



MultiChain

Private Blockchain Platform

How to create a Blockchain

Step 1: Creating or login into existing AWS account

Login into your AWS account or Create an AWS Account, If you do not have already. You get 1-year free tier access. To create a new account on AWS please click [here](#).

Step 2: Launching EC2 Server

Launch an Ubuntu 14.04 LTS EC2 Server. You can choose 16.04 as well but it will not affect our execution. We are using 14.04 just because we find it more stable & bug free.

If you have an EC2 AMI (Machine Image) of Ubuntu 14.04 which has some updated configurations, key software (Like PHP, Python, Apache etc.) already installed, you can launch the EC2 server using that as well.

Step 3: Connecting to EC2

Connect to the server using SSH through its .pem file. You can SSH directly using the terminal you have in your windows/Mac/Linux machine or try putty. I would like recommend using some good terminal for quick & easy access in window based OS. To know more about connecting to your server please click [here](#). Do ssh like this below.

```
ssh -i [full path of .pem file] Ubuntu@[Public IP of your server]
```

After the SSH you will see something like this in your terminal:

```
Welcome to Ubuntu 14.04.4 LTS (GNU/Linux 3.13.0-74-generic x86_64)

* Documentation:  https://help.ubuntu.com/

System information as of Sun Dec  4 07:20:39 UTC 2016

System load:  0.51           Processes:           109
Usage of /:   12.3% of 19.55GB Users logged in:      1
Memory usage: 28%           IP address for eth0: 172.31.59.194
Swap usage:   0%

Graph this data and manage this system at:
https://landscape.canonical.com/

Get cloud support with Ubuntu Advantage Cloud Guest:
http://www.ubuntu.com/business/services/cloud

99 packages can be updated.
67 updates are security updates.

Last login: Sun Dec  4 07:20:40 2016 from 122.180.157.219
ubuntu@ip-172-31-59-194:~$
```

Step 4: Installing MultiChain

Now we will tag or call this first server as “Node-1” remember whenever I will mention Node-1 it means I am referring to our first server we have just launched.

Here in this step we will also install the MultiChain.

System requirements

- Linux: 64-bit, supports Ubuntu 12.04+, CentOS 6.2+, Debian 7+, Fedora 15+, RHEL 6.2+.
- Windows: 64-bit, supports Windows 7, 8, 10, Server 2008 or later.
- 512 MB of RAM
- 1 GB of disk space

Installing on Linux: Our case

Here the command is in red followed by the comment in bracket (please do not copy & paste the comments in your shell terminal)

```
sudo su (To switch to root permanently)
cd /home/ubuntu/ (To make sure we are in Ubuntu user's home)
mkdir tmp (Create a tmp directory in home)
cd tmp (Move to tmp directory in home)
wget http://www.multichain.com/download/multichain-1.0-alpha-26.tar.gz (Download
```

multichain using wget, you can use any method to download the MultiChain including curl or browser download & then upload the file to the server)

`tar -xvzf multichain-1.0-alpha-26.tar.gz` (Unzip the downloaded file)

`cd multichain-1.0-alpha-26` (move to the unzipped directory)

`mv multichaind multichain-cli multichain-util /usr/local/bin` (move the key files to bin to make easily accessible on the command line without specifying the full path)

`exit` (to return to your regular user ie. Ubuntu in EC2 case)

You can also use this [link to the latest version](#), instead of the URL above. The link is updated a few days after each release.

Run `multichain-cli` or `multichaind` on the terminal and if you see some output other than command not found then it means you successfully installed the MultiChain.

Step 5: Create your Blockchain & Genesis Block

We will create a Blockchain with name chain1 with the below command:

`multichain-util create chain1`

This above command will create a Blockchain with name chain1 & also create a folder with name chain1 inside `~/.multichain/` directory

All your Blockchain's settings are in `params.dat` file inside the `~/.multichain/chain1/`. To confirm the settings please use this below command and it will spit everything in your terminal.

`cat ~/.multichain/chain1/params.dat`

Now since your Blockchain has been created its time to initialize the Blockchain including mining the genesis Block (The first Block in the Blockchain).

`multichaind chain1 -daemon`

You will see a message that server has been started & in a few second that the genesis Block has been mined. You will also see the Blockchain node's address which other nodes can use to connect to the Blockchain.



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```
ubuntu@ip-172-31-50-255:~$ multichaind chain1 -daemon
MultiChain Core Daemon build 1.0 alpha 26 protocol 10006

MultiChain server starting
Looking for genesis block...
Genesis block found

Other nodes can connect to this node using:
multichaind chain1@172.31.50.255:7193

Node started
ubuntu@ip-172-31-50-255:~$ █
```

If you are interested in conducting Blockchain training in your city, office or country please reach out to us using [this link](#) or drop us an email at training@recordskeeper.co.