-4.1.6-3.1.el6.x86_64 17/20
Verifying : postgresql-9.2-devel-2.0.3-2.rhel6.x86_64 18/20
Verifying : ogr2ogr-3.2.0-0.14.beta2.el6.x86_64 19/20
Verifying : geos-3.3.8-1.rhel6.x86_64 20/20

Installed:
postgresql-9.2.x86_64 0:2.0.3-2.rhel6
postgresql-9.2-devel.x86_64 0:2.0.3-2.rhel6
postgresql-9.2-libs.x86_64 0:2.0.3-2.rhel6

Dependency Installed:
cfitsio.x86_64 0:3.240-3.el6 gdal.x86_64 0:1.7.3-15.el6
geos.x86_64 0:3.3.8-1.rhel6 giflib.x86_64 0:4.1.6-3.1.el6
hdf5.x86_64 0:1.8.5.patch1-7.el6 json-c.x86_64 0:0.10-2.el6
libdap.x86_64 0:3.11.0-1.el6 libgeotiff.x86_64 0:1.2.5-5.el6
libhdf5.x86_64 0:4.4.7-3.el6 libnetcdf.x86_64 0:4.1.3-1.el6
libproj.x86_64 0:4.1.1-3.el6 libxerces-c.x86_64 0:3.0.1-20.el6
libxml2.x86_64 0:2.9.1-6.el6 libxslt.x86_64 0:1.1.29-2.el6
perl-DBD-Pg.x86_64 0:2.15.1-4.el6_3 perl-DBI.x86_64 0:1.609-4.el6
proj.x86_64 0:4.8.0-2.rhel6 unixODBC.x86_64 0:2.2.14-12.el6_3
xerces-c.x86_64 0:3.0.1-20.el6

Complete!
[root@localhost centos]#
```

ให้ทำการ initialize Database โดยใช้คำสั่ง service postgresql-9.2 initdb



```
centos@localhost:/home/centos
File Edit View Search Terminal Help
Verifying : postgresql-9.2-devel-2.0.3-2.rhel6.x86_64 18/20
Verifying : ogr2ogr-3.2.0-0.14.beta2.el6.x86_64 19/20
Verifying : geos-3.3.8-1.rhel6.x86_64 20/20

Installed:
postgresql-9.2.x86_64 0:2.0.3-2.rhel6
postgresql-9.2-devel.x86_64 0:2.0.3-2.rhel6
postgresql-9.2-libs.x86_64 0:2.0.3-2.rhel6

Dependency Installed:
cfitsio.x86_64 0:3.240-3.el6 gdal.x86_64 0:1.7.3-15.el6
geos.x86_64 0:3.3.8-1.rhel6 giflib.x86_64 0:4.1.6-3.1.el6
hdf5.x86_64 0:1.8.5.patch1-7.el6 json-c.x86_64 0:0.10-2.el6
libdap.x86_64 0:3.11.0-1.el6 libgeotiff.x86_64 0:1.2.5-5.el6
libhdf5.x86_64 0:4.4.7-3.el6 libnetcdf.x86_64 0:4.1.3-1.el6
libproj.x86_64 0:4.1.1-3.el6 libxerces-c.x86_64 0:3.0.1-20.el6
libxml2.x86_64 0:2.9.1-6.el6 libxslt.x86_64 0:1.1.29-2.el6
perl-DBD-Pg.x86_64 0:2.15.1-4.el6_3 perl-DBI.x86_64 0:1.609-4.el6
proj.x86_64 0:4.8.0-2.rhel6 unixODBC.x86_64 0:2.2.14-12.el6_3
xerces-c.x86_64 0:3.0.1-20.el6

Complete!
[root@localhost centos]# service postgresql-9.2 initdb [ OK ]
Initializing database:
[root@localhost centos]#
```

ทำการ Start service โดยใช้คำสั่ง service postgresql-9.2 start

```
centos@localhost:/home/centos
File Edit View Search Terminal Help
Verifying : geos-3.3.8-1.rhel6.x86_64 20/20

Installed:
postgresql-9.2.x86_64 0:2.0.3-2.rhel6
postgresql-9.2-devel.x86_64 0:2.0.3-2.rhel6
postgresql-9.2-utils.x86_64 0:2.0.3-2.rhel6

Dependency Installed:
cfitsio.x86_64 0:3.240-3.el6          gdal.x86_64 0:1.7.3-15.el6
geos.x86_64 0:3.3.8-1.rhel6          giflib.x86_64 0:4.1.6-3.1.el6
hdf5.x86_64 0:1.8.5.patch1-7.el6     json-c.x86_64 0:0.10-2.el6
libdap.x86_64 0:3.11.0-1.el6         libgeotiff.x86_64 0:1.2.5-5.el6
libgfortran.x86_64 0:4.4.7-3.el6     librx.x86_64 0:1.5-14.el6
netcdf.x86_64 0:4.1.1-3.el6_3        ogdi.x86_64 0:3.2.0-0.14.beta2.el6
perl-DBD-Pg.x86_64 0:2.15.1-4.el6_3  perl-DBI.x86_64 0:1.609-4.el6
proj.x86_64 0:4.8.0-2.rhel6         unixODBC.x86_64 0:2.2.14-12.el6_3
xerces-c.x86_64 0:3.0.1-20.el6

Complete!
[root@localhost centos]# service postgresql-9.2 initdb [ OK ]
[root@localhost centos]# service postgresql-9.2 start [ OK ]
Starting postgresql-9.2 service: [ OK ]
[root@localhost centos]#
```

ตรวจสอบ Status ด้วยคำสั่ง /etc/init.d/postgresql-9.2 status

```
CentOS 64-bit (3) - VMware Workstation
File Edit View VM Team Windows Help
CentOS 64-bit (3)
Computer
centos's Home
Trash
Terminal

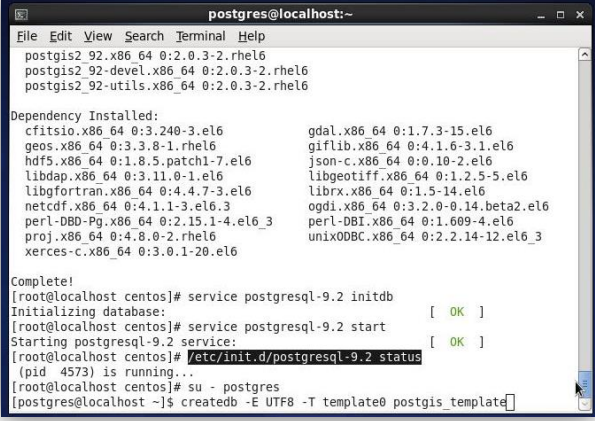
centos@localhost:/home/centos
File Edit View Search Terminal Help
Installed:
postgresql-9.2.x86_64 0:2.0.3-2.rhel6
postgresql-9.2-devel.x86_64 0:2.0.3-2.rhel6
postgresql-9.2-utils.x86_64 0:2.0.3-2.rhel6

