

## Build and Install Python 3.10

### Requirements:

- build-essential
- zlib1g-dev
- libncurses5-dev
- libgdbm-dev
- libnss3-dev
- libssl-dev
- libreadline-dev
- libffi-dev
- libsqlite3-dev
- wget
- libbz2-dev

### Install Requirements

- a. Install required dependencies

```
sudo apt install build-essential zlib1g-dev libncurses5-dev libgdbm-dev libnss3-dev libssl-dev libreadline-dev libffi-dev libsqlite3-dev wget libbz2-dev
```

- b. Download python 3.10 from official download

```
wget https://www.python.org/ftp/python/3.10.11/Python-3.10.11.tgz
```

### Build Python 3.10

- a. Configure the build

Run the configure command to check if the required dependencies are available. `--enable-optimizations` flag is used to optimize the binary and run multiple tests

```
cd Python-3.10.*/  
  
./configure --prefix=/usr/local --enable-optimizations --enable-shared LDFLAGS="-Wl,-rpath /usr/local/lib"
```

- b. Build or Compile Python 3.10

```
make -j $(nproc)
```

### Install Python 3.10

- a. Install Python 3.10

```
sudo make altinstall
```

- b. Verify Installation

```
python3.10 --version
```

## Setting Default Python3

- a. Check list of alternative python3

```
update-alternatives --list python3
```

- b. Add alternative python3.10 to the list of alternative

```
sudo update-alternatives --install /usr/bin/python3 python3  
/usr/local/bin/python3.10 1
```

- c. Add alternative python3.9 to the list of alternative

```
sudo update-alternatives --install /usr/bin/python3 python3  
/usr/bin/python3.9 0
```

- d. Select python3.10 as a default python3

```
sudo update-alternatives --config python3
```

Ada 2 pilihan untuk alternatif python3 (seluruhnya /usr/bin/python3).

Pemilihan	Path	Prioritas	Status
0	/usr/bin/python3.9	40	modus otomatis
1	/usr/bin/python3.9	40	modus manual
* 2	/usr/local/bin/python3.10	20	modus manual

Press <enter> to keep the current choice[\*], or type selection number: █

- e. Verify Default Python3

```
python3 --version
```