**Raspberry Pi Basic Headless Setup**

**(Without Monitor and Keyboard)**

**Step 1:** Formatting microSD card using SD card formatter.

**Step 2:** Download Raspbian Operating System from Official

Raspberry Pi site.

**Step 3:** Writing Raspbian OS to microSD card using Disk

Imager.

**Step 4:** Enabling SSH(Secure Shell)

* Open microSD card and create a file with name **“SSH”** and **No Extension** in the boot partition of microSD card.
* Open microSD card and select **Organize** option on top left corner.
* Click on **Folder and search** option.
* Go to **View** tab and **uncheck** “Hide extensions for known file types”.
* Right click on empty space and **create New text document**.
* **Delete** the name **“New text document”** and also extension **“.txt”**.
* Now **enter “SSH” without any extension**. You’ll get a warning message just click on **“YES”**.
* SSH file is created.

**Step 5:** Insert microSD card in slot of Raspberry Pi before

Powering it Up.

**\*\* We need two more tools to continue with setup\*\***

Since we don’t have access to command prompt of raspberry Pi yet, we need a tool called **“PUTTY”**.

**Putty** will act as a **Remote SSH Server** so that we can access Raspberry Pi’s command prompt from remote computer.

**Step 6:** Download Putty from site and install it.

**Step 7:** Now we need to know IP address of Raspberry pi to

have access of command prompt on Putty.

* Download Advanced IP Scanner and search for IP of Raspberry pi.

**Another method is:**

* Go to IP of Router e.g. 192.168.1.1(Vary according to your router).
* Put Login ID and Password.
* In DHCP, advanced options.
* Open DHCP Client List and you’ll get IP of Raspberry Pi.

**Step 8: Booting Up Raspberry Pi**

**Before powering Raspberry Pi up make sure,**

* Raspberry Pi is connected to Internet using Ethernet and the Power it up.

**Step 9:**

* Open Putty and enter IP address of Raspberry Pi in “HOST NAME” and Rest of field like,

PORT 22 and connection type as SSH are unchanged.

* Click on Open and if everything goes well, we’ll get a warning message from Putty about SSH server.
* Click on YES. If SSH connection is successful you’ll get Raspberry Pi’s Login Page.
* Enter Default username and password as:

Username: pi

Password: raspberry

* Successfully login to Raspberry Pi through SSH.

**Step 10:** Now, accessing desktop of Raspberry pi using VNC

* To access desktop of Raspberry Pi on computer we need VNC (Virtual Network Computing) software like RealVNC.
* Download RealVNC and istall it on computer.
* Now we need to setup VNC option in Raspberry Pi.
* For this,Update operating system of Raspberry Pi.

***Command:* sudo apt-get update**

* Now we need to install VNC server and VNC viewer on Raspberry Pi.

***Command:***

**sudo apt-get install realvnc-vnc-server realvnc-vnc-viewer**

**Step 11:** Now we need to enable VNC server of Raspberry Pi

from configuration settings.

***Command:* sudo raspi-config**

* Select Interfacing Options and select VNC from list.
* Enable VNC by selecting YES option.
* You’ll get a confirmation message that VNC is enabled.
* You can change resolution of display by going into “ADVANCED OPTIONS” in Configuration Settings and select resolution.
* Then select Finish , it’ll ask to Reboot, click YES. Raspberry Pi get Reboot.

**Step 12:** Open VNC viewer on PC and enter IP of Raspberry Pi

in address bar and enter.

VNC will ask for Username and Password ,

Use your Raspberry Pi’s Uasename and Password.