Dependency Installed:
cfitsio.x86_64 0:3.240-3.el6          gdal.x86_64 0:1.7.3-15.el6
geos.x86_64 0:3.3.8-1.rhel6          giflib.x86_64 0:4.1.6-3.1.el6
hdf5.x86_64 0:1.8.5.patch1-7.el6     json-c.x86_64 0:0.10-2.el6
libdap.x86_64 0:3.11.0-1.el6         libgeotiff.x86_64 0:1.2.5-5.el6
libgfortran.x86_64 0:4.4.7-3.el6     librx.x86_64 0:1.5-14.el6
netcdf.x86_64 0:4.1.1-3.el6_3        ogdi.x86_64 0:3.2.0-0.14.beta2.el6
perl-DBD-Pg.x86_64 0:2.15.1-4.el6_3  perl-DBI.x86_64 0:1.609-4.el6
proj.x86_64 0:4.8.0-2.rhel6         unixODBC.x86_64 0:2.2.14-12.el6_3
xerces-c.x86_64 0:3.0.1-20.el6

Complete!
[root@localhost centos]# service postgresql-9.2 initdb [ OK ]
[root@localhost centos]# service postgresql-9.2 start [ OK ]
Starting postgresql-9.2 service: [ OK ]
[root@localhost centos]# /etc/init.d/postgresql-9.2 status
(pid 4573) is running...
[root@localhost centos]#
```

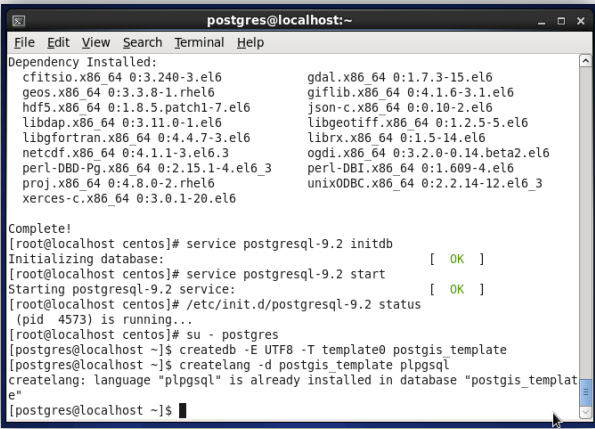
ทำการเปลี่ยนสิทธิ์การใช้งานเป็น User postgres โดยใช้คำสั่ง:- `su - postgres`

จากนั้นให้สร้าง database ใหม่ โดยใช้คำสั่ง:- `createdb -E UTF8 -T template0 postgres_template`



```
postgres@localhost:~  
File Edit View Search Terminal Help  
postgres2_92.x86_64 0:2.0.3-2.rhel6  
postgres2_92-devel.x86_64 0:2.0.3-2.rhel6  
postgres2_92-utils.x86_64 0:2.0.3-2.rhel6  
  
Dependency Installed:  
cfitsio.x86_64 0:3.240-3.el6          gdal.x86_64 0:1.7.3-15.el6  
geos.x86_64 0:3.3.8-1.rhel6          giflib.x86_64 0:4.1.6-3.1.el6  
hdf5.x86_64 0:1.8.5.patch1-7.el6      json-c.x86_64 0:0.10-2.el6  
libdap.x86_64 0:3.11.0-1.el6         libgeotiff.x86_64 0:1.2.5-5.el6  
libgfortran.x86_64 0:4.4.7-3.el6      librx.x86_64 0:1.5-14.el6  
netcdf.x86_64 0:4.1.1-3.el6_3        ogdi.x86_64 0:3.2.0-0.14.beta2.el6  
perl-DBD-Pg.x86_64 0:2.15.1-4.el6_3  perl-DBI.x86_64 0:1.609-4.el6  
proj.x86_64 0:4.8.0-2.rhel6          unixODBC.x86_64 0:2.2.14-12.el6_3  
xerces-c.x86_64 0:3.0.1-20.el6  
  
Complete!  
[root@localhost centos]# service postgresql-9.2 initdb  
Initializing database: [ OK ]  
[root@localhost centos]# service postgresql-9.2 start [ OK ]  
Starting postgresql-9.2 service:  
[root@localhost centos]# /etc/init.d/postgresql-9.2 status  
(pid 4573) is running...  
[root@localhost centos]# su - postgres  
[postgres@localhost ~]$ createdb -E UTF8 -T template0 postgres_template
```

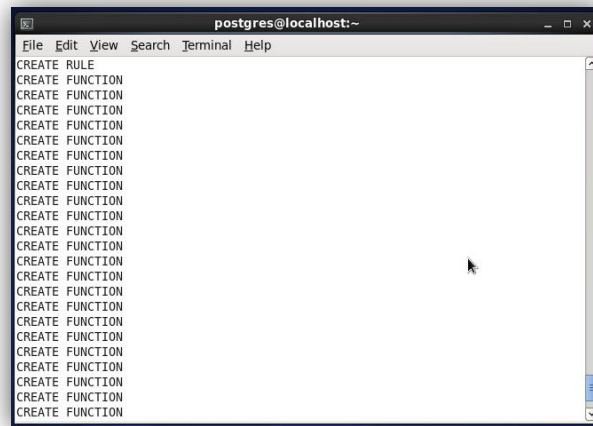
ทำการสร้าง language ให้กับ Database โดยใช้คำสั่ง :- `createlang -d postgres_template plpgsql`



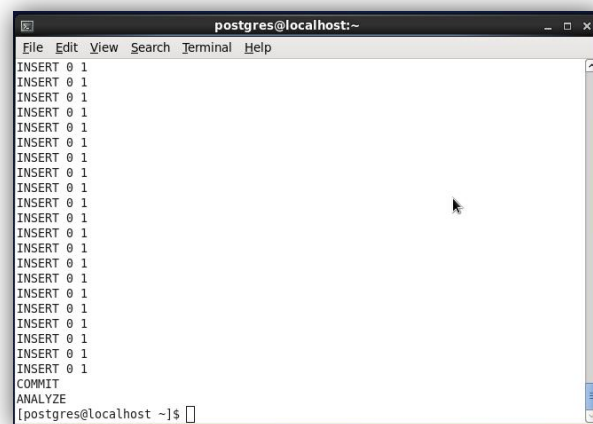
```
postgres@localhost:~  
File Edit View Search Terminal Help  
Dependency Installed:  
cfitsio.x86_64 0:3.240-3.el6          gdal.x86_64 0:1.7.3-15.el6  
geos.x86_64 0:3.3.8-1.rhel6          giflib.x86_64 0:4.1.6-3.1.el6  
hdf5.x86_64 0:1.8.5.patch1-7.el6      json-c.x86_64 0:0.10-2.el6  
libdap.x86_64 0:3.11.0-1.el6         libgeotiff.x86_64 0:1.2.5-5.el6  
libgfortran.x86_64 0:4.4.7-3.el6      librx.x86_64 0:1.5-14.el6  
netcdf.x86_64 0:4.1.1-3.el6_3        ogdi.x86_64 0:3.2.0-0.14.beta2.el6  
perl-DBD-Pg.x86_64 0:2.15.1-4.el6_3  perl-DBI.x86_64 0:1.609-4.el6  
proj.x86_64 0:4.8.0-2.rhel6          unixODBC.x86_64 0:2.2.14-12.el6_3  
xerces-c.x86_64 0:3.0.1-20.el6  
  
