

INSTALASI SOFTWARE SEISCOMP5



Oleh :
Fauzi

BIDANG SEISMOLOGI TEKNIK
PUSAT SEISMOLOGI TEKNIK, GEOFISIKA POTENSIAL DAN TANDA WAKTU
BADAN METEOROLOGI KLIMATOLOGI DAN GEOFISIKA

A. Persyaratan Hardware

Spesifikasi Minimum :

CPU : 2 core

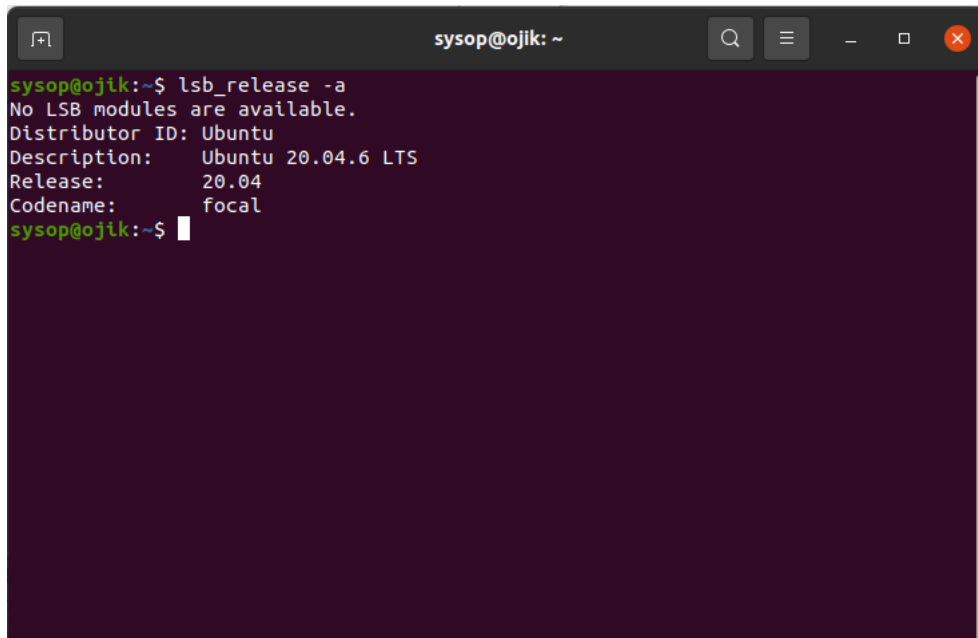
RAM : 4 GB

HDD : 20 GB

OS : Ubuntu 18.04 LTS atau Ubuntu 20.04 LTS

B. Instalasi Software SeisCompP5

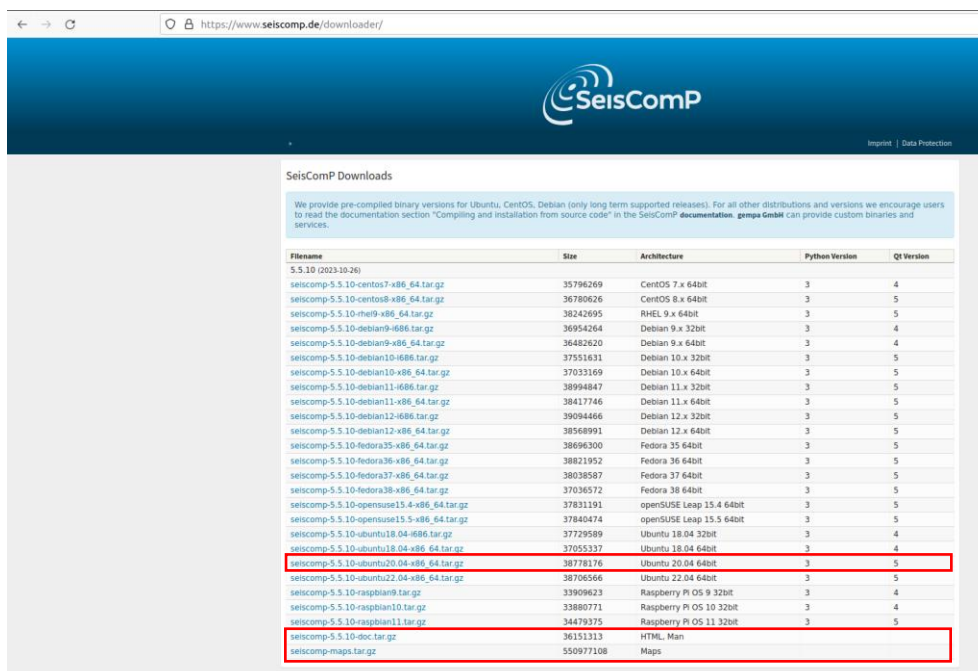
1. Pastikan Ubuntu yang terinstall adalah Ubuntu 18.04 LTS atau Ubuntu 20.04 LTS, dengan mengetikkan `lsb_release -a` pada terminal. Sistem operasi yang digunakan pada instalasi ini adalah Ubuntu 20.04 LTS.



```
sysop@ojik: ~  
sysop@ojik:~$ lsb_release -a  
No LSB modules are available.  
Distributor ID: Ubuntu  
Description:    Ubuntu 20.04.6 LTS  
Release:        20.04  
Codename:       focal  
sysop@ojik:~$
```

2. Download SeisCompP5 packages sesuai dengan system operasi di laman SeisCompP5 <https://www.seiscomp.de/downloader/> . File yang perlu didownload :

- Main package SeisCompP5 : `seiscomp-5.5.10-ubuntu[versi]-x86_64.tar.gz`
- Map package SeisCompP5 : `seiscomp-maps.tar.gz`
- SeisCompP5 Documentation : `seiscomp-5.5.10-doc.tar.gz`



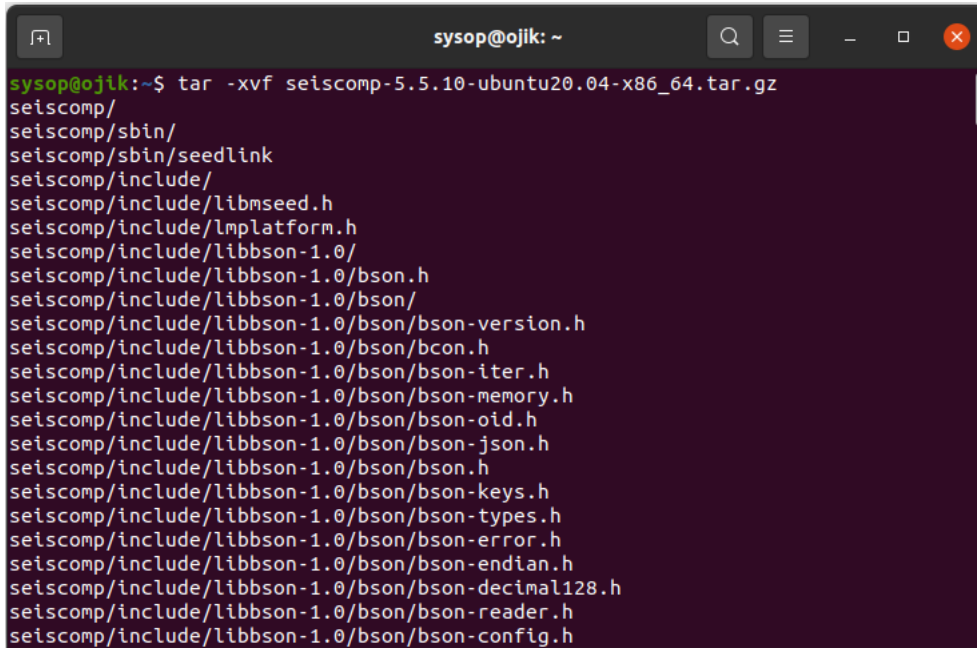
SeisComp Downloads

We provide pre-compiled binary versions for Ubuntu, CentOS, Debian (only long term supported releases). For all other distributions and versions we encourage users to read the documentation section "Compiling and installation from source code" in the SeisComp documentation. [gempa GmbH](#) can provide custom binaries and services.

