Installion of Ubuntu 18.04 (LTS) server on Oracle Virtual Box*

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July 21, 2018

Abstract: Ubuntu 18.04 (Bionic Beaver) was released in first quarter of May 2018, with Long Term Support (LTS) for first time by Canonical on desktop, server, and cloud services. It is evident that more than 98% of servers/clouds/supercomputers have been deployed in Linux. There are not ground breaking changes in Ubuntu from 17.10 to 18.04 version, both of which are now also available with GNOME (with a vision to move completely to GNOME environment). Ubuntu 18.04 for servers/clouds comes with NO absolute warranty, See licensing details here. This paper gives a detailed procedure on how to install/deploy Oracle 18.04 as ubuntu-server on Oracle Virtual Box in Linux OS (Ubuntu), but it can be used as a reference for Windows 10 or MacOS. This document may be treated as a third party manual. Ubuntu, Virtual Box, et cetera are registered trademarks of their respective owners e.g. Canonical, Oracle.

Keywords: Ubuntu 18.04 (LTS) server, Virtual Box, Installation of server, Removing server.

1 Downloading the iso file

The first step is to download the iso file from the official website. It can be downloaded from here. Make sure that you are downloading official copy of iso file, and size of disk image iso file is around 800 MB to 1 GB, according to your operating system.

*This document is neither supported nor endorsed by any organization, but is an individual's creation.

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Figure 1: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

2 Setting up Virtual Machine

Open your Oracle Virtual Box Manager from your application list. If your have not installed it, installation procedure is described here.

2.1 Open Oracle Virtual Box

Initial user interface of Virtual Box features menu bar, previously installed virtual machines and their details (See figure 1).

2.2 Create new Virtual Machine

A pop-up window opens asking for the name of new virtual machine. Set name "Ubuntu 18.04" without quotes, or set it according to yourself. Set type to Linux, since Ubuntu is a distribution comes under Linux. Set Version to Ubuntu (64 bit) or Ubuntu (32 bit) as per your system. (See figure 2).

Figure 2: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

Then it will ask for memory size. The recommended memory size is 1024 MB (1 GB); but you can set it as per your requirements. Make sure you have alloted sufficient amount of memory to work it properly (See figure 3).

Then it will ask for Hard disk, you may or may not provide hard disk to server. But, it is recommended to provide at least 10 GB memory as hard disk to the server, so as to minimize other storage related problems. You can create your virtual hard disk drive at this stage. Checkmark the "Create a virtual hard disk now" option (See figure 4).

Then it will ask for hard disk file type, checkmark "VirtualBox Disk Image" option. It has several advantages, i.e. you need not to modify your original hard disk drive, instead it creates a virtual hard disk internally in Virtual Box. Which eventually will be set free, when virtual machine is removed/deleted along will all its files (See figure 5).

At next stage, it will ask for storage on physical hard disk which you can check any of the option, but it is strongly recommended to use dynamic allocated memory so as to minimize memory wastage and will allocate more memory automatically when previ-

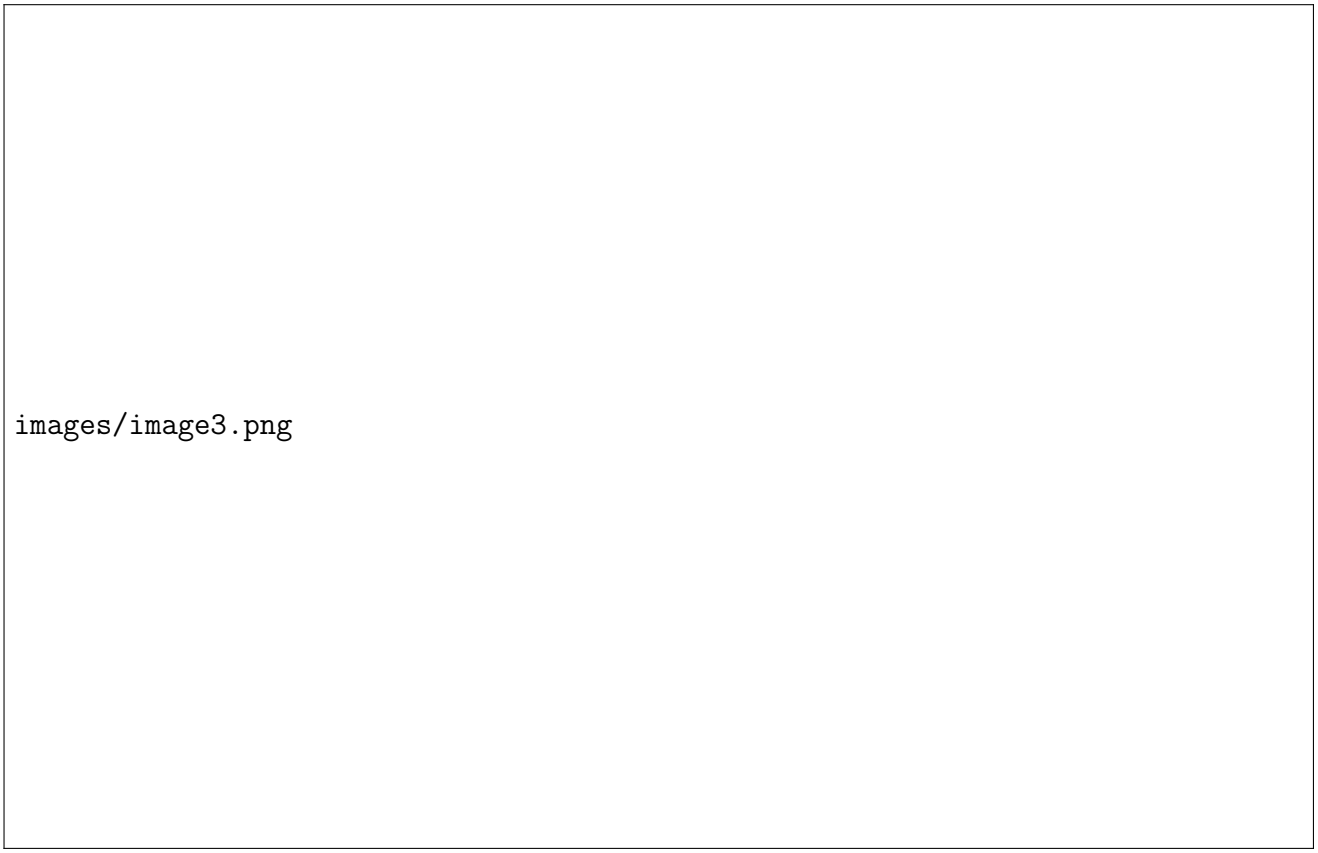

Figure 3: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

Figure 4: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

ously allocated memory gets full (See figure 6).

Then it will ask to set up a name for virtualbox hard disk file name, it is preferred to use same name as operating system i.e. Ubuntu 18.04 (Bionic Beaver). It also asks for size of hard disk memory initially allocated; recommended size is 10 