Complete!  
[root@localhost centos]# service postgresql-9.2 initdb  
Initializing database: [ OK ]  
[root@localhost centos]# service postgresql-9.2 start [ OK ]  
Starting postgresql-9.2 service:  
[root@localhost centos]# /etc/init.d/postgresql-9.2 status  
(pid 4573) is running...  
[root@localhost centos]# su - postgres  
[postgres@localhost ~]$ createdb -E UTF8 -T template0 postgres_template  
[postgres@localhost ~]$ createlang -d postgres_template plpgsql  
createlang: language "plpgsql" is already installed in database "postgres_template"  
[postgres@localhost ~]$
```

คำสั่งในการ Create Function / Insert ทำภายหลังจากที่ติดตั้ง Database เรียบร้อยแล้ว :-

```
psql -d postgis_template -f /usr/pgsql-9.2/share/contrib/postgis-2.0/postgis.sql
```



```
psql -d postgis_template -f /usr/pgsql-9.2/share/contrib/postgis-2.0/spatial_ref_sys.sql
```



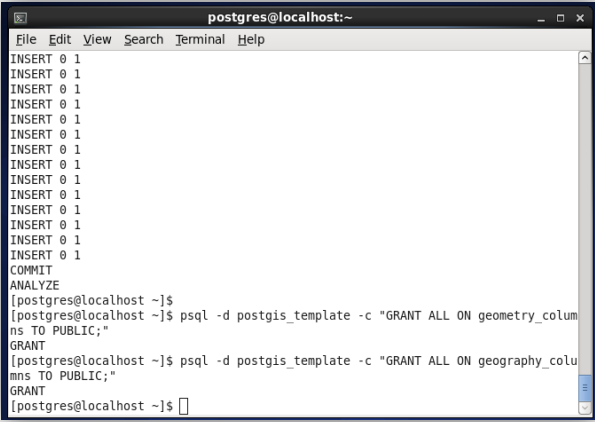
คำสั่งในการ grant สิทธิ์ ทำภายหลังจากที่ติดตั้ง Create Function / Insert เรียบร้อยแล้ว :-

```
psql -d postgis_template -c "GRANT ALL ON geometry_columns TO PUBLIC;"
```



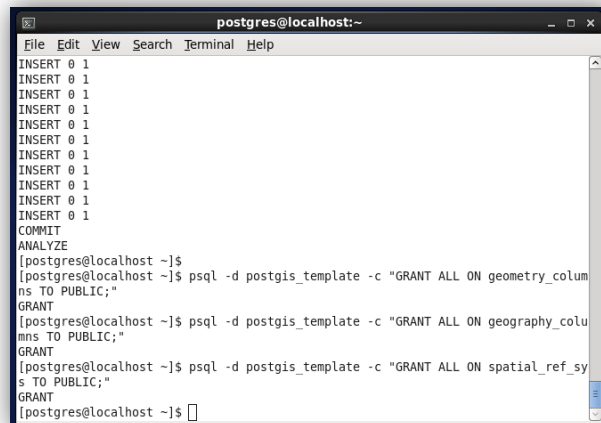
```
postgres@localhost:~  
File Edit View Search Terminal Help  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
COMMIT  
ANALYZE  
[postgres@localhost ~]$  
[postgres@localhost ~]$ psql -d postgis_template -c "GRANT ALL ON geometry_columns TO PUBLIC;"  
GRANT  
[postgres@localhost ~]$
```

```
psql -d postgis_template -c "GRANT ALL ON geography_columns TO PUBLIC;"
```



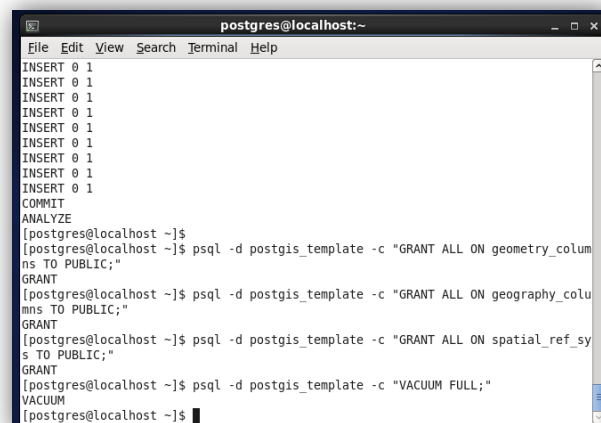
```
postgres@localhost:~  
File Edit View Search Terminal Help  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
COMMIT  
ANALYZE  
[postgres@localhost ~]$  
[postgres@localhost ~]$ psql -d postgis_template -c "GRANT ALL ON geometry_columns TO PUBLIC;"  
GRANT  
[postgres@localhost ~]$ psql -d postgis_template -c "GRANT ALL ON geography_columns TO PUBLIC;"  
GRANT  
[postgres@localhost ~]$
```

```
psql -d postgis_template -c "GRANT ALL ON spatial_ref_sys TO PUBLIC;"
```



```
postgres@localhost:~  
File Edit View Search Terminal Help  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
COMMIT  
ANALYZE  
[postgres@localhost ~]$  
[postgres@localhost ~]$ psql -d postgis_template -c "GRANT ALL ON geometry_columns TO PUBLIC;"  
GRANT  
[postgres@localhost ~]$ psql -d postgis_template -c "GRANT ALL ON geography_columns TO PUBLIC;"  
GRANT  
[postgres@localhost ~]$ psql -d postgis_template -c "GRANT ALL ON spatial_ref_sys TO PUBLIC;"  
GRANT  
[postgres@localhost ~]$
```

```
psql -d postgis_template -c "VACUUM FULL;"
```



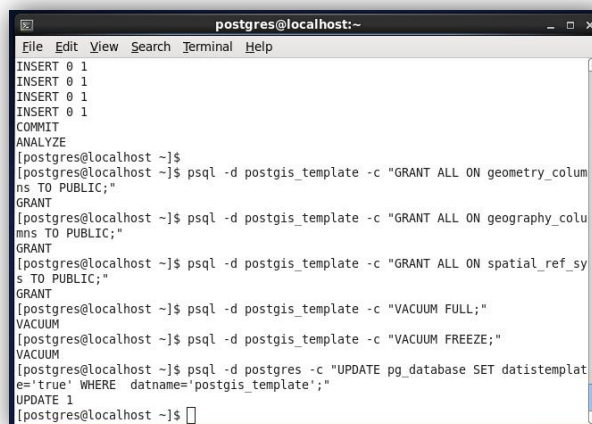
```
postgres@localhost:~  
File Edit View Search Terminal Help  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
COMMIT  
ANALYZE  
[postgres@localhost ~]$  
[postgres@localhost ~]$ psql -d postgis_template -c "GRANT ALL ON geometry_columns TO PUBLIC;"  
GRANT  
[postgres@localhost ~]$ psql -d postgis_template -c "GRANT ALL ON geography_columns TO PUBLIC;"  
GRANT  
[postgres@localhost ~]$ psql -d postgis_template -c "GRANT ALL ON spatial_ref_sys TO PUBLIC;"  
GRANT  
[postgres@localhost ~]$ psql -d postgis_template -c "VACUUM FULL;"  
VACUUM  
[postgres@localhost ~]$
```