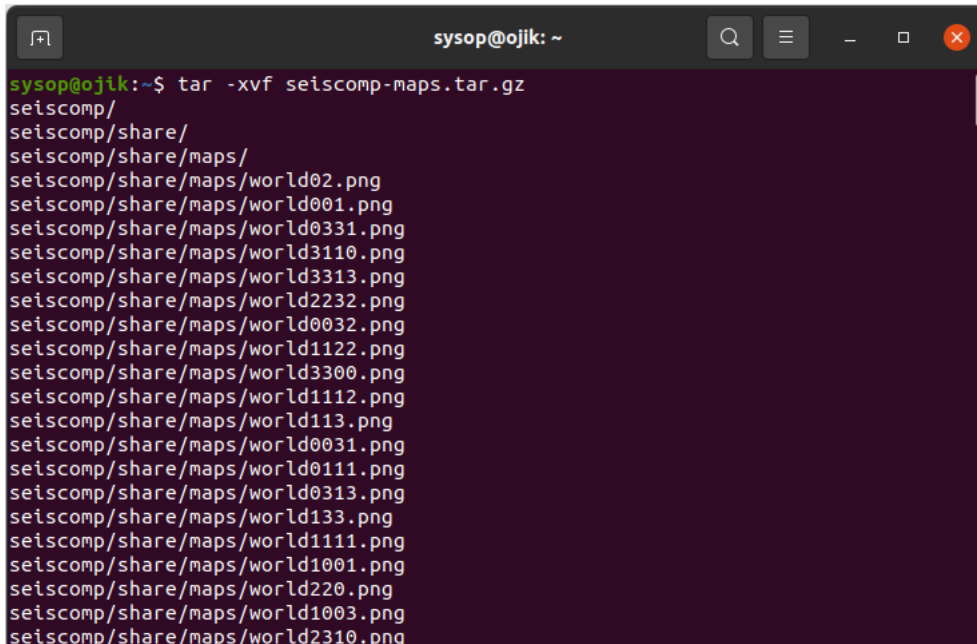
Filename	Size	Architecture	Python Version	Qt Version
5.5.10 (2023-10-26)				
seiscomp-5.5.10-centos7-x86_64.tar.gz	35796269	CentOS 7 x 64bit	3	4
seiscomp-5.5.10-centos8-x86_64.tar.gz	36780626	CentOS 8 x 64bit	3	5
seiscomp-5.5.10-rhel9-x86_64.tar.gz	38242695	RHEL 9 x 64bit	3	5
seiscomp-5.5.10-debian9-i686.tar.gz	36954264	Debian 9 x 32bit	3	4
seiscomp-5.5.10-debian9-x86_64.tar.gz	36482620	Debian 9 x 64bit	3	4
seiscomp-5.5.10-debian10-i686.tar.gz	37551631	Debian 10 x 32bit	3	5
seiscomp-5.5.10-debian10-x86_64.tar.gz	37033169	Debian 10 x 64bit	3	5
seiscomp-5.5.10-debian11-i686.tar.gz	38994847	Debian 11 x 32bit	3	5
seiscomp-5.5.10-debian11-x86_64.tar.gz	38417746	Debian 11 x 64bit	3	5
seiscomp-5.5.10-debian12-i686.tar.gz	39094466	Debian 12 x 32bit	3	5
seiscomp-5.5.10-debian12-x86_64.tar.gz	38568991	Debian 12 x 64bit	3	5
seiscomp-5.5.10-fedora35-x86_64.tar.gz	38696300	Fedora 35 64bit	3	5
seiscomp-5.5.10-fedora36-x86_64.tar.gz	38821952	Fedora 36 64bit	3	5
seiscomp-5.5.10-fedora37-x86_64.tar.gz	38038587	Fedora 37 64bit	3	5
seiscomp-5.5.10-fedora38-x86_64.tar.gz	37036572	Fedora 38 64bit	3	5
seiscomp-5.5.10-opensuse15.4-x86_64.tar.gz	37831191	openSUSE Leap 15.4 64bit	3	5
seiscomp-5.5.10-opensuse15.5-x86_64.tar.gz	37840474	openSUSE Leap 15.5 64bit	3	5
seiscomp-5.5.10-ubuntu18.04-i686.tar.gz	37729589	Ubuntu 18.04 32bit	3	4
seiscomp-5.5.10-ubuntu18.04-x86_64.tar.gz	37055337	Ubuntu 18.04 64bit	3	4
seiscomp-5.5.10-ubuntu20.04-i686.tar.gz	38778176	Ubuntu 20.04 32bit	3	5
seiscomp-5.5.10-ubuntu20.04-x86_64.tar.gz	38706566	Ubuntu 20.04 64bit	3	5
seiscomp-5.5.10-raspbian9.tar.gz	33909823	Raspberry Pi OS 9 32bit	3	4
seiscomp-5.5.10-raspbian10.tar.gz	33880771	Raspberry Pi OS 10 32bit	3	4
seiscomp-5.5.10-raspbian11.tar.gz	34479375	Raspberry Pi OS 11 32bit	3	5
seiscomp-5.5.10-doc.tar.gz	36151313	HTML, Man		
seiscomp-maps.tar.gz	550977108	Maps		

Letakkan ke-3 file yang sudah di download pada direktori `/home/sysop`

3. Buka terminal lalu lakukan uncompress file tar.gz dengan perintah :
tar -xvf seiscomp-5.5.10-ubuntu[versi]-x86_64.tar.gz
tar -xvf seiscomp-maps.tar.gz
tar -xvf seiscomp-5.5.10-doc.tar.gz



```
sysop@ojik: ~  
sysop@ojik:~$ tar -xvf seiscomp-5.5.10-ubuntu20.04-x86_64.tar.gz  
seiscomp/  
seiscomp/sbin/  
seiscomp/sbin/seedlink  
seiscomp/include/  
seiscomp/include/libmseed.h  
seiscomp/include/lmplatform.h  
seiscomp/include/libbson-1.0/  
seiscomp/include/libbson-1.0/bson.h  
seiscomp/include/libbson-1.0/bson/  
seiscomp/include/libbson-1.0/bson/bson-version.h  
seiscomp/include/libbson-1.0/bson/bcon.h  
seiscomp/include/libbson-1.0/bson/bson-iter.h  
seiscomp/include/libbson-1.0/bson/bson-memory.h  
seiscomp/include/libbson-1.0/bson/bson-oid.h  
seiscomp/include/libbson-1.0/bson/bson-json.h  
seiscomp/include/libbson-1.0/bson/bson.h  
seiscomp/include/libbson-1.0/bson/bson-keys.h  
seiscomp/include/libbson-1.0/bson/bson-types.h  
seiscomp/include/libbson-1.0/bson/bson-error.h  
seiscomp/include/libbson-1.0/bson/bson-endian.h  
seiscomp/include/libbson-1.0/bson/bson-decimal128.h  
seiscomp/include/libbson-1.0/bson/bson-reader.h  
seiscomp/include/libbson-1.0/bson/bson-config.h
```



```
sysop@ojik: ~  
sysop@ojik:~$ tar -xvf seiscomp-maps.tar.gz  
seiscomp/  
seiscomp/share/  
seiscomp/share/maps/  
seiscomp/share/maps/world002.png  
seiscomp/share/maps/world001.png  
seiscomp/share/maps/world0331.png  
seiscomp/share/maps/world3110.png  
seiscomp/share/maps/world3313.png  
seiscomp/share/maps/world2232.png  
seiscomp/share/maps/world0032.png  
seiscomp/share/maps/world1122.png  
seiscomp/share/maps/world3300.png  
seiscomp/share/maps/world1112.png  
seiscomp/share/maps/world113.png  
seiscomp/share/maps/world0031.png  
seiscomp/share/maps/world0111.png  
seiscomp/share/maps/world0313.png  
seiscomp/share/maps/world133.png  
seiscomp/share/maps/world1111.png  
seiscomp/share/maps/world1001.png  
seiscomp/share/maps/world220.png  
seiscomp/share/maps/world1003.png  
seiscomp/share/maps/world2310.png
```

4. Memasukkan environment SeisComP5 ke dalam environment sistem di ~/.bashrc, sehingga modul SeisComP5 bisa dijalankan di direktori manapun di dalam sistem. Masuk ke direktori /home/sysop/seiscomp/bin kemudian ketikkan perintah :

```
cd /home/sysop/seiscomp/bin  
./seiscomp print env >> ~/.bashrc
```

```
sysop@ojik: ~/seiscomp/bin
sysop@ojik:~/seiscomp/bin$ ./seiscomp print env >> ~/.bashrc
sysop@ojik:~/seiscomp/bin$
```

Jika cara tersebut tidak berhasil, lakukan dengan cara manual. Ketikkan perintah
./seiscomp print env

```
sysop@ojik: ~$ cd /home/sysop/seiscomp/bin/
sysop@ojik:~/seiscomp/bin$ ./seiscomp print env
export SEISCOMP_ROOT="/home/sysop/seiscomp"
export PATH="/home/sysop/seiscomp/bin:$PATH"
export LD_LIBRARY_PATH="/home/sysop/seiscomp/lib:$LD_LIBRARY_PATH"
export PYTHONPATH="/home/sysop/seiscomp/lib/python:$PYTHONPATH"
export MANPATH="/home/sysop/seiscomp/share/man:$MANPATH"
source "/home/sysop/seiscomp/share/shell-completion/seiscomp.bash"
sysop@ojik:~/seiscomp/bin$
```

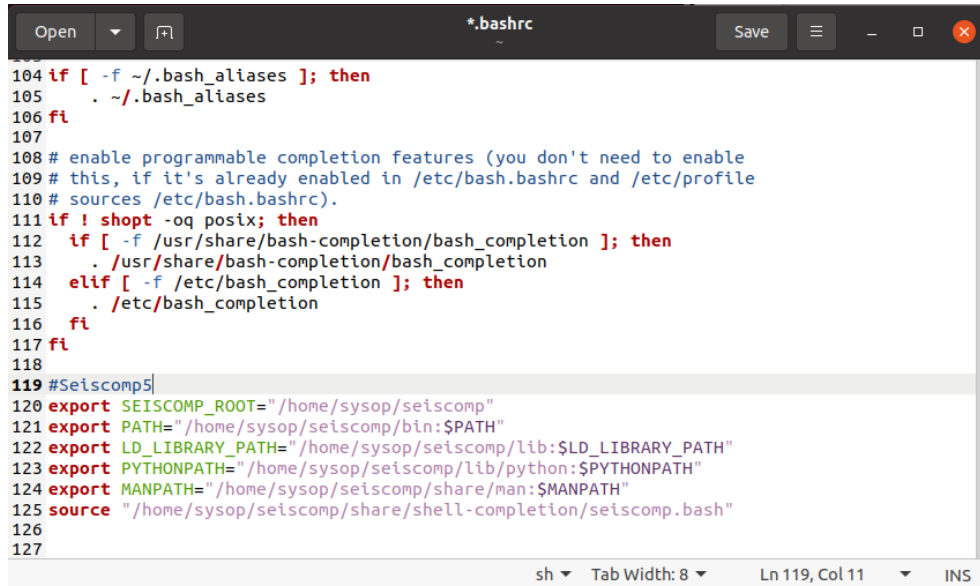
lalu copy hasilnya :

```
=====
export SEISCOMP_ROOT="/home/sysop/seiscomp"
export PATH="/home/sysop/seiscomp/bin:$PATH"
export LD_LIBRARY_PATH="/home/sysop/seiscomp/lib:$LD_LIBRARY_PATH"
export PYTHONPATH="/home/sysop/seiscomp/lib/python:$PYTHONPATH"
export MANPATH="/home/sysop/seiscomp/share/man:$MANPATH"
source "/home/sysop/seiscomp/share/shell-completion/seiscomp.bash"
=====
```

