PostgresSQL 介绍、简史等信息可以参考http://www.postgres.cn/docs/10/ 前言部分

**1. 必须的依赖工具库**

1.1 make版本3.80或以上

```
[linjk@iZwz955enhvt54u0sadnsvZ ~]$ make --version
GNU Make 3.82
Built for x86_64-redhat-linux-gnu
Copyright (C) 2010  Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <http://gnu.org/licenses/gpl.html>
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.
```



1.2 GCC编译器

1.3 GNU Readline库：它允许psql记住你输入的每个命令，这样就可以通过上下方向键快速输入之前的命令，默认开启，也可以通过编译参数--without-readline来禁止它，建议保留默认。

1.4 Zlib库

示例：sudo yum install -y readline readline-devel openssl openssl-devel zlib zlib-devel

**2. 源码包下载**，下载地址 https://www.postgresql.org/ftp/source/　版本postgresql9.6.12

**3. 开始安装**

3.1 解压缩

tar -zxvf postgresql-9.6.12.tar.gz

cd postgresql-9.6.12 进去

3.2 生成makefile文件

```
./configure --prefix=/home/username/postgresql  --enable-debug
```

其中--prefix是指定软件的安装路径，--with选项是指安装本文件依赖的库文件。如有不清楚可以自己学习下configure命令的相关参数

3.3 修改makefile.global

这里要注意的是，由于我希望后面能跟踪代码的运行路径，所以我要在编译configure的时候加上--enable-debug的选项，并且修改src/Makefile.global文件：**CFLAGS = -g**

CFLAGS = **-g** -Wall -Wmissing-prototypes -Wpointer-arith -Wdeclaration-after-statement -Wendif-labels -Wformat-security -fno-strict-aliasing -fwrapv

其中参数"-O2"是编译器的优化选项，如果打开了，代码的执行顺序会改变，使得追踪起代码来比较困难。当然去除了优化选项，编译后的可执行文件会比较大，而且会比较慢，所以不太适合生产环境。所以切记这个操作仅仅是在学习的时候而设置的。

3.4 重新configure

输入如下命令：

./configure --prefix=/home/**username**/postgresql --with-perl --with-tcl --with-python --with-openssl

--with-pam --without-ldap --with-libxml --with-libxslt --enable-thread-safety

--with-wal-blocksize=16 --with-blocksize=16 --enable-dtrace --enable-debug

（注释：命令解释参考http://www.postgres.cn/docs/9.6/install-procedure.html）

缺少依赖时可以使用yum安装，demo

yum search dtrace

sudo yum search dtrace

sudo yum install -y systemtap-sdt-devel.x86_64

或者只指定debug

./configure --prefix=/home/**username**/postgresql --enable-dtrace --enable-debug

3.5 make

执行make

3.6 安装

make install

3.7 配置环境变量

vi ~/.bashrc

插入：

export PG_HOME=/home/username/postgresql

export PATH=$PG_HOME/bin:$PATH

保存后 重新source

执行 source ~/.bash_profile

3.8 目录授权

mkdir /home/username/postgresql/data

mkdir /home/username/postgresql/log

创建log文件：touch /home/username/postgresql/log/server.log

sudo chown -R username:username /home/username/postgresql/

**4 启动**

4.1 初始化 initdb -D /home/**username**/postgresql/data

执行完成后显示 pg_ctl -D /home/**username**/postgresql/data/ -l logfile start 提示表示成功

其中data目录下：base目录是表空间目录，global目录是相关全局变量目录, pg_hba.conf是访问控制配置文件，postgresql.conf是postgresql主配置文件

4.2 可选配置（可配可不配）

修改pg_hba.conf：

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



修改为如下（0.0.0.0/0表示信任来自所有id连接的客户端，加密方式才有md5）：

```
# TYPE  DATABASE        USER            ADDRESS                 METHOD

# "local" is for Unix domain socket connections only
local   all             all                                     trust
# IPv4 local connections:
host    all             all             0.0.0.0/0               md5
# IPv6 local connections:
host    all             all             ::1/128                 trust
# Allow replication connections from localhost, by a user with the
# replication privilege.
local   replication     all                                     trust
host    replication     all             127.0.0.1/32            trust
host    replication     all             ::1/128                 trust
```



修改postgresql.conf:

```
#------------------------------------------------------------------------------

# - Connection Settings -

#listen_addresses = 'localhost'         # 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)
```



localhoat改为*，表示监听所有网络连接。

连接参数保持默认：

```
53 #------------------------------------------------------------------------------
54 # CONNECTIONS AND AUTHENTICATION
55 #------------------------------------------------------------------------------
56
57 # - Connection Settings -
58
59 #listen_addresses = '*'          # what IP address(es) to listen on;
60                                  # comma-separated list of addresses;
61                                  # defaults to 'localhost'; use '*' for all
62                                  # (change requires restart)
63 #port = 5432                     # (change requires restart)
64 max_connections = 100            # (change requires restart)
65 #superuser_reserved_connections = 3     # (change requires restart)
66 #unix_socket_directories = '/tmp'       # comma-separated list of directories
67                                  # (change requires restart)
68 #unix_socket_group = ''          # (change requires restart)
69 #unix_socket_permissions = 0777         # begin with 0 to use octal notation
```

防火墙开放端口

sudo firewall-cmd --zone=public --add-port=5432/tcp --permanent

sudo firewall-cmd --reload

4.3 启动PG

pg_ctl -D /home/**username**/postgresql/data/ -l /home/**username**/postgresql/log/server.log start

4.4 连接

psql -d postgres

4.5 数据库的基本操作

参考http://www.postgres.cn/docs/9.6/ 第二和第三章

内容参考自：

1.http://www.postgres.cn/docs/9.6/installation.html

2.https://www.cnblogs.com/flying-tiger/p/5859393.html

3.https://www.2cto.com/database/201805/748632.html

4.http://www.postgres.cn/docs/10/