```
psql -d postgis_template -c "VACUUM FREEZE;"
```



```
postgres@localhost:~  
File Edit View Search Terminal Help  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
COMMIT  
ANALYZE  
[postgres@localhost ~]$  
[postgres@localhost ~]$ psql -d postgis_template -c "GRANT ALL ON geometry_columns TO PUBLIC;"  
GRANT  
[postgres@localhost ~]$ psql -d postgis_template -c "GRANT ALL ON geography_columns TO PUBLIC;"  
GRANT  
[postgres@localhost ~]$ psql -d postgis_template -c "GRANT ALL ON spatial_ref_sys TO PUBLIC;"  
GRANT  
[postgres@localhost ~]$ psql -d postgis_template -c "VACUUM FULL;"  
VACUUM  
[postgres@localhost ~]$ psql -d postgis_template -c "VACUUM FREEZE;"  
VACUUM  
[postgres@localhost ~]$
```

```
psql -d postgres -c "UPDATE pg_database SET datistemplate='true' WHERE  
datname='postgis_template';"
```



```
postgres@localhost:~  
File Edit View Search Terminal Help  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
INSERT 0 1  
COMMIT  
ANALYZE  
[postgres@localhost ~]$  
[postgres@localhost ~]$ psql -d postgis_template -c "GRANT ALL ON geometry_columns TO PUBLIC;"  
GRANT  
[postgres@localhost ~]$ psql -d postgis_template -c "GRANT ALL ON geography_columns TO PUBLIC;"  
GRANT  
[postgres@localhost ~]$ psql -d postgis_template -c "GRANT ALL ON spatial_ref_sys TO PUBLIC;"  
GRANT  
[postgres@localhost ~]$ psql -d postgis_template -c "VACUUM FULL;"  
VACUUM  
[postgres@localhost ~]$ psql -d postgis_template -c "VACUUM FREEZE;"  
VACUUM  
[postgres@localhost ~]$ psql -d postgres -c "UPDATE pg_database SET datistemplate='true' WHERE datname='postgis_template';"  
UPDATE 1  
[postgres@localhost ~]$
```

```
psql -d postgres -c "UPDATE pg_database SET datallowconn='false' WHERE  
datname='postgis_template';"
```

```

postgres@localhost:~$ psql -d postgres -c "UPDATE pg_database SET datallowconn='false' WHERE datname='postgres_template';"
UPDATE 1

```

Config postgres connection

ทำการแก้ไข File pg_hba.conf ที่ Path /var/lib/pgsql/data/9.2/

ด้วยคำสั่ง:- vi pg_hba.conf

[illegible]

แก้ไขตรง # "local" is for Unix domain socket connections only

➔ remark # local all all peer

➔ เพิ่มข้อความ local all all trust

```
# IPv4 local connections:
```

```
➔ remark # host      all      all      127.0.0.1/32    ident
```

➔ เพิ่มข้อความ host all all 127.0.0.1/32 trust

```
centos@localhost:var/lib/pgsql/9.2/data
File Edit View Search Terminal Help
# Put your actual configuration here
#
# If you want to allow non-local connections, you need to add more
# "host" records. In that case you will also need to make PostgreSQL
# listen on a non-local interface via the listen_addresses
# configuration parameter, or via the -i or -h command line switches.

# TYPE      DATABASE      USER      ADDRESS      METHOD

# "local" is for Unix domain socket connections only
#local      all             all               peer
#local      all             all               trust
# IPv4 local connections:
#host       all             all              127.0.0.1/32  ident
#host       all             all              127.0.0.1/32  trust
# IPv6 local connections:
#host       all             all              ::1/128       ident
# Allow replication connections from localhost, by a user with the
# replication privilege.
#local      replication     postgres        peer
-- INSERT --
```

ทำการแก้ไข File postgresql.conf ที่ Path /var/lib/pgsql/data/9.2/

ด้วยคำสั่ง:- vi postgresql.conf

```
centos@localhost: /var/lib/pgsql/9.2/data
```

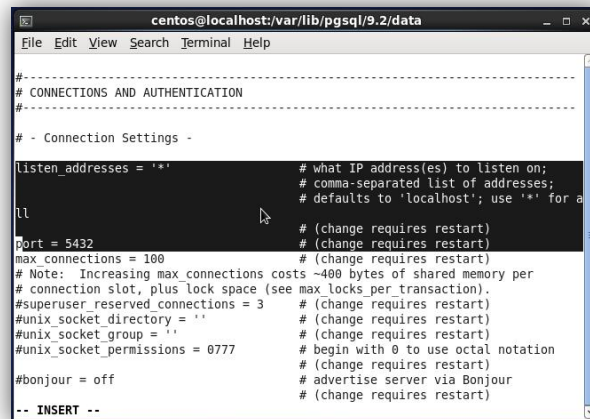
	File	Edit	View	Search	Terminal	Help
base	pg_hba.conf	org	pg_notify	pg_subtrans	pg_xlog	
global	pg_ident.conf		pg_serial	pg_tblspc	postgresql.conf	
pg_clog	pg_log		pg_snapshots	pg_twophase	postgresql.conf.org	
pg_hba.conf	pg_multixact		pg_stat_tmp	PG_VERSION	postmaster.opts	

```
[root@localhost data]#  
[root@localhost data]#  
[root@localhost data]#  
[root@localhost data]#  
[root@localhost data]#  
[root@localhost data]#  
[root@localhost data]#  
[root@localhost data]#  
[root@localhost data]#  
[root@localhost data]#  
[root@localhost data]#  
[root@localhost data]#  
[root@localhost data]#  
[root@localhost data]#  
[root@localhost data]#  
[root@localhost data]#  
[root@localhost data]#  
[root@localhost data]# vi pg_hba.conf  
[root@localhost data]# vi postgresql.conf
```

แก้ไขตรง # - Connection Settings -

➔แก้ไข #listen_addresses = 'localhost' เป็น listen_addresses = '*'

➔แก้ไข #port = 5432 เป็น port = 5432



```
centos@localhost:/var/lib/pgsql/9.2/data
File Edit View Search Terminal Help

#-----
# CONNECTIONS AND AUTHENTICATION
#-----

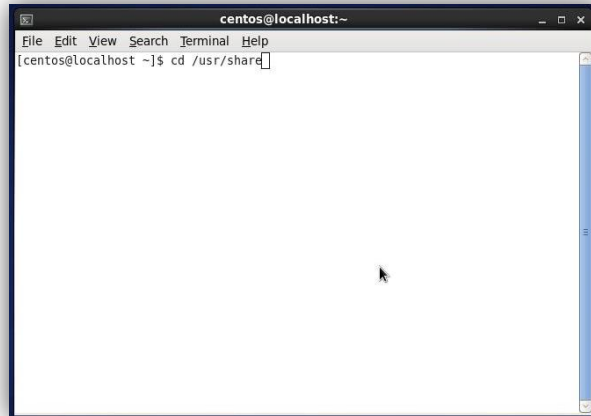
# - Connection Settings -

listen_addresses = '*'          # what IP address(es) to listen on;
                                # comma-separated list of addresses;
                                # defaults to 'localhost'; use '*' for all
                                # (change requires restart)
#
port = 5432                     # (change requires restart)
max_connections = 100           # (change requires restart)
# Note: Increasing max_connections costs ~400 bytes of shared memory per
# connection slot, plus lock space (see max_locks_per_transaction).
#superuser_reserved_connections = 3 # (change requires restart)
#unix_socket_directory = ''      # (change requires restart)
#unix_socket_group = ''         # (change requires restart)
#unix_socket_permissions = 0777 # begin with 0 to use octal notation
                                # (change requires restart)
#bonjour = off                  # advertise server via Bonjour
                                # (change requires restart)