ketikkan perintah

```
cd
gedit .bashrc
```

akan muncul seperti gambar dibawah, kemudian paste di baris paling bawah dan simpan.



```
104 if [ -f ~/.bash_aliases ]; then
105     . ~/.bash_aliases
106 fi
107
108 # enable programmable completion features (you don't need to enable
109 # this, if it's already enabled in /etc/bash.bashrc and /etc/profile
110 # sources /etc/bash.bashrc).
111 if ! shopt -oq posix; then
112     if [ -f /usr/share/bash-completion/bash_completion ]; then
113         . /usr/share/bash-completion/bash_completion
114     elif [ -f /etc/bash_completion ]; then
115         . /etc/bash_completion
116     fi
117 fi
118
119 #Seiscomp5
120 export SEISCOMP_ROOT="/home/sysop/seiscomp"
121 export PATH="/home/sysop/seiscomp/bin:$PATH"
122 export LD_LIBRARY_PATH="/home/sysop/seiscomp/lib:$LD_LIBRARY_PATH"
123 export PYTHONPATH="/home/sysop/seiscomp/lib/python:$PYTHONPATH"
124 export MANPATH="/home/sysop/seiscomp/share/man:$MANPATH"
125 source "/home/sysop/seiscomp/share/shell-completion/seiscomp.bash"
126
127
```

5. Tutup dan buka Kembali terminal, kemudian lakukan update :

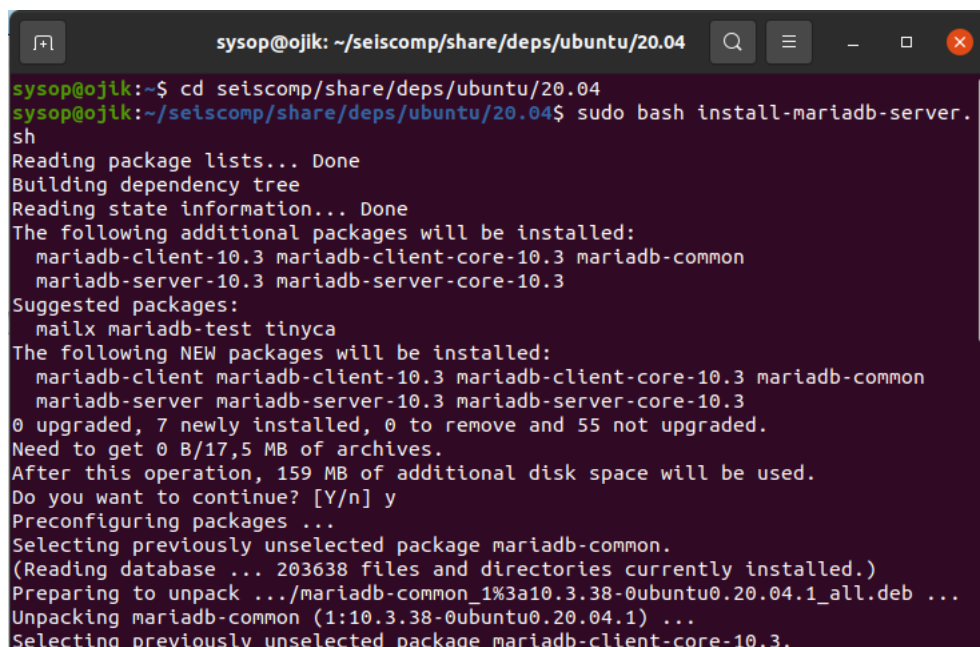
`sudo apt-get update`

6. Lakukan instalasi *dependency package*. Untuk Ubuntu 18.04 LTS masuk pada direktori `seiscomp/share/deps/ubuntu/18.04`, sedangkan Ubuntu 20.04 LTS masuk pada direktori `seiscomp/share/deps/ubuntu/20.04`. Masukke direktori, ketikkan pada terminal :

`cd seiscomp/share/deps/ubuntu/20.04`

Install MariaDB. **Penting!** Sebelum mengkonfirmasi instalasi, perhatikan versi MariaDB, pastikan versi yang akan diinstal adalah versi 10.2 keatas. Jika versi yang akan diinstall adalah versi 10.1 atau dibawahnya, batalkan instalasi dengan cara ketik N atau tekan Ctrl+c, Hal ini biasa terjadi pada Ubuntu 18.04 LTS, untuk mengatasinya lakukan instalasi MariaDB secara manual pada langkah 7.

`sudo bash install-mariadb-server.sh`



```
sysop@ojik: ~/seiscomp/share/deps/ubuntu/20.04
sysop@ojik:~$ cd seiscomp/share/deps/ubuntu/20.04
sysop@ojik:~/seiscomp/share/deps/ubuntu/20.04$ sudo bash install-mariadb-server.sh
sh
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  mariadb-client-10.3 mariadb-client-core-10.3 mariadb-common
  mariadb-server-10.3 mariadb-server-core-10.3
Suggested packages:
  mailx mariadb-test tinycd
The following NEW packages will be installed:
  mariadb-client mariadb-client-core-10.3 mariadb-client-core-10.3 mariadb-common
  mariadb-server mariadb-server-10.3 mariadb-server-core-10.3
0 upgraded, 7 newly installed, 0 to remove and 55 not upgraded.
Need to get 0 B/17,5 MB of archives.
After this operation, 159 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Preconfiguring packages ...
Selecting previously unselected package mariadb-common.
(Reading database ... 203638 files and directories currently installed.)
Preparing to unpack .../mariadb-common_1%3a10.3.38-0ubuntu0.20.04.1_all.deb ...
Unpacking mariadb-common (1:10.3.38-0ubuntu0.20.04.1) ...
Selecting previously unselected package mariadb-client-core-10.3.
```

sudo bash install-base.sh

```
sysop@ojik: ~/seiscomp/share/deps/ubuntu/20.04
sysop@ojik:~/seiscomp/share/deps/ubuntu/20.04$ sudo bash install-base.sh
Reading package lists... Done
Building dependency tree
Reading state information... Done
libboost-filesystem1.71.0 is already the newest version (1.71.0-6ubuntu6).
libboost-iostreams1.71.0 is already the newest version (1.71.0-6ubuntu6).
libboost-program-options1.71.0 is already the newest version (1.71.0-6ubuntu6).
libboost-system1.71.0 is already the newest version (1.71.0-6ubuntu6).
libboost-thread1.71.0 is already the newest version (1.71.0-6ubuntu6).
libboost-regex1.71.0 is already the newest version (1.71.0-6ubuntu6).
libmysqlclient21 is already the newest version (8.0.35-0ubuntu0.20.04.1).
libpq5 is already the newest version (12.16-0ubuntu0.20.04.1).
libpython3.8 is already the newest version (3.8.10-0ubuntu1~20.04.9).
libssl1.1 is already the newest version (1.1.1f-1ubuntu2.20).
libxml2 is already the newest version (2.9.10+dfsg-5ubuntu0.20.04.6).
python3-numpy is already the newest version (1:1.17.4-5ubuntu3.1).
libcurses5 is already the newest version (6.2-0ubuntu2.1).
The following NEW packages will be installed:
  libmariadb3
0 upgraded, 1 newly installed, 0 to remove and 55 not upgraded.
Need to get 0 B/155 kB of archives.
After this operation, 550 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Selecting previously unselected package libmariadb3:amd64.
```

sudo bash install-gui.sh

sudo bash install-fdsnws.sh

```
sysop@ojik: ~/seiscomp/share/deps/ubuntu/20.04
sysop@ojik:~/seiscomp/share/deps/ubuntu/20.04$ sudo bash install-gui.sh
Reading package lists... Done
Building dependency tree
Reading state information... Done
libqt5svg5 is already the newest version (5.12.8-0ubuntu1).
libqt5gui5 is already the newest version (5.12.8+dfsg-0ubuntu2.1).
libqt5opengl5 is already the newest version (5.12.8+dfsg-0ubuntu2.1).
libqt5sql5-sqlite is already the newest version (5.12.8+dfsg-0ubuntu2.1).
libqt5xml5 is already the newest version (5.12.8+dfsg-0ubuntu2.1).
0 upgraded, 0 newly installed, 0 to remove and 55 not upgraded.
sysop@ojik:~/seiscomp/share/deps/ubuntu/20.04$ sudo bash install-fdsnws.sh
Reading package lists... Done
Building dependency tree
Reading state information... Done
python3-dateutil is already the newest version (2.7.3-3ubuntu1).
python3-twisted is already the newest version (18.9.0-11ubuntu0.20.04.2).
0 upgraded, 0 newly installed, 0 to remove and 55 not upgraded.
sysop@ojik:~/seiscomp/share/deps/ubuntu/20.04$
```

7. **[Optional]** Instalasi manual MariaDB versi 10.2 keatas secara manual. Pada langkah ini akan menginstall MariaDB versi 10.5. Jika MariaDB versi lain sdh diinstall, lakukan uninstall MariaDB terlebih dahulu dengan mengetikkan :

sudo apt-get remove mariadb-*

sudo apt-get autoremove

Buka web <https://mariadb.org/download/?t=repo-config> kemudian pilih versi MariaDB yang akan diinstall dan ikuti langkah instalasi pada website, contoh pada Ubuntu 18.04 LTS.

