

# Development Environment Setup

---

Let's get set up to do blockchain development. In this tutorial we will be using Ubuntu Desktop 18.04LTS and we will install various tools and applications.

## Operating System

---

The following was done on Ubuntu 18.04LTS

## Setup Environment

---

### 1. Update and Upgrade Ubuntu

```
$ sudo apt-get update -y && sudo apt-get upgrade -y
```

### 2. Install python3 virtualenv

```
$ sudo apt-get install python3-pip -y
```

### 3. Create a python environment and install pip modules

```
$ sudo pip3 install virtualenv  
$ virtualenv blockchain_fundamentals  
$ cd blockchain_fundamentals  
$ source bin/activate  
$ pip3 install base58 ecdsa
```

### 4. Install git, c++ compiler, tools and libraries, and autotools

```
$ sudo apt-get install git build-essential libtool autotools-dev automake autoconf pkg-config libboost-all-dev libevent-dev gdb libssl-dev -y
```

### 5. Install btcdeb for Script debugging

```
$ git clone https://github.com/kallewoof/btcdeb.git && cd btcdeb  
$ ./autogen.sh  
$ ./configure  
$ sudo make install && cd ../
```

### 8. Install secp256k1 library

```
$ git clone https://github.com/bitcoin-core/secp256k1.git && cd secp256k1  
$ ./autogen.sh  
$ ./configure  
$ sudo make install && cd ../
```

### 7. Install cpp\_miner for mining

```
$ git clone https://github.com/JBaczuk/cpp_miner.git && cd cpp_miner
$ ./autogen.sh
$ ./configure
$ sudo make install && cd ../
```

## Blockchain Fundamentals Tools

---

```
$ git clone https://github.com/JBaczuk/blockchain-dev-tools.git && cd blockchain-dev-tools
$ ./INSTALL.sh
$ cd ..
$ source bin/activate
```