-- INSERT --
```

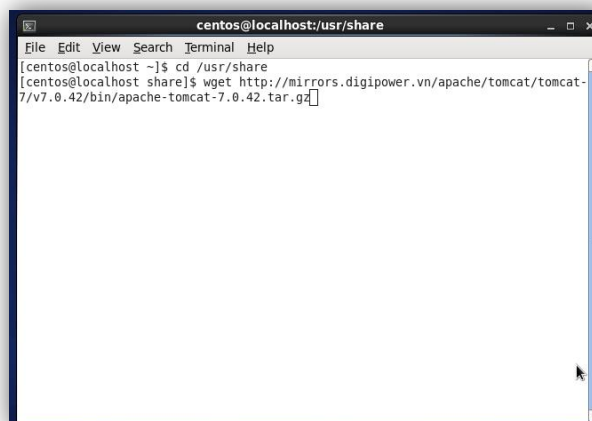
3. INSTALL APACHE TOMCAT 7.0

เปิดการใช้งาน Terminal > ใช้คำสั่ง:- `cd /usr/share`



Download โปรแกรม โดยใช้คำสั่ง :-

wget <http://mirrors.digipower.vn/apache/tomcat/tomcat-7/v7.0.42/bin/apache-tomcat-7.0.42.tar.gz>



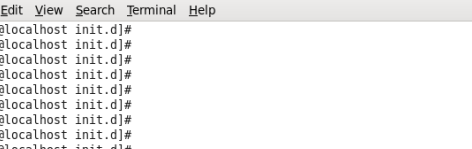
เมื่อแตก File เรียบร้อยแล้วจะได้ Folder ชื่อ apache-tomcat-7.0.42

```

centos@localhost:usr/share
File Edit View Search Terminal Help
[centos@localhost share]$ su root
Password:
[root@localhost share]# rmdir apache-tomcat-7.0.42
rmdir: failed to remove `apache-tomcat-7.0.42': Directory not empty
[root@localhost share]# cd apache-tomcat-7.0.42
[root@localhost apache-tomcat-7.0.42]# ls
bin  lib  logs  RELEASE-NOTES  temp  work
conf  LICENSE  NOTICE  RUNNING.txt  webapps
[root@localhost apache-tomcat-7.0.42]# cd ..
[root@localhost share]# ls
aclocal          hal
alsa             help
anaconda         hwdata
apache-tomcat-7.0.42
apache-tomcat-7.0.42.tar.gz
applications     idl
augeas           info
authconfig      kde4
awk              kde-settings
backgrounds     kdump
baobab          libgnomekbd
bookmarks       libgweather
brasero         librarian
cddrdao         libthai

```

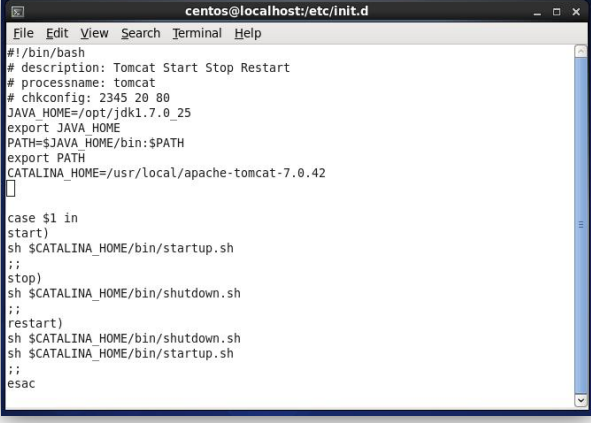
```
cd /etc/init.d
```



The screenshot shows a terminal window titled "centos@localhost:/etc/init.d". The window contains a list of 20 identical prompts: "root@localhost init.d#". The prompts are arranged vertically, suggesting a loop or repeated execution of a command. The terminal window has a standard Linux interface with a menu bar (File, Edit, View, Search, Terminal, Help) and window control buttons (minimize, maximize, close) in the top right corner. A mouse cursor is visible on the right side of the terminal area.

ให้ edit File TOMCAT ด้วยคำสั่ง :- vi tomcat

จะปรากฏหน้าจอ



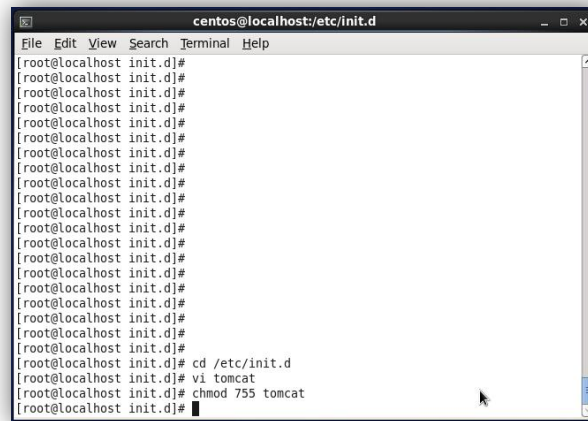
```
centos@localhost:/etc/init.d
File Edit View Search Terminal Help
#!/bin/bash
# description: Tomcat Start Stop Restart
# processname: tomcat
# chkconfig: 2345 20 80
JAVA_HOME=/opt/jdk1.7.0_25
export JAVA_HOME
PATH=$JAVA_HOME/bin:$PATH
export PATH
CATALINA_HOME=/usr/local/apache-tomcat-7.0.42

case $1 in
start)
sh $CATALINA_HOME/bin/startup.sh
;;
stop)
sh $CATALINA_HOME/bin/shutdown.sh
;;
restart)
sh $CATALINA_HOME/bin/shutdown.sh
sh $CATALINA_HOME/bin/startup.sh
;;
esac
```

การแก้ไขด้วย VI

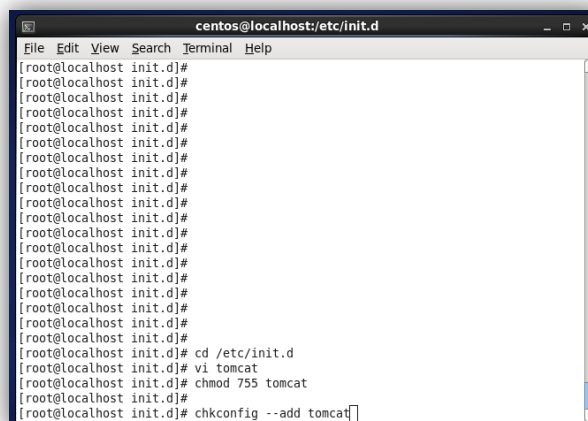
1. กดปุ่ม i
2. แก้ไขข้อความ
3. กดปุ่ม esc
4. กดเครื่องหมาย !
5. กด :
6. ใส่ WQ เพื่อทำการ save

ทำการแก้ไขสิทธิ์ File tomcat โดยใช้คำสั่ง :- `chmod 755 tomcat`

A terminal window titled 'centos@localhost:/etc/init.d' with a menu bar (File, Edit, View, Search, Terminal, Help). The window shows a series of 15 '[root@localhost init.d]#' prompts. The 16th prompt is followed by the command 'cd /etc/init.d'. The 17th prompt is followed by 'vi tomcat'. The 18th prompt is followed by 'chmod 755 tomcat'. The 19th prompt is followed by a cursor. The window has a scrollbar on the right side.