Download MariaDB Server

MariaDB Server is one of the world's most popular open source relational databases and is available in the standard repositories of all major Linux distributions. Look for the package mariadb-server using the package manager of your operating system. Alternatively you can use the following resources:

MariaDB Server 11.0 brings many significant improvements to the query optimizer! Try it out and please let us know of your experience. We aim to incorporate all the feedback we receive.

You can read more about the optimizer improvements straight from the main author at [Monty Says blog post!](#)

MariaDB Server

MariaDB Server Repositories

Connectors

MariaDB Foundation provides packages for MariaDB versions newer than the version provided by the distribution only.

Choose a distribution

18.04 LTS "bionic"

Choose a MariaDB Server version

10.5

Mirror

National University of Singapore

Import MariaDB *repository key* ke dalam sistem Ubuntu :

```
sudo apt-get install apt-transport-https curl
```

```
sudo mkdir -p /etc/apt/keyrings
```

```
sudo curl -o /etc/apt/keyrings/mariadb-keyring.gpg
'https://mariadb.org/mariadb_release_signing_key.gpg'
```

kemudian buat file `/etc/apt/sources.list.d/mariadb.sources`, masukkan text dibawah ini kedalamnya dan simpan.

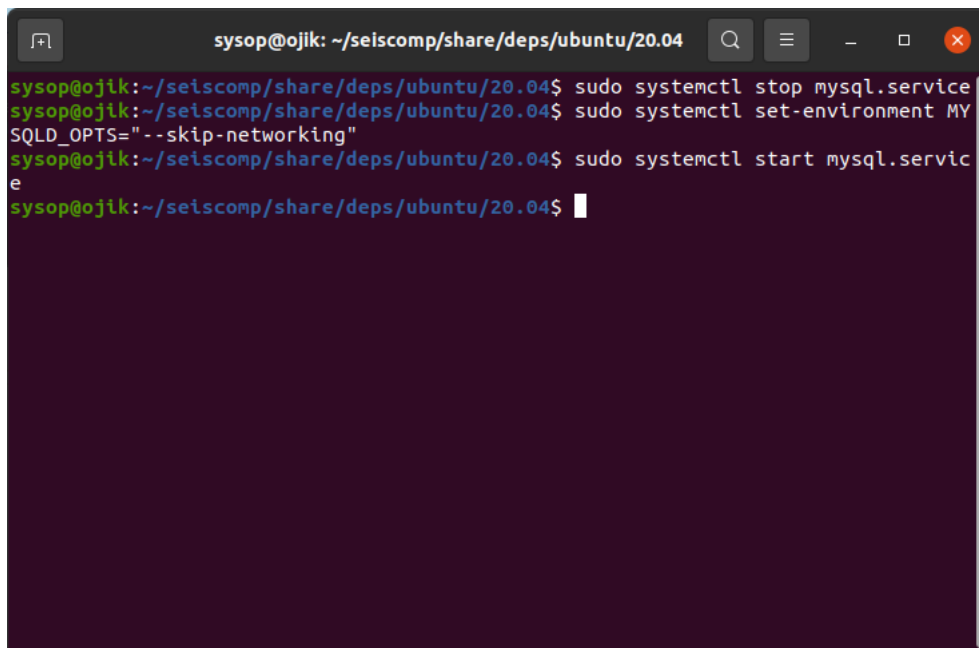
```
=====
# MariaDB 10.5 repository list - created 2023-11-28 07:59 UTC
# https://mariadb.org/download/
X-Repolib-Name: MariaDB
Types: deb
# deb.mariadb.org is a dynamic mirror if your preferred mirror goes offline. See
https://mariadb.org/mirrorbits/ for details.
# URIs: https://deb.mariadb.org/10.5/ubuntu
URIs: https://download.nus.edu.sg/mirror/mariadb/repo/10.5/ubuntu
Suites: bionic
Components: main main/debug
Signed-By: /etc/apt/keyrings/mariadb-keyring.gpg
=====
```

Lakukan instalasi MariaDB dari repository MariaDB

```
sudo apt-get update
sudo apt-get install mariadb-server
```

Pastikan tidak ada error.

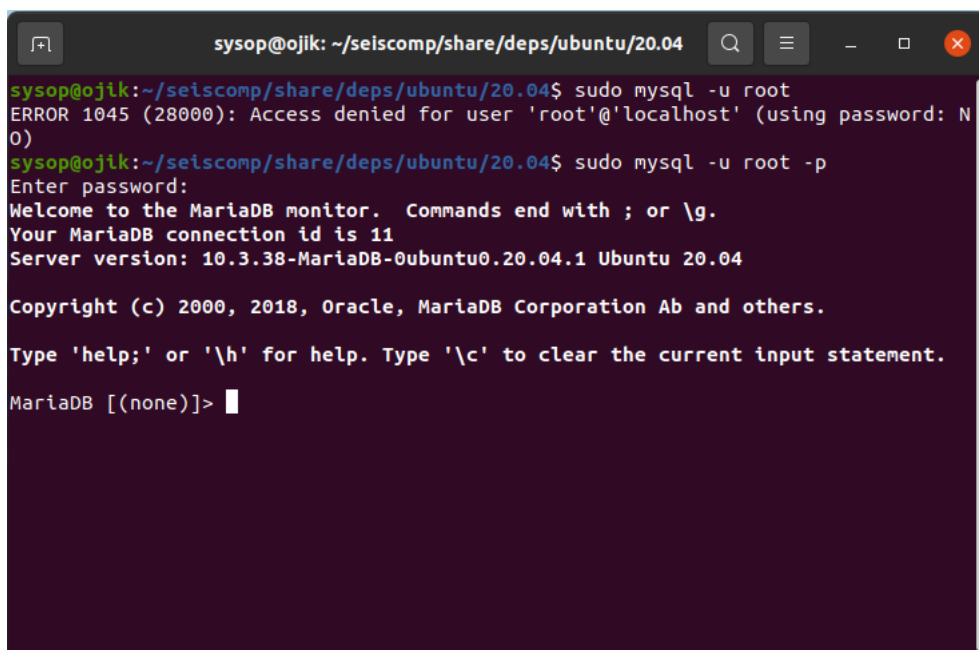
8. Tambahkan setting environment dengan mengetikkan perintah :
- ```
sudo systemctl stop mysql.service
sudo systemctl set-environment MYSQLD_OPTS="--skip-networking"
sudo systemctl start mysql.service
```



```
sysop@ojik: ~/seiscomp/share/deps/ubuntu/20.04
sysop@ojik:~/seiscomp/share/deps/ubuntu/20.04$ sudo systemctl stop mysql.service
sysop@ojik:~/seiscomp/share/deps/ubuntu/20.04$ sudo systemctl set-environment MYSQLD_OPTS="--skip-networking"
sysop@ojik:~/seiscomp/share/deps/ubuntu/20.04$ sudo systemctl start mysql.service
sysop@ojik:~/seiscomp/share/deps/ubuntu/20.04$
```

9. Masuk ke dalam MariaDB monitor kemudian setting password untuk user root.

```
sudo mysql -u root atau sudo mysql -u root -p
```



```
sysop@ojik: ~/seiscomp/share/deps/ubuntu/20.04
sysop@ojik:~/seiscomp/share/deps/ubuntu/20.04$ sudo mysql -u root
ERROR 1045 (28000): Access denied for user 'root'@'localhost' (using password: NO)
sysop@ojik:~/seiscomp/share/deps/ubuntu/20.04$ sudo mysql -u root -p
Enter password:
Welcome to the MariaDB monitor. Commands end with ; or \g.
Your MariaDB connection id is 11
Server version: 10.3.38-MariaDB-0ubuntu0.20.04.1 Ubuntu 20.04

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.
MariaDB [(none)]>
```

Ketikkan command dibawah ini, definisikan password setelah kata BY didalam tanda petik, dalam instalasi ini menggunakan password **mysqlroot** :

```
flush privileges;
USE mysql;
ALTER USER 'root'@'localhost' IDENTIFIED BY 'your-password-here';
exit
```

```
sysop@ojik: ~/seiscomp/share/deps/ubuntu/20.04
sysop@ojik:~/seiscomp/share/deps/ubuntu/20.04$ sudo mysql -u root -p
Enter password:
Welcome to the MariaDB monitor. Commands end with ; or \g.
Your MariaDB connection id is 12
Server version: 10.3.38-MariaDB-0ubuntu0.20.04.1 Ubuntu 20.04

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> flush privileges;
Query OK, 0 rows affected (0,000 sec)

MariaDB [(none)]> USE mysql;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
MariaDB [mysql]> ALTER USER 'root'@'localhost' IDENTIFIED BY 'mysqlroot';
Query OK, 0 rows affected (0,000 sec)

MariaDB [mysql]> exit
Bye
sysop@ojik:~/seiscomp/share/deps/ubuntu/20.04$
```

