

## 001-bdNOG8: Preparing workstation for LAB practice

Notebook: <Inbox>  
Created: 5/1/2018 7:09 PM Updated: 5/8/2018 12:04 PM  
Author: bdnog8  
URL: <http://192.168.108.8/doc/001-Prepare-Workstation.html>

---

### - PREPARING THE WORKSTATION FOR THE LAB

---

#### = Hardware Recommendation

---

Laptop with Intel Core-i3/i5/i7 processor with VT-X, 4GB RAM, 200GB free disk partition to install Linux (Ubuntu Variant Linux Mint 18.03 Sylvia)

#### = Operating System Installation

---

Recommended Operative Systems For the lab environment are;

- (a) Linux Mint 18.3 Sylvia Mate Edition - which is our documentation/**lab is based on.** or,
- (b) Ubuntu Desktop 16.04.3 Xenial Mate Edition.

**note:** for production environment you are strongly recommended to use ubuntu-lts-server version. as of today ubuntu-18.04-lts is released.

Now, we have to install the operating using the following partition scheme.

If you have mbr-supported bios (normally pre-installed windows7 laptops), or if you want to dual-boot with windows8/10, then you have to create the following partitions;

```
~~~~~  
1. / # 36 GB  
2. swap # 8GB  
3 additional partition # 1 50GB  
4 additional partition # 2 50GB  
5 additional partition # 3 50GB  
~~~~~
```

If you want to fresh-install on a windows8/10 based laptop without dual-boot, then you have to create the following partitions;

```
~~~~~  
0. esp # 200 MB  
1. / # 36 GB  
2. swap # 8 GB  
3 additional partition # 1 50 GB  
4 additional partition # 2 50 GB
```

## 5 additional partition # 3 50 GB

~~~~~

**note:** to follow the partition scheme is very important to practice the lab works.

### = First login & connect the host to Internet.

---

After first-time login...

- Goto **power option** and disable all idle times and make it to 'Never' (Search this item from Mate Menu Bar)
- Disable **screen saver**. (Search this item from Mate Menu Bar)

Open Terminal and apply the following commands..

```
sudo su
apt remove -y --purge network-manager* mate-screensaver*
```

Now put IP address with proper syntax , Suppose here ethernet interface name is 'enpls0'

```
vim.tiny /etc/network/interfaces
```

```
auto enpls0
iface enpls0 inet static
    address 192.168.108.11
    netmask 255.255.255.0
    gateway 192.168.108.1
```

Command to up the network interface with IP address

```
ifconfig enpls0 192.168.108.11 netmask 255.255.255.0 up
route add default gw 192.168.108.1

echo 'nameserver 192.168.108.1'> /etc/resolvconf/resolv.conf.d/head
echo 'nameserver 192.168.108.1'> /etc/resolv.conf
```

Now verify that you are getting Internet connection by "ping to 8.8.8.8" or so on.

### = Prepare/Modify apt-repository

---

```
cp -r /etc/apt/sources.list.d/official-package-repositories.list /etc/apt/sources.list
rm -fr /etc/apt/sources.list.d/official-package-repositories.list
```

The above two lines are not require if you use ubuntu-desktop/ubuntu-server. Those two lines are only for Linux Mint.

```
vim.tiny /etc/apt/sources.list
```

Now replace the default apt-mirror with Bangladeshi mirror site (like [mirror.amberit.com.bd](http://mirror.amberit.com.bd)) by the following

vim command; You have pres ESC first;

```
:%s/archive.ubuntu.com/mirror.amberit.com.bd/g
```

Or by the the following sed command;

```
sed -i 's/archive.ubuntu.com/mirror.amberit.com.bd/g /etc/apt/sources.list
```

Now activate local apt-cache-server for faster package installation;

```
echo 'Acquire::http { Proxy "http://192.168.108.8:4444"; };' > /etc/apt/apt.conf.d/50apt-cacher  
apt update
```

**= Some useful modification/basic configuration which is require for our LAB.**

---

Replace X with group number given to you in the following command.

```
echo 'groupX-nodel' > /etc/hostname
```

```
echo 'fs.file-max = 1024000' >> /etc/sysctl.conf  
echo 'root soft nofile 1024000' >> /etc/security/limits.conf  
echo 'root hard nofile 1024000' >> /etc/security/limits.conf  
echo 'performance' > /sys/devices/system/cpu/cpufreq/policy0/scaling_governor
```

Add the following line before exit(0) in /etc/rc.local file

```
vim /etc/rc.local
```

```
echo 'performance' > /sys/devices/system/cpu/cpufreq/policy0/scaling_governor
```

Now install some important system packages, activate root & configure ssh-server

```
apt update  
apt install -y vim openssh-server htop tasksel mtr gnu-fdisk pv mc
```

Modify the ssh configuration file

```
vim /etc/ssh/sshd_config
```

Now,

- Uncomment ssh port for security --> Set **Port 22**
- Permit root login --> Set **PermitRootLogin yes**
- Add '**UseDNS no**' at the end of the configuration file

Restart the service;

```
/etc/init.d/ssh restart
```

Set the password **123789** for this lab practice.

```
passwd root
```

Now reboot the workstation/laptop.

```
reboot
```

### **Recommendation:**

---

In production change ssh port to any other port like 7979

In production use strong root password combining alpha-numeric characters.