```
centos@localhost:/etc/init.d
File Edit View Search Terminal Help
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]# cd /etc/init.d
[root@localhost init.d]# vi tomcat
[root@localhost init.d]# chmod 755 tomcat
[root@localhost init.d]#
```

เพิ่มโปรแกรม tomcat เข้าไปในระบบ system services ด้วยคำสั่ง:- `chkconfig --add tomcat`

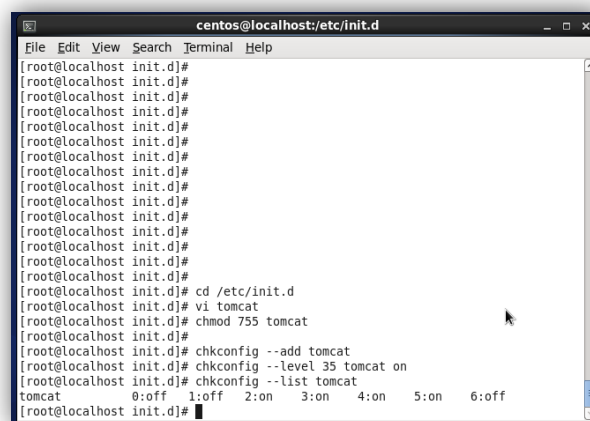
A terminal window titled 'centos@localhost:/etc/init.d' with a menu bar (File, Edit, View, Search, Terminal, Help). The window shows a series of 15 '[root@localhost init.d]#' prompts. The 16th prompt is followed by the command 'cd /etc/init.d'. The 17th prompt is followed by 'vi tomcat'. The 18th prompt is followed by 'chmod 755 tomcat'. The 19th prompt is followed by 'chkconfig --add tomcat'. The window has a scrollbar on the right side.

```
centos@localhost:/etc/init.d
File Edit View Search Terminal Help
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]# cd /etc/init.d
[root@localhost init.d]# vi tomcat
[root@localhost init.d]# chmod 755 tomcat
[root@localhost init.d]# chkconfig --add tomcat
```

แก้ไข Service ของ Tomcat ทำงานใน level 3(Text mode) และ Level 5(X-Windows) ด้วยคำสั่ง:-

chkconfig --level 35 tomcat on

เมื่อต้องการตรวจสอบค่า Level ที่กำหนด ใช้คำสั่ง :- chkconfig --list tomcat



```
centos@localhost:/etc/init.d
File Edit View Search Terminal Help
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]#
[root@localhost init.d]# cd /etc/init.d
[root@localhost init.d]# vi tomcat
[root@localhost init.d]# chmod 755 tomcat
[root@localhost init.d]#
[root@localhost init.d]# chkconfig --add tomcat
[root@localhost init.d]# chkconfig --level 35 tomcat on
[root@localhost init.d]# chkconfig --list tomcat
tomcat      0:off  1:off  2:on   3:on   4:on   5:on   6:off
[root@localhost init.d]#
```

เพิ่ม max memory ให้ tomcat server

แก้ไขไฟล์ /usr/share/apache-tomcat-7.0.42\bin\catalina.sh

เพิ่มบรรทัด JAVA_OPTS="-Xms1024m -Xmx4096m -XX:PermSize=1024m -

XX:MaxPermSize=4096m"

คำสั่งที่ใช้ในการเปิด ปิด Service

service tomcat start

service tomcat stop

service tomcat restart

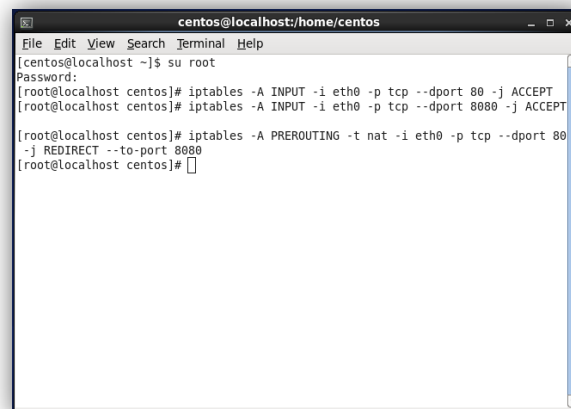
ให้ forward port iptables จาก Port 80 ไป Port 8080 โดยใช้คำสั่ง:-

```
iptables -A INPUT -i eth0 -p tcp --dport 80 -j ACCEPT
```

```
iptables -A INPUT -i eth0 -p tcp --dport 8080 -j ACCEPT
```

```
iptables -A PREROUTING -t nat -i eth0 -p tcp --dport 80 -j REDIRECT --to-port 8080
```

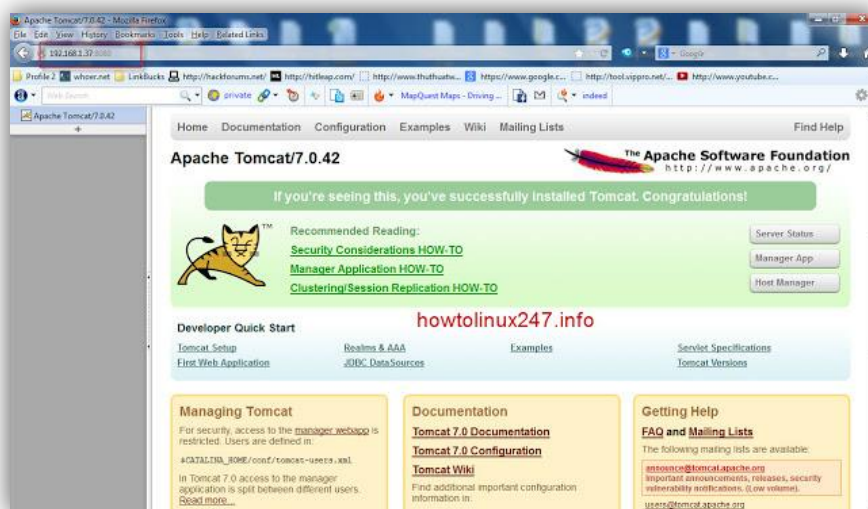
service iptables save