Lakukan restart mysql.service :

```
sudo killall -u mysql
```

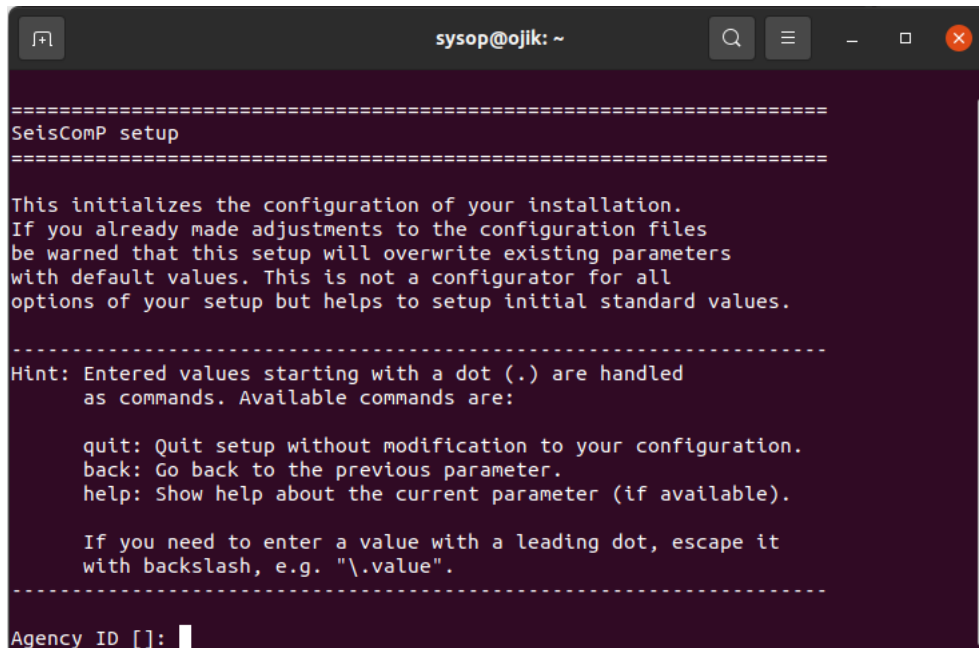
```
sudo systemctl restart mysql.service
```

```
sysop@ojik: ~/seiscomp/share/deps/ubuntu/20.04
sysop@ojik:~/seiscomp/share/deps/ubuntu/20.04$ sudo killall -u mysql
sysop@ojik:~/seiscomp/share/deps/ubuntu/20.04$ sudo systemctl restart mysql.serv
ice
sysop@ojik:~/seiscomp/share/deps/ubuntu/20.04$
```

Lakukan restart Ubuntu.

```
sudo reboot
```

10. Lakukan setup SeisCompP5 dengan cara buka terminal dan ketikkan  
**seiscomp setup**



```
sysop@ojik: ~
===== SeisCompP setup =====
=====
This initializes the configuration of your installation.
If you already made adjustments to the configuration files
be warned that this setup will overwrite existing parameters
with default values. This is not a configurator for all
options of your setup but helps to setup initial standard values.

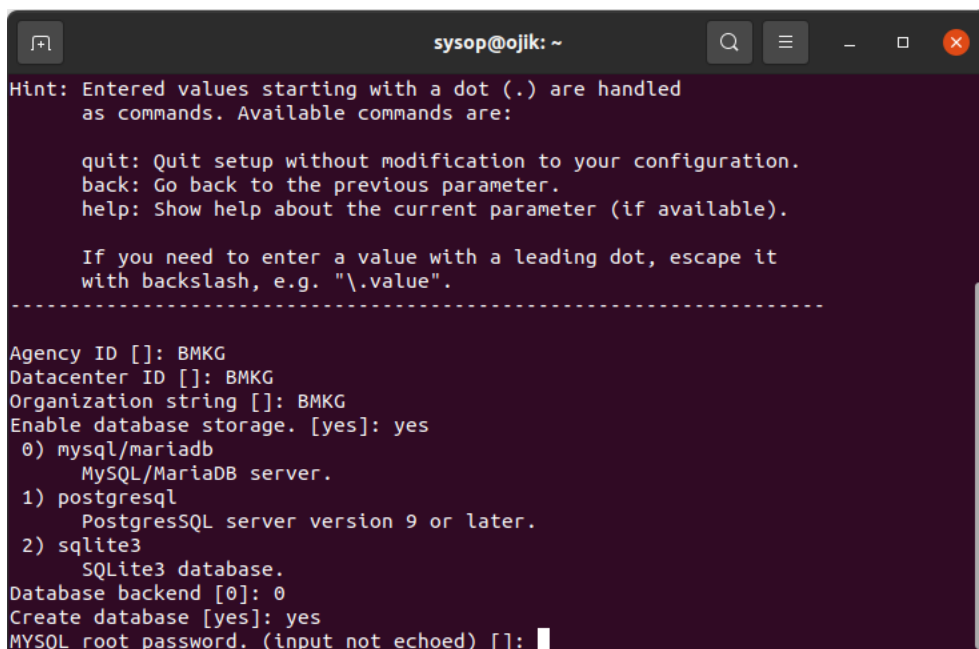
Hint: Entered values starting with a dot (.) are handled
as commands. Available commands are:

quit: Quit setup without modification to your configuration.
back: Go back to the previous parameter.
help: Show help about the current parameter (if available).

If you need to enter a value with a leading dot, escape it
with backslash, e.g. "\.value".

Agency ID []:
```

Isikan sesuai dengan default (didalam tanda kurung kotak). Untuk MYSQL root password, masukkan password yang tadi sudah didefinisikan (mysqlroot).



```
sysop@ojik: ~
Hint: Entered values starting with a dot (.) are handled
as commands. Available commands are:

quit: Quit setup without modification to your configuration.
back: Go back to the previous parameter.
help: Show help about the current parameter (if available).

If you need to enter a value with a leading dot, escape it
with backslash, e.g. "\.value".

Agency ID []: BMKG
Datacenter ID []: BMKG
Organization string []: BMKG
Enable database storage. [yes]: yes
0) mysql/mariadb
MySQL/MariaDB server.
1) postgresql
PostgreSQL server version 9 or later.
2) sqlite3
SQLite3 database.
Database backend [0]: 0
Create database [yes]: yes
MYSQL root password. (input not echoed) []:
```

Jika instalasi berhasil maka tampilan akan seperti dibawah ini.

```
sysop@ojik: ~
Database read-only password. [sysop]:

Finished setup

P) Proceed to apply configuration
B) Back to last parameter
Q) Quit without changes
Command? [P]:

Running setup

* setup kernel
* setup scmaster
+ Running MySQL database setup script /home/sysop/seiscomp/share/db/mysql_setup.py
+ Create MYSQL database
+ Found MYSQL server version 10.3.38-MariaDB-0ubuntu0.20.04.1
+ Create database seiscomp
+ Setup user roles
+ Create tables
* setup trunk
sysop@ojik:~$
```

11. Check dan pastikan modul scmaster pada SeisComP5 sudah berjalan tanpa error, dengan cara mengetikkan perintah dibawah ini pada terminal.

**seiscomp start scmaster**  
**seiscomp check**

```
sysop@ojik: ~
sysop@ojik:~$ seiscomp start scmaster
starting scmaster
Summary: 1 modules started
sysop@ojik:~$ seiscomp check
scmaster is already running
Summary: 1 started modules checked
sysop@ojik:~$
```

12. Aktifkan dan jalankan modul SeisComP5 sesuai dengan kebutuhan.  
Untuk kebutuhan Regionalisasi Shakemap, aktifkan modul :

**seiscomp enable fdsnws scevent seedlink slarchive**

Untuk kebutuhan monitoring gempa bumi, aktifkan modul :

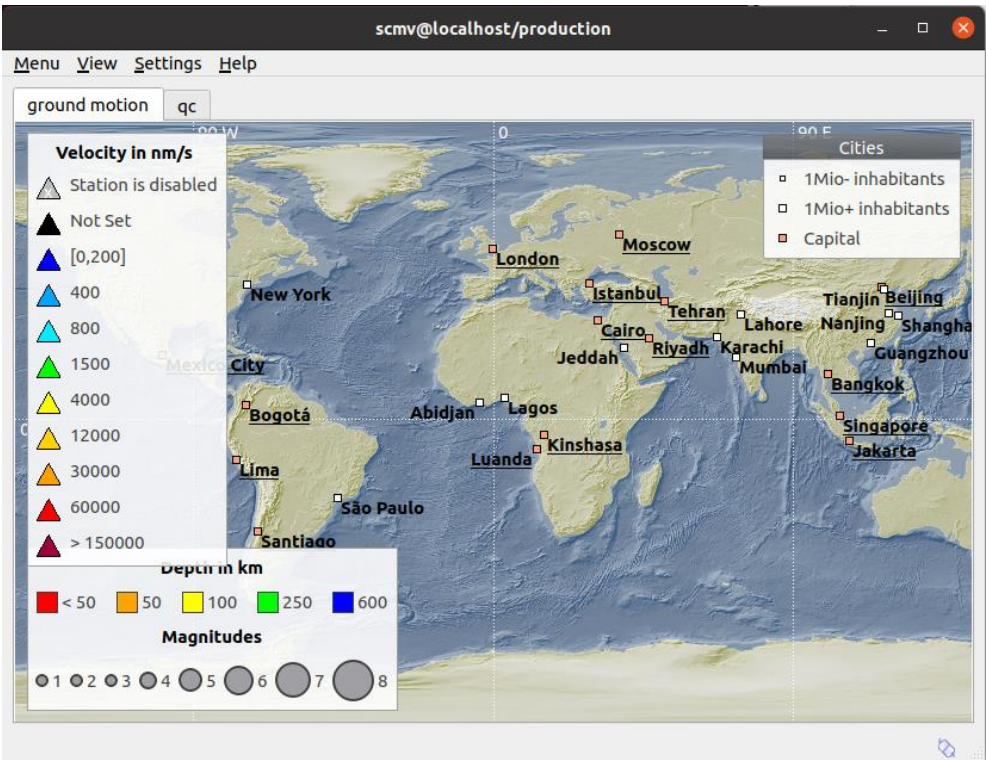
**seiscomp enable scwfes fdsnws slarchive seedlink scqc scmag**  
**seiscomp enable scevtlog scevent scautopick scamp scautoloc**

Lakukan restart SeisComP5.

