Installing Gisgraphy on CentOS 7

Introduction

This is a complete walkthrough for installing Gisgraphy on CentOS 7. I created this walkthrough because the one on the Gisgraphy website was incomplete and a little confusing. I am giving this walkthrough away for free to encourage the use of Gisgraphy on CentOS 7 and so that you don't have to go through the same frustrations I did when trying to install it.

Licenses

Note from Gisgraphy
If you use Gisgraphy, please help make Gisgraphy popular by including the Gisgraphy logo to your website and by donating to the project

Disclaimers/Important Notes

This walkthrough is provided free and for information purposes only. Your use of these documents and scripts is at your own risk, and you should take all precautions to harden and administer your servers appropriately. I created this server solely for the purposes of populating a private database with Geo-location information. As such, no precautions were taken to secure this server in any way.

I have no affiliation with the Gisgraphy project or its development.

STEP ONE: Install CentOS 7

Install CentOS 7. You can install CentOS 7 manually or by using an automated installation method using a PXE Boot Server or through USB with a kickstart file. If you don’t know how to use automated methods, manually installing CentOS 7 will work just fine.

Manual Install of CentOS 7

If installing CentOS 7 manually, choose minimal install with no graphical desktop.

Automated Install of CentOS 7

Automated installations need a kickstart file to input desired settings. Here is working example of a kickstart file with a root user set as ‘root:rootpass’ and a normal user set as ‘user:userpass’:

ks.cfg:

```
#version=DEVEL
# System authorization information
auth --enableshadow --passalgo=sha512
# Use CDROM installation media
cdrom
# Use graphical install
graphical
# Run the Setup Agent on first boot
firstboot --enable
ignoredisk --only-use=sda
# Keyboard layouts
keyboard --vckeymap=ca-eng --xlayouts='ca (eng)','us'
# System language
lang en_CA.UTF-8

# Network information
network  --bootproto=dhcp --device=enp0s3 --ipv6=auto --activate
network  --hostname=gisgraphy

# Root password
rootpw --iscrypted $6$pW7q0zHz8UPoii7o$pokrgjbJiBZ533iZfioxFX3IiQ7RCR.sVR.2pjcR4EYph0s9PSnLeUKqmgJF1RUIuRUwRTIDpPc12irs6Lid8.
# System services
services --enabled="chronyd"
# System timezone
timezone America/Toronto --isUtc
user --name=user --password=$6$n0KC.WRsQtdIudpi$cm8kg5.WPA8AG2kkkn7/JfPAknk0rEVmX9T/G/t5b6UhzkXCLTdNkl1KAhZTDfuY2vxd6DRXd3.CdfCDPZaIg0 --iscrypted
--gecos="User"
# System bootloader configuration
bootloader --append=" crashkernel=auto" --location=mbr --boot-drive=sda
autopart --type=lvm
# Partition clearing information
clearpart --none --initlabel

%packages
@^minimal
@core
chrony
kexec-tools

%end

%addon com_redhat_kdump --enable --reserve-mb='auto'

%end

%anaconda
pwpolicy root --minlen=6 --minquality=50 --notstrict --nochanges --notempty
pwpolicy user --minlen=6 --minquality=50 --notstrict --nochanges --notempty
pwpolicy luks --minlen=6 --minquality=50 --notstrict --nochanges --notempty
%end
```

STEP TWO: Install Gisgraphy

Automated Install of Gisgraphy

To use the automated installer script you will need to copy the installer script [gisgraphyinstall.sh] to the root user's home directory. Sign in as the root user and run the installer script, then go to step three.

Change to the root home directory

```
cd /root
```

Download installer script

```
wget https://raw.githubusercontent.com/coryhilliard/gisgraphyinstall/master/gisgraphyinstall.sh
```

Make the installer script executable

```
chmod +x gisgraphyinstall.sh
```

Run the Gisgraphy installer script

```
./gisgraphyinstall.sh
```

Manual Install of Gisgraphy

Environment setup for CentOS 7

Update Server

```
yum update -y
```

Install extra packages for enterprise Linux

```
yum install -y epel-release
```

Install compression tools

```
yum install -y wget unzip
```

Install Java

Change to root directory

```
cd /root
```

Download Java Development Kit version 7 update 79

```
wget --no-cookies \
--no-check-certificate \
--header "Cookie: oraclelicense=accept-securebackup-cookie" \
"http://download.oracle.com/otn-pub/java/jdk/7u79-b15/jre-7u79-linux-x64.rpm"
```

Install Java Development Kit 7.79

```
yum install -y jre-7u79-linux-x64.rpm
```

Check to see if Oracle Java is now the default

```
java -version
```

Install Postgres

Install postgresql repository

```
rpm -ivh https://yum.postgresql.org/9.5/redhat/rhel-7-x86_64/pgdg-centos95-9.5-3.noarch.rpm
```

