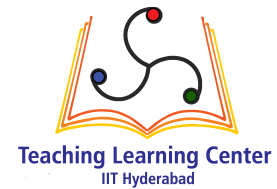




Android Device as Raspberry Pi Display



G V V Sharma*

- First of all you need to connect your raspberry pi with normal monitor to install some required packages and configuration.
- Raspberry pi should have a internet connection.
- Install tightvncserver on Raspberry pi via terminal by entering the following command.

```
sudo apt-get install tightvncserver
```

- When the software installation has finished enter the following command to start the server.

```
vncserver :1 -geometry 1200x720 -depth 16 -pixelformat rgb565
```

- Geometry depends on your android device screen resolution.
- Then this will ask you to assign some password for user authentication (This password authentication will appear when you will try to connect android device with raspberry pi via vnc viewer).
- In case the vncserver resolution needs to be changed, stop the vnc server using the following command and run the command in the previous item with a newer resolution option.

```
sudo /etc/init.d/tightvncserver stop
```

- We can see raspberry pi screen on android device by using two ways such as:

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- By Using USB Tethering.
- By using WIFI connection
- You will require the IP address of both connections.
- To get the IP address, enter the following command:

```
sudo ifconfig
```

- After knowing the IP Address of both connections you can go for further instructions.
- Now you need to install android vnc viewer(realVNC) on your android device.
- Then press the + button in the application to create a new connection. Then give the IP address and Port No of your raspberry pi(note that the IP address for USB and WiFi are different). For USB, you need to enable tethering before entering the IP address in realVNC.
- By default the vnc server starts running on port 5900. The :1 is the display number. What this means is that when you run the vnc client you need to specify the port as 5901.

```
192.168.42.11::5901
```

- After filling the ip address and port no, press connect button to connect with Raspberry pi and then it will ask permission for unencrypted connection then press ok and type password which you had given when you were starting the server.
- If you have followed all the above steps correctly, you will be able to see and access your raspberry pi on your android device.
- However, if you turn off the Raspberry Pi, you will need to do repeat the above procedure again.
- To address this issue, we need to start Tightvncserver when the Raspberry Pi boots.
- To do this, we need to create a new file.

```
sudo nano /etc/init.d/tightvncserver
```

- And then copy/paste the following in the file.
-

```

#!/bin/sh

# /etc/init.d/tightvncserver

# Set the VNCUSER variable to the name of the user to start tightvncserver
VNCUSER='pi'

case "$1" in
    start)
        su $VNCUSER -c '/usr/bin/tightvncserver_:_:1'
        echo "Starting TightVNC server for $VNCUSER"
        ;;
    stop)
        pkill Xtightvnc
        echo "Tightvncserver stopped"
        ;;
    *)
        echo "Usage: /etc/init.d/tightvncserver {start|stop}"
        exit 1
        ;;
esac

exit 0

```

- Press Ctrl+x, then y to save and Enter to keep the same file name.
- Edit the permissions of this file to make it executable and active:

```
sudo chmod 755 /etc/init.d/tightvncserver
```

```
sudo update-rc.d tightvncserver defaults
```

- Reboot to test.