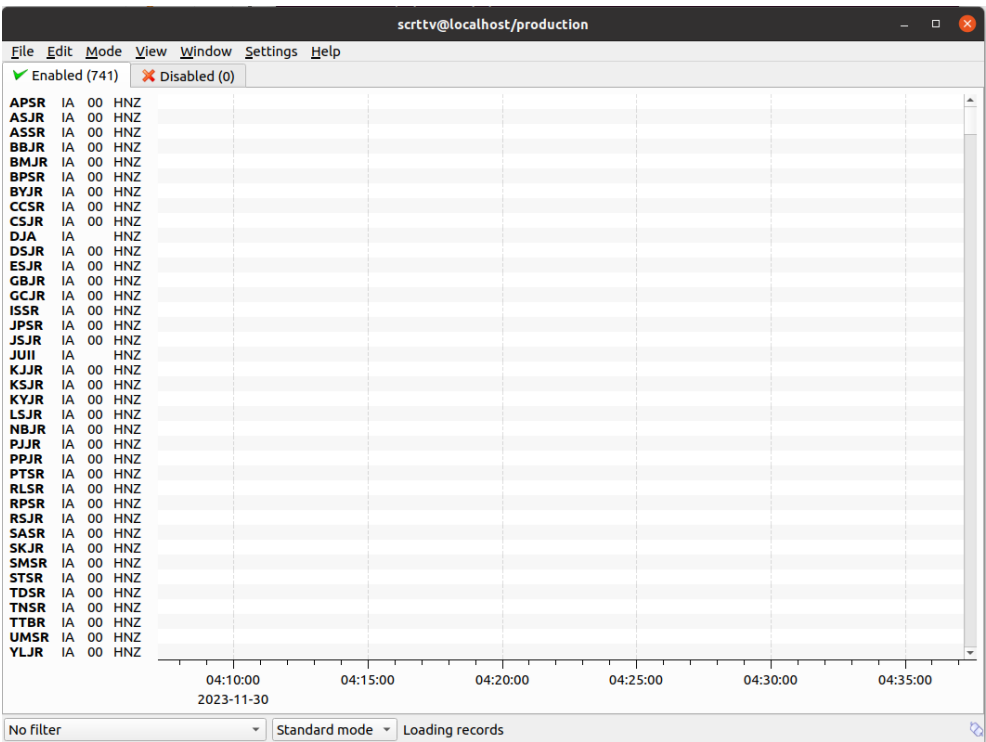
seiscomp restart

Coba beberapa GUI modul SeisComP5, seperti scrtdv, scmv, scevs, scolv, dll.

scmv



scrtdv



13. **[Optional]** Setting menggunakan crontab agar SeisComP5 dapat berjalan secara otomatis ketika computer menyala.

**seiscomp print crontab > cronfile**

Isi file cronfile :

```
=====
*/3 * * * * /home/sysop/seiscomp/bin/seiscomp start >/dev/null 2>&1
55 23 * * * /home/sysop/seiscomp/var/lib/seedlink/backup_seqfiles >/dev/null 2>&1
20 3 * * * /home/sysop/seiscomp/var/lib/slarchive/purge_datafiles >/dev/null 2>&1
=====
```

Kemudian ketikkan perintah :

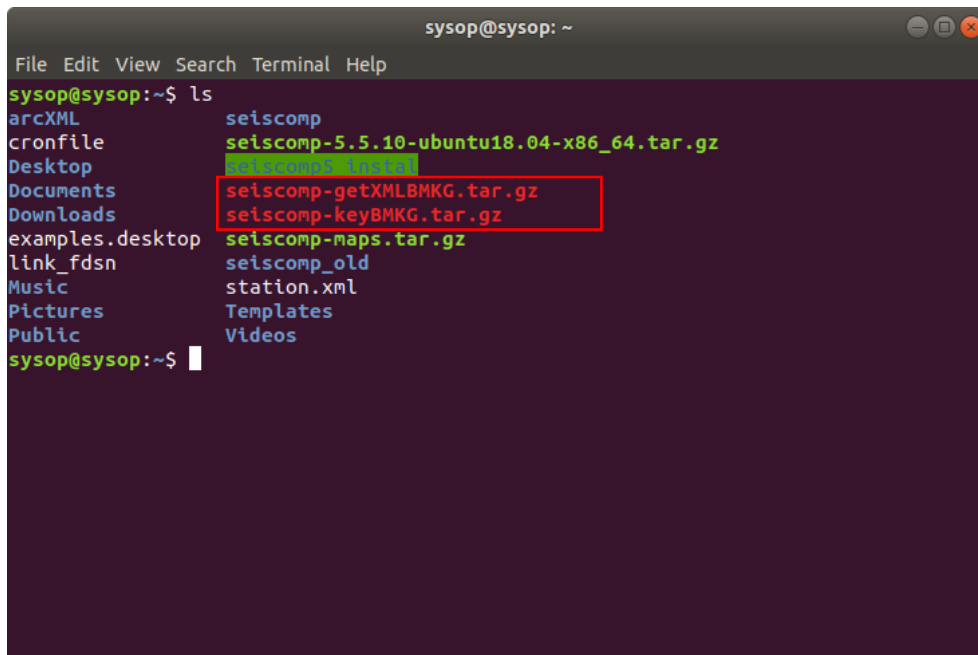
**crontab cronfile**

Langkah instalasi SeisComP5 telah selesai, selanjutnya lakukan konfigurasi modul.

### C. Konfigurasi Software SeisComP5

1. Download file `seiscomp-getXMLBMKG.tar.gz` dan `seiscomp-keyBMKG.tar.gz` pada link dibawah, kemudian pindahkan ke folder `/home/sysop/`.

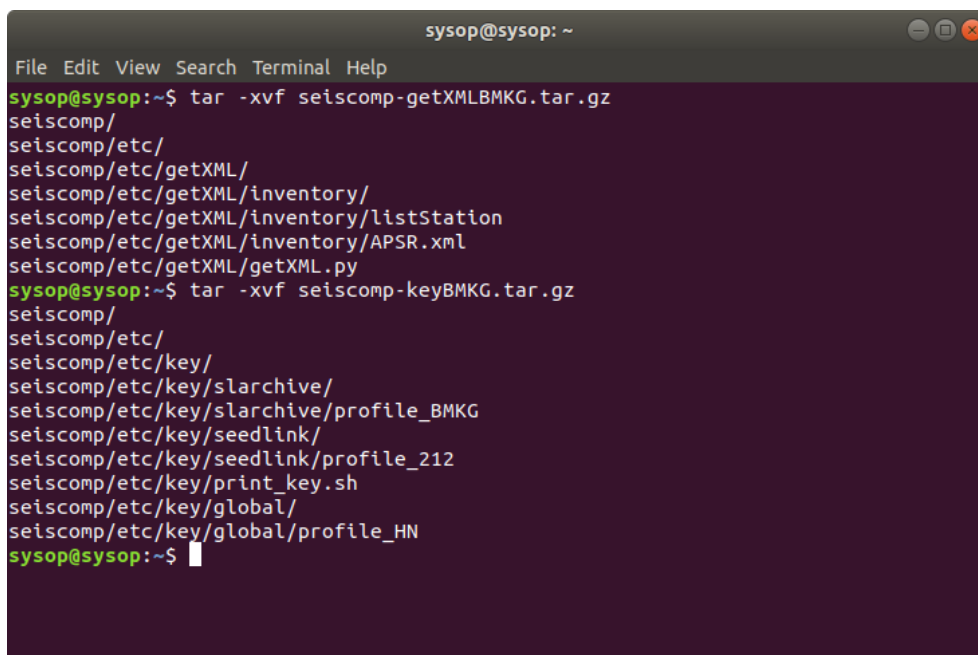
[https://github.com/FauziThok/seiscomp5\\_U18.04.git](https://github.com/FauziThok/seiscomp5_U18.04.git)

A terminal window titled 'sysop@sysop: ~' showing the output of the 'ls' command. The files listed are: arcXML, cronfile, Desktop, Documents, Downloads, examples.desktop, link\_fdsn, Music, Pictures, Public, and Videos. The 'seiscomp' directory is expanded, showing subdirectories: 'seiscomp-5.5.10-ubuntu18.04-x86\_64.tar.gz', 'seiscomp5-install', 'seiscomp-getXMLBMKG.tar.gz', 'seiscomp-keyBMKG.tar.gz', 'seiscomp-maps.tar.gz', 'seiscomp\_old', 'station.xml', 'Templates', and 'Videos'. The files 'seiscomp-getXMLBMKG.tar.gz' and 'seiscomp-keyBMKG.tar.gz' are highlighted with a red box.

```
sysop@sysop: ~
File Edit View Search Terminal Help
sysop@sysop:~$ ls
arcXML seiscomp
cronfile seiscomp-5.5.10-ubuntu18.04-x86_64.tar.gz
Desktop seiscomp5-install
Documents seiscomp-getXMLBMKG.tar.gz
Downloads seiscomp-keyBMKG.tar.gz
examples.desktop seiscomp-maps.tar.gz
link_fdsn seiscomp_old
Music station.xml
Pictures Templates
Public Videos
sysop@sysop:~$
```

Lakukan uncompress kedua file tar.gz dengan perintah :

```
tar -xvf seiscomp-getXMLBMKG.tar.gz
tar -xvf seiscomp-keyBMKG.tar.gz
```