Install PostgreSQL 9.5, PostGIS 2.2 and dependencies

```
yum install -y postgresql95 postgresql95-server postgresql95-libs postgresql95-contrib
postgresql95-devel postgis2_95 postgis2_95-client
```

Initialize database

```
/usr/pgsql-9.5/bin/postgresql95-setup initdb
```

Start and enable PostgreSQL

```
systemctl enable postgresql-9.5
systemctl start  postgresql-9.5
systemctl status postgresql-9.5
```

Open firewall ports

```
firewall-cmd --permanent --add-port=5432/tcp
firewall-cmd --permanent --add-port=80/tcp
firewall-cmd --permanent --add-port=8080/tcp
firewall-cmd --reload
```

Install Gisgraphy

Change to root directory

```
cd /root
```

Download Gisgraphy

```
wget http://download.gisgraphy.com/releases/gisgraphy-4.0-beta1.zip
```

Unpack gisgraphy to the proper folder

```
unzip gisgraphy-4.0-beta1.zip -d /var/lib/pgsql/
```

Rename folder

```
mv /var/lib/pgsql/gisgraphy-4.0-beta1 /var/lib/pgsql/gisgraphy
```

Set ownership of folder to postgres user

```
chown postgres:postgres -R /var/lib/pgsql/gisgraphy
```

Running some commands as the postgres user

```
sudo -i -u postgres bash <<'EOF'

# create database
/usr/pgsql-9.5/bin/psql -c "CREATE DATABASE gisgraphy ENCODING = 'UTF8';"

# create language
/usr/pgsql-9.5/bin/createlang plpgsql gisgraphy

# create postgis Function
/usr/pgsql-9.5/bin/psql -d gisgraphy -f /usr/pgsql-9.5/share/contrib/postgis-2.2/postgis.sql

# Create spatial ref function
/usr/pgsql-9.5/bin/psql -d gisgraphy -f /usr/pgsql-9.5/share/contrib/postgis-
2.2/spatial_ref_sys.sql
```

```
# add tables to the database
/usr/pgsql-9.5/bin/psql -d gisgraphy -f /var/lib/pgsql/gisgraphy/sql/create_tables.sql

# add users to the database
/usr/pgsql-9.5/bin/psql -d gisgraphy -f /var/lib/pgsql/gisgraphy/sql/insert_users.sql

EOF
```

Edit User postgres

Run the following scripts as postgres: change password

```
sudo -i -u postgres bash <<'EOF'

# change the postgresql password in database
/usr/pgsql-9.5/bin/psql -d gisgraphy -c "ALTER USER postgres WITH PASSWORD 'password';"

EOF
```

Change password for user postgres

```
echo "postgres:password" | chpasswd
```

Backup postgres conf

```
mv /var/lib/pgsql/9.5/data/pg_hba.conf /var/lib/pgsql/9.5/data/pg_hba.conf.backup
```

Update postgres conf

```
cat > /var/lib/pgsql/9.5/data/pg_hba.conf <<'EOF'
# TYPE  DATABASE        USER            ADDRESS                 METHOD

# "local" is for Unix domain socket connections only
local   all             all                                     password
# IPv4 local connections
host    all             all             127.0.0.1/32            password
# IPv6 local connections
host    all             all             ::1/128                 password
EOF
```

Restart postgres

```
systemctl restart postgresql-9.5
```

Add password to jdbc.properties

```
sed -i '26s/jdbc.password=/jdbc.password=password/' /var/lib/pgsql/gisgraphy/webapps/ROOT/WEB-
INF/classes/jdbc.properties
sed -i '32s/hibernate.connection.password=/hibernate.connection.password=password/'
/var/lib/pgsql/gisgraphy/webapps/ROOT/WEB-INF/classes/jdbc.properties
cat /var/lib/pgsql/gisgraphy/webapps/ROOT/WEB-INF/classes/jdbc.properties
```

Prepare Gisgraphy Shell Scripts

Make shell scripts executable

```
chmod +x /var/lib/pgsql/gisgraphy/*.sh
```

STEP THREE: Launch Gisgraphy

Change to gisgraphy folder

```
cd /var/lib/pgsql/gisgraphy/
```

Launch gisgraphy

```
./launch.sh
```

Open browser and go to: http://<server ip>:8080

STEP FOUR: Populate the Database

WARNING!!! This step takes about **100 HOURS** to complete! It is a huge download and if you have any limitations on the amount of data you are allowed to download, **you could be charged a lot of money** by your internet service provider.

Purchase the Database

As an alternative method to downloading this huge database of information, you can have the maintainers of the Gisgraphy project send you a copy of the database dump for a fee.

Go here to purchase the database dump

http://www.gisgraphy.com/dump.htm

Download the Database

If you understand the risks involved, here are the steps needed to download the database.

Login to the server

http://<server ip>:8080/login.jsp

username = admin
password = admin

Go here to populate the database

http://<server ip>:8080/admin/importconfirm.html