```
centos@localhost:~/home/centos
File Edit View Search Terminal Help
[centos@localhost ~]$ su root
Password:
[root@localhost centos]# iptables -A INPUT -i eth0 -p tcp --dport 80 -j ACCEPT
[root@localhost centos]# iptables -A INPUT -i eth0 -p tcp --dport 8080 -j ACCEPT
[root@localhost centos]# iptables -A PREROUTING -t nat -i eth0 -p tcp --dport 80
-j REDIRECT --to-port 8080
[root@localhost centos]#
```

ทดสอบการใช้งาน Apache tomcat โดยการทดสอบผ่าน web browser

Address :localhost:8080 จะปรากฏหน้าจอ



4. DEPLOY ALFRESCO & CONFIG

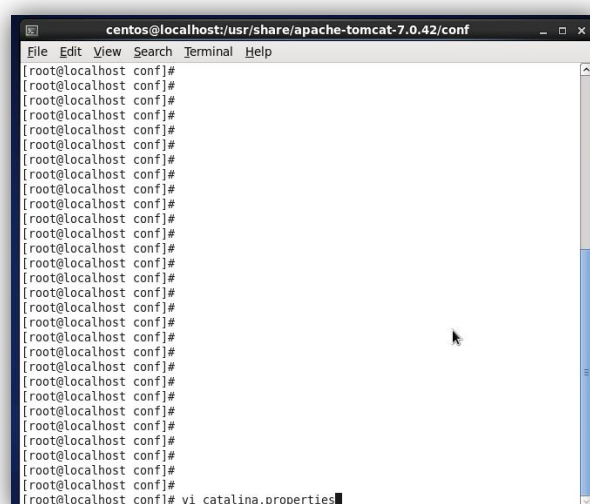
ทำการแก้ไข File catalina.properties เก็บอยู่ที่ /usr/share/apache-tomcat-7.0.42/conf/catalina.properties

แก้ไขบรรทัด shared.loader=

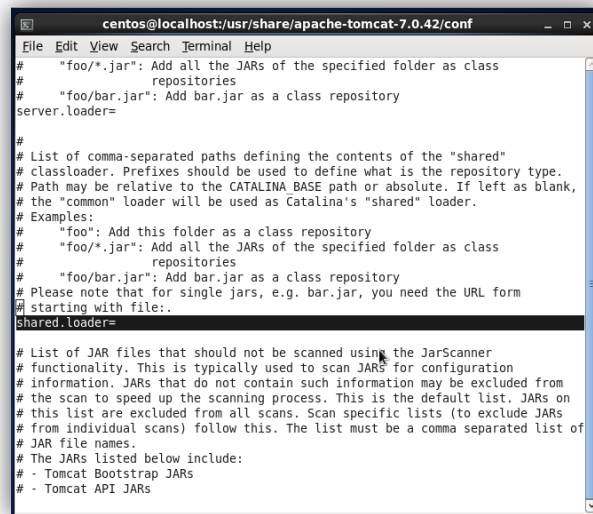
โดยเปิด Terminal คีย์คำสั่ง :- cd /usr/share/apache-tomcat-7.0.42/conf



ทำการแก้ไข File catalina.properties ด้วยคำสั่ง vi catalina.properties

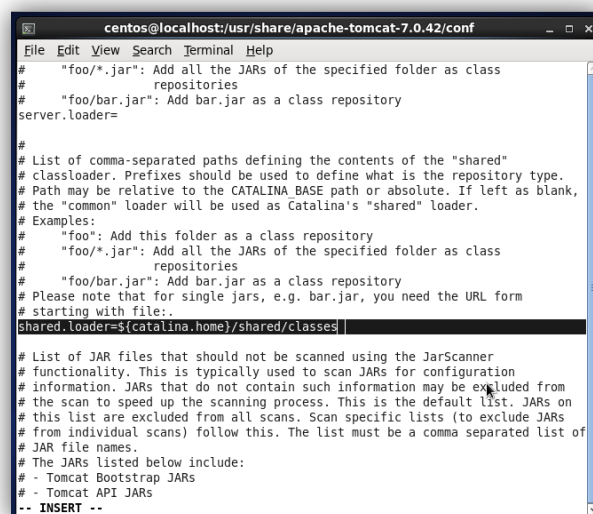


ตรงบรรทัดข้อความ `shared.loader=`



```
centos@localhost:/usr/share/apache-tomcat-7.0.42/conf
File Edit View Search Terminal Help
#
# "foo/*.jar": Add all the JARs of the specified folder as class
# repositories
# "foo/bar.jar": Add bar.jar as a class repository
server.loader=
#
# List of comma-separated paths defining the contents of the "shared"
# classloader. Prefixes should be used to define what is the repository type.
# Path may be relative to the CATALINA BASE path or absolute. If left as blank,
# the "common" loader will be used as Catalina's "shared" loader.
# Examples:
# "foo": Add this folder as a class repository
# "foo/*.jar": Add all the JARs of the specified folder as class
# repositories
# "foo/bar.jar": Add bar.jar as a class repository
# Please note that for single jars, e.g. bar.jar, you need the URL form
# starting with file:.
shared.loader=
#
# List of JAR files that should not be scanned using the JarScanner
# functionality. This is typically used to scan JARs for configuration
# information. JARs that do not contain such information may be excluded from
# the scan to speed up the scanning process. This is the default list. JARs on
# this list are excluded from all scans. Scan specific lists (to exclude JARs
# from individual scans) follow this. The list must be a comma separated list of
# JAR file names.
# The JARs listed below include:
# - Tomcat Bootstrap JARs
# - Tomcat API JARs
```

ให้เพิ่มข้อความเป็น `shared.loader=${catalina.home}/shared/classes`



```
centos@localhost:/usr/share/apache-tomcat-7.0.42/conf
File Edit View Search Terminal Help
#
# "foo/*.jar": Add all the JARs of the specified folder as class
# repositories
# "foo/bar.jar": Add bar.jar as a class repository
server.loader=
#
# List of comma-separated paths defining the contents of the "shared"
# classloader. Prefixes should be used to define what is the repository type.
# Path may be relative to the CATALINA BASE path or absolute. If left as blank,
# the "common" loader will be used as Catalina's "shared" loader.
# Examples:
# "foo": Add this folder as a class repository
# "foo/*.jar": Add all the JARs of the specified folder as class
# repositories
# "foo/bar.jar": Add bar.jar as a class repository
# Please note that for single jars, e.g. bar.jar, you need the URL form
# starting with file:.
shared.loader=${catalina.home}/shared/classes
#
# List of JAR files that should not be scanned using the JarScanner
# functionality. This is typically used to scan JARs for configuration
# information. JARs that do not contain such information may be excluded from
# the scan to speed up the scanning process. This is the default list. JARs on
# this list are excluded from all scans. Scan specific lists (to exclude JARs
# from individual scans) follow this. The list must be a comma separated list of
# JAR file names.
# The JARs listed below include:
# - Tomcat Bootstrap JARs
# - Tomcat API JARs
-- INSERT --
```

ทำการ copy File alfresco-global.properties ใน folder shared ไปที่ /usr/share/apache-tomcat-7.0.42/shared/classes/

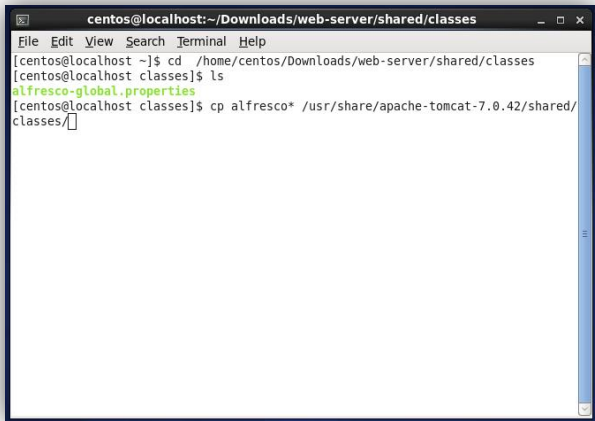
โดยเข้าที่ Folder /home/owner/Downloads/web-server/shared/classes

ด้วยคำสั่ง:- cd /home/owner/Downloads/web-server/shared/classes