A terminal window titled 'sysop@sysop: ~' showing the output of the 'tar -xvf' commands. The first command creates the directory structure for 'seiscomp-getXMLBMKG.tar.gz', including 'seiscomp/etc/getXML/inventory/listStation', 'seiscomp/etc/getXML/inventory/APS.xml', and 'seiscomp/etc/getXML/getXML.py'. The second command creates the directory structure for 'seiscomp-keyBMKG.tar.gz', including 'seiscomp/etc/key/slarchive/profile\_BMKG', 'seiscomp/etc/key/seedlink/profile\_212', 'seiscomp/etc/key/print\_key.sh', 'seiscomp/etc/key/global/profile\_HN', and 'seiscomp/etc/key/global/profile\_HN'.

```
sysop@sysop: ~
File Edit View Search Terminal Help
sysop@sysop:~$ tar -xvf seiscomp-getXMLBMKG.tar.gz
seiscomp/
seiscomp/etc/
seiscomp/etc/getXML/
seiscomp/etc/getXML/inventory/
seiscomp/etc/getXML/inventory/listStation
seiscomp/etc/getXML/inventory/APS.xml
seiscomp/etc/getXML/getXML.py
sysop@sysop:~$ tar -xvf seiscomp-keyBMKG.tar.gz
seiscomp/
seiscomp/etc/
seiscomp/etc/key/
seiscomp/etc/key/slarchive/
seiscomp/etc/key/slarchive/profile_BMKG
seiscomp/etc/key/seedlink/
seiscomp/etc/key/seedlink/profile_212
seiscomp/etc/key/print_key.sh
seiscomp/etc/key/global/
seiscomp/etc/key/global/profile_HN
sysop@sysop:~$
```

2. Langkah selanjutnya adalah mendownload data XML per stasiun melalui FDSNWS. Masuk ke direktori `/home/sysop/seiscomp/etc/getXML`, kemudian ketikkan perintah :

```
python3 getXML.py
```

Masukkan IP Address FDSNWS

Simora : 202.90.199.206

Seismotek : 172.19.3.212

Masukkan koordinat Stasiun Regionalisasi di Reference Lat dan Lon, serta radius dari Stasiun Regionalisasi (default 500km).

```
sysop@sysop: ~/seiscomp/etc/getXML
File Edit View Search Terminal Help
sysop@sysop:~$ cd seiscomp/etc/getXML/
sysop@sysop:~/seiscomp/etc/getXML$ ls
getXML.py inventory
sysop@sysop:~/seiscomp/etc/getXML$ python3 getXML.py
FDSNWS IP Address [202.90.199.206] : 202.90.199.206
Reference Lat (deg) [2.943] : 2.943
Reference Lon (deg) [98.067] : 98.067
Radius Circle (km) [500] : 500
```

```
sysop@sysop: ~/seiscomp/etc/getXML
File Edit View Search Terminal Help
downloading XML for SSASI
downloading XML for SSSI
downloading XML for STSR
downloading XML for SUSN
downloading XML for TASI
downloading XML for TASN
downloading XML for TDNI
downloading XML for TKSM
downloading XML for TKSJ
downloading XML for TNSR
downloading XML for TPSI
downloading XML for TPTI
downloading XML for TRSI
downloading XML for TSI
downloading XML for TTSM
downloading XML for UASN
downloading XML for UMSR
deleting NPD01.xml (Palert)
deleting NPD04.xml (Palert)
deleting NPD08.xml (Palert)
deleting NPD10.xml (Palert)
deleting NPD14.xml (Palert)
completed
sysop@sysop:~/seiscomp/etc/getXML$
```

File output berada pada direktori /home/sysop/seiscomp/etc/getXML/inventory/. Copy folder inventory (output) ke folder inventory (SeisComP5).

```
cp -r inventory /home/sysop/seiscomp/etc/
```

Lakukan update konfigurasi SeisComP5

```
cd
```

```
seiscomp update-config
```



```
sysop@sysop: ~
File Edit View Search Terminal Help
sysop@sysop:~/seiscomp/etc/getXML$ cp -r inventory /home/sysop/seiscomp/etc/
sysop@sysop:~/seiscomp/etc/getXML$ cd
sysop@sysop:~$ seiscomp update-config
```

```
sysop@sysop: ~
File Edit View Search Terminal Help
+ source chain as 212
+ station TNSR TNSR
+ source chain as 212
+ station TPSI TPSI
+ source chain as 212
+ station TPTI TPTI
+ source chain as 212
+ station TRSI TRSI
+ source chain as 212
+ station TSI TSI
+ source chain as 212
+ station TTSM TTSM
+ source chain as 212
+ station UASN UASN
+ source chain as 212
+ station UMSR UMSR
+ source chain as 212
* configure slarchive
* configure slmon
* configure trunk
+ default
+ read 118 stations
- database is already up-to-date
sysop@sysop:~$
```

Setelah melakukan update konfigurasi akan terbentuk folder key pada direktori /home/sysop/seiscomp/etc/ dan file station\_IA\_???? untuk setiap stasiun sesuai data inventory (xml).

3. Setting file key (binding) untuk setiap stasiun, dapat dilakukan melalui **scconfig** atau akses langsung ke file di direktori **key**.  
Setting profil global pada /home/sysop/seiscomp/etc/key/global/profile\_HN, mengatur kode channel untuk streaming modul **scrttv**.  
Setting profil seedlink pada /home/sysop/seiscomp/etc/key/seedlink/profile\_212, mengatur IP Address untuk pengambilan data waveform.  
Setting profil slarchive pada /home/sysop/seiscomp/etc/key/slarchive/profile\_BMKG, untuk mengatur berapa hari data yang disimpan dalam folder archive.  
Secara default, profil sudah disetting untuk kepentingan regionalisasi shakemap, shg tdk perlu dilakukan perubahan. Namun, untuk menambahkan profil baru, duplikat profil yang sudah ada kemudian ganti nama profil setelah tanda \_ (underscore). Lakukan perubahan masing-

masing profile sesuai kebutuhan, kemudian simpan. Berikut detail profile global, seedlink, dan slarchive :

```
Open profile_HN Save ~ /seiscomp/etc/key/global
The channel code of the preferred stream used by e.g. scautopick and scrttv.
If no component code is given, the vertical component will be fetched from
inventory considering the channel orientation (azimuth, dip). If that
approach fails, 'Z' will be appended and used as fallback. Do not use regular
expressions!
detecStream = HN?,AC?,SL?
```

Plain Text ▾ Tab Width: 8 ▾ Ln 6, Col 25 ▾ INS

```
Open profile_212 Save ~ /seiscomp/etc/key/seedlink
Activated plugins for category sources
sources = 212:chain

Hostname or IP of the Seedlink server.
sources.212.address = 172.19.3.212

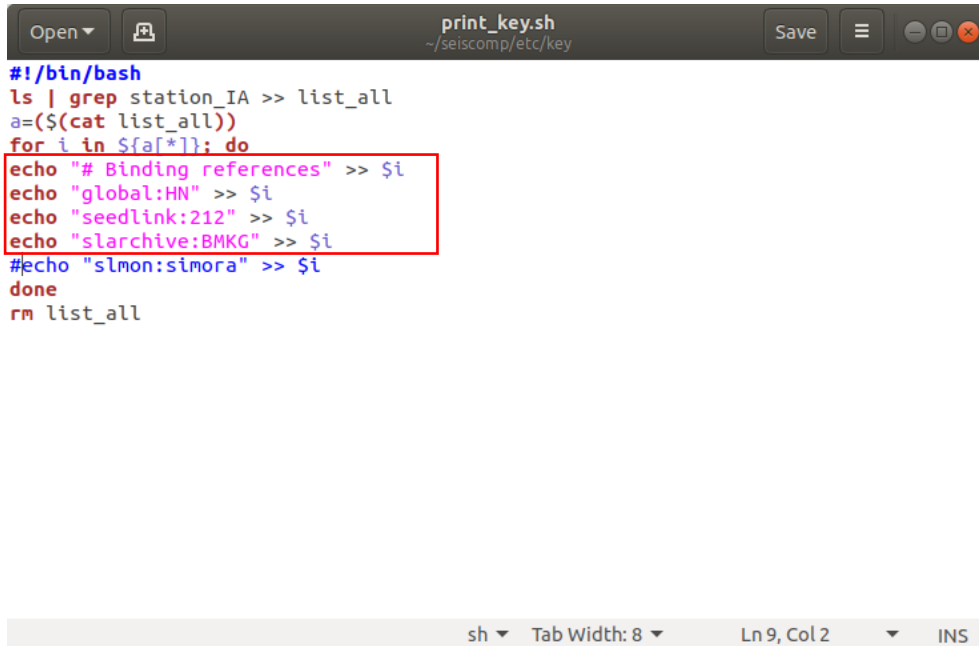
List of stream selectors. If left empty all available streams will be
requested. See slinktool manpage for more information.
sources.212.selectors = HN?,AC?,SL?
```

Plain Text ▾ Tab Width: 8 ▾ Ln 9, Col 36 ▾ INS

```
Open profile_BMKG Save ~ /seiscomp/etc/key/slarchive
Number of days the data is kept in the archive. This requires purge_datafile
to be run as cronjob.
keep = 20
```