```
centos@localhost:~  
File Edit View Search Terminal Help  
[centos@localhost ~]$ cd /home/owner/Downloads/web-server/shared/classes
```

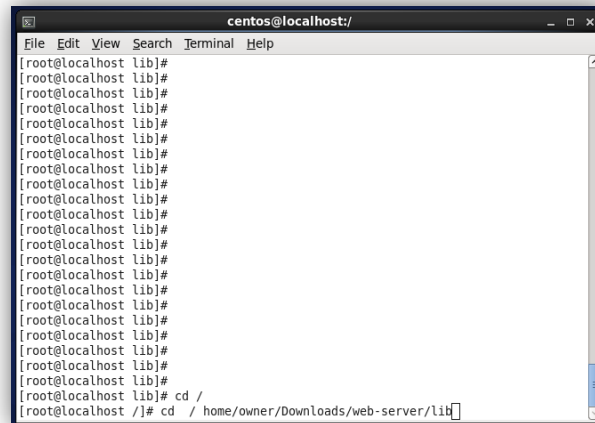
ทำการ copy File alfresco-global.properties ไปที่ /usr/share/apache-tomcat-7.0.42/shared/classes/



```
centos@localhost:~/Downloads/web-server/shared/classes  
File Edit View Search Terminal Help  
[centos@localhost ~]$ cd /home/centos/Downloads/web-server/shared/classes  
[centos@localhost classes]$ ls  
alfresco-global.properties  
[centos@localhost classes]$ cp alfresco* /usr/share/apache-tomcat-7.0.42/shared/  
classes/
```

ทำการ Change Directory ไปที่เก็บ File:- postgresql-9.0-802.jdbc4.jar ที่อยู่ใน

/home/owner/Downloads/lib ด้วยคำสั่ง:- cd /home/owner/Downloads/web-server/lib

A terminal window titled 'centos@localhost:/' with a menu bar (File, Edit, View, Search, Terminal, Help). The command history shows the user navigating from the root directory to the target directory. The prompt changes from '[root@localhost lib]#' to '[root@localhost /]#', and the final command line shows the user has successfully changed to '/home/owner/Downloads/web-server/lib' with the prompt '[root@localhost /]# cd /home/owner/Downloads/web-server/lib'.

ทำการ copy postgresql-9.0-802.jdbc4.jar ไปที่ /usr/share/apache-tomcat-7.0.42/lib

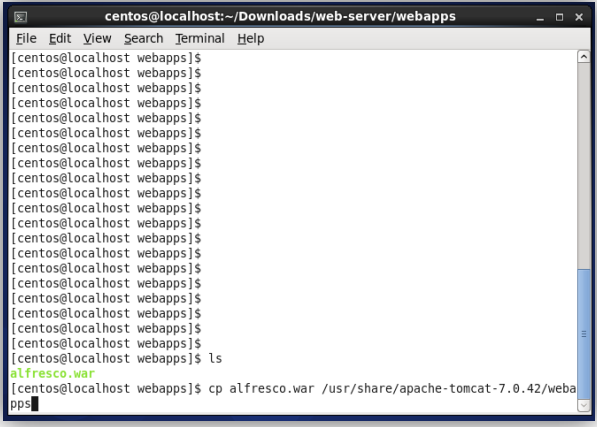
A terminal window titled 'centos@localhost:~/Downloads/web-server/lib' with a menu bar (File, Edit, View, Search, Terminal, Help). The command history shows the user copying the file 'alfresco*' to the target directory. The final command line shows the user has successfully copied the file with the command 'cp alfresco* /usr/share/apache-tomcat-7.0.42/lib' and the prompt '[centos@localhost lib]\$'.

ทำการ Change Directory ไปที่เก็บ File:- alfresco.war ที่ Path /home/owner/Downloads/web-server/webapp ด้วยคำสั่ง:- cd /home/owner/Downloads/web-server/webapp

A terminal window titled 'centos@localhost:/' showing a series of 'cd' commands. The user starts in the root directory, moves to '/', then to '/home/owner/Downloads/web-server/webapp'. The prompt changes from '[centos@localhost ~]\$' to '[centos@localhost web-server]\$' and finally to '[centos@localhost webapp]\$' after the final command.

```
centos@localhost:/$ cd /
centos@localhost:/$ cd /home/owner/Downloads/web-server/webapp
```

copy file alfresco.war ไปที่ Path /usr/share/apache-tomcat-7.0.42/webapps ด้วยคำสั่ง:- cp alfresco.war /usr/share/apache-tomcat-7.0.42/webapps

A terminal window titled 'centos@localhost:~/Downloads/web-server/webapps' showing the execution of a 'cp' command. The user runs 'cp alfresco.war /usr/share/apache-tomcat-7.0.42/webapps'. The prompt changes from '[centos@localhost webapps]\$' to '[centos@localhost ~]\$' after the command is executed.

```
centos@localhost webapps$ cp alfresco.war /usr/share/apache-tomcat-7.0.42/webapps
```

สร้าง user database ของ alfresco และ database ของ alfresco

เปลี่ยน user เป็น postgres

su postgres

cd

psql

```
CREATE DATABASE alfresco OWNER alfresco;
```

```
CREATE ROLE alfresco PASSWORD 'alfresco' LOGIN;
```

5. CONFIG SERVICE LEVEL 3,5 Postgresql 9.2

ให้ Checkconfig ของ Postgresql 9.2 ด้วยคำสั่ง:- `Chkconfig --list postgresq-9.2`

[illegible]

จากหน้าจอ Service 3,5 ของ Postgresql 9.2 ถูกปิดอยู่ ดังนั้นให้เปิด Service Level 3 กับ 5 เพื่อทำงานใน level 3(Text mode) และ Level 5(X-Windows) ด้วยคำสั่ง:-

```
chkconfig --level 35 postgresql-9.2 on
```

[illegible]

6. DEPLOY HIGHWAY APP

cp database_dump_doh.zip /var/lib/pgsql-9.2

cp highway.sql /var/lib/pgsql-9.2

แตกไฟล์ database_dump_doh.zip

unzip database_dump_doh.zip

จะได้ไฟล์ 3 ไฟล์ dump_road.sql, dump_section.sql, dump_log.sql

เปลี่ยน user เป็น postgres

cd

สร้าง database crd

psql

CREATE DATABASE crd WITH TEMPLATE postgres_template OWNER signature;

\q

เตรียมข้อมูล database crd

psql crd < dump_road.sql

psql crd < dump_section.sql

psql crd < dump_log.sql

แก้ไขสิทธิ์ table

psql

```
ALTER TABLE road OWNER TO signature;
```

```
ALTER TABLE section OWNER TO signature;
```

```
ALTER TABLE log OWNER TO signature;
```

\q

สร้าง database highway

psql

```
CREATE DATABASE highway WITH TEMPLATE postgres_template OWNER signature;
```

\q

เตรียมข้อมูลของ database highway

```
psql highway < highway.sql
```

เปลี่ยน user เป็น root

```
su root
```

deploy web application บน tomcat

```
cp Highway.war /usr/share/apache-tomcat-7.0.42/webapps
```

เริ่มการทำงาน tomcat

```
service start tomcat
```

**** ถ้าเครื่องมีการลงโปรแกรม TOMCAT 6, POSTGRES,HTTPD ให้ REMOVE ก่อนการติดตั้ง ****