Plain Text ▾ Tab Width: 8 ▾ Ln 3, Col 10 ▾ INS

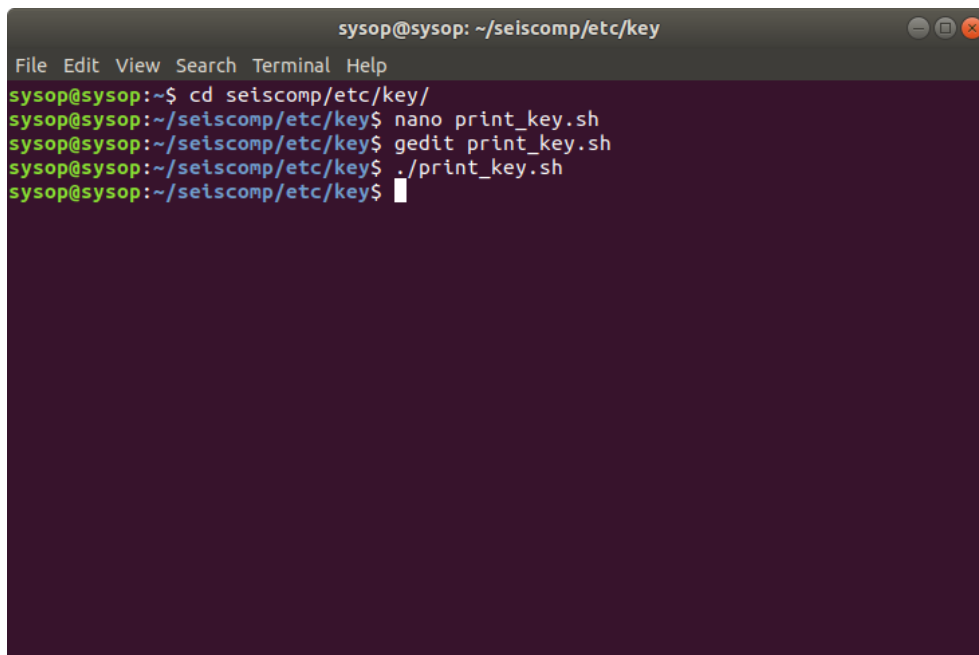
4. Melakukan binding untuk setiap stasiun. Edit file **print\_key.sh**, kemudian sesuaikan binding reference dengan nama profile yang sudah dibuat pada langkah sebelumnya lalu simpan.



```
#!/bin/bash
ls | grep station_IA >> list_all
a=($(cat list_all))
for i in ${a[*]}; do
echo "# Binding references" >> $i
echo "global:HN" >> $i
echo "seedlink:212" >> $i
echo "slarchive:BMKG" >> $i
#echo "slmon:simora" >> $i
done
rm list_all
```

Execute file **print\_key.sh** dengan cara ketikkan perintah :

```
cd seiscomp/etc/key
./print_key.sh
```



```
sysop@sysop: ~/seiscomp/etc/key
File Edit View Search Terminal Help
sysop@sysop:~$ cd seiscomp/etc/key/
sysop@sysop:~/seiscomp/etc/key$ nano print_key.sh
sysop@sysop:~/seiscomp/etc/key$ gedit print_key.sh
sysop@sysop:~/seiscomp/etc/key$./print_key.sh
sysop@sysop:~/seiscomp/etc/key$
```

Binding references sudah masuk kedalam semua file **station\_IA\_????**.

5. Lakukan update konfigurasi kembali, kemudian restart SeisComP5. Ketikkan perintah :

```
seiscomp update-config
seiscomp restart
```

```
sysop@sysop: ~/seiscomp/etc/key
File Edit View Search Terminal Help
sysop@sysop:~/seiscomp/etc/key$ seiscomp restart
slmon is not running
slarchive is not running
seedlink is not running
scwfparam is not running
scwfas is not running
scvoice is not running
scsohlog is not running
screloc is not running
scqc is not running
scproclat is not running
shutting down scmag
scm is not running
scimport is not running
scimex is not running
shutting down scevtlog
shutting down scevent
shutting down scdb
scautopick is not running
shutting down scautoloc
shutting down scamp
scalert is not running
ql2sc is not running
shutting down fdsnws
```

Check data waveform apakah sudah masuk dengan modul slinktool :

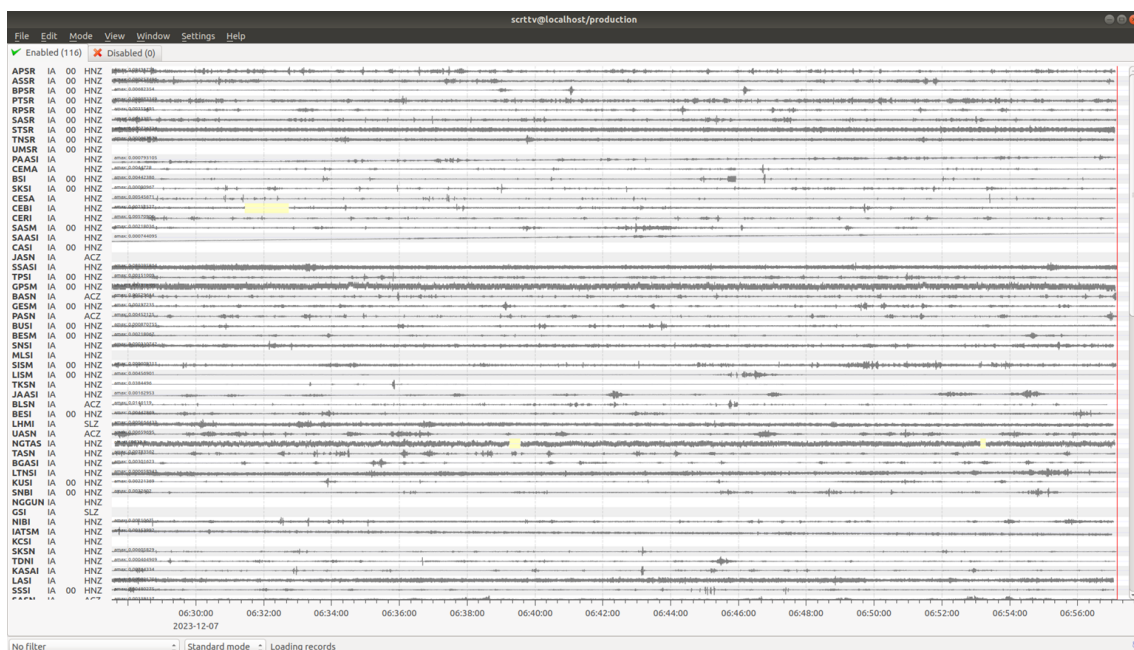
slinktool -Q localhost:18000

```
sysop@sysop: ~/seiscomp/etc/key
File Edit View Search Terminal Help
sysop@sysop:~/seiscomp/etc/key$ slinktool -Q localhost:18000
IA APSR 00 HNE D 2023/12/06 13:30:37.0800 - 2023/12/07 06:48:14.6000
IA APSR 00 HNN D 2023/12/06 13:30:41.2000 - 2023/12/07 06:48:14.6000
IA APSR 00 HNZ D 2023/12/06 13:30:37.0800 - 2023/12/07 06:48:14.6000
IA ASSR 00 HNE D 2023/12/06 12:42:28.8400 - 2023/12/07 06:48:12.3600
IA ASSR 00 HNN D 2023/12/06 12:42:28.8400 - 2023/12/07 06:48:16.4800
IA ASSR 00 HNZ D 2023/12/06 12:42:24.7200 - 2023/12/07 06:48:12.3600
IA AUSN ACE D 2023/12/06 15:49:37.7200 - 2023/12/07 06:48:15.1600
IA AUSN ACN D 2023/12/06 15:49:37.2400 - 2023/12/07 06:48:16.7600
IA AUSN ACZ D 2023/12/06 15:49:33.7600 - 2023/12/07 06:48:17.1600
IA BASN ACE D 2023/12/06 13:51:51.9000 - 2023/12/07 06:48:13.8800
IA BASN ACN D 2023/12/06 13:51:52.5800 - 2023/12/07 06:48:14.2200
IA BASN ACZ D 2023/12/06 13:51:48.8400 - 2023/12/07 06:48:14.4200
IA BBSN ACE D 2023/12/06 14:38:17.5600 - 2023/12/07 06:48:16.4600
IA BBSN ACN D 2023/12/06 14:38:17.1800 - 2023/12/07 06:48:17.8200
IA BBSN ACZ D 2023/12/06 14:38:17.3000 - 2023/12/07 06:48:17.2800
IA BESI 00 HNE D 2023/12/06 12:26:45.4600 - 2023/12/07 06:48:15.6600
IA BESI 00 HNN D 2023/12/06 12:26:42.6200 - 2023/12/07 06:48:15.5800
IA BESI 00 HNZ D 2023/12/06 12:26:44.8200 - 2023/12/07 06:48:15.4200
IA BESM 00 HNE D 2023/12/06 11:49:21.8300 - 2023/12/07 06:48:15.2100
IA BESM 00 HNN D 2023/12/06 11:49:25.8500 - 2023/12/07 06:48:13.0100
IA BESM 00 HNZ D 2023/12/06 11:49:23.2900 - 2023/12/07 06:48:13.1300
IA BGASI HNE D 2023/12/06 07:49:17.0100 - 2023/12/07 06:48:06.2900
IA BGASI HNN D 2023/12/06 07:49:16.2600 - 2023/12/07 06:48:03.4400
```

Check menggunakan modul gui scrttpv , ketik pada terminal :

scrttpv

```
sysop@sysop: ~/seiscomp/etc/key
File Edit View Search Terminal Help
sysop@sysop:~/seiscomp/etc/key$ scrttv
Set defined endtime: 1970-01-01 00:00:00
Adding 116 streams
Got 0 picks from database
Accepted 0 picks
Declared 0 arrivals
```



setting scrttv  
/home/sysop/seiscomp/etc/scrttv.cfg  
tambahkan

=====  
streams.codes = IA.\*.\*.HNZ, IA.\*.\*.ACZ, IA.\*.\*.SLZ  
=====

seiscomp update-config  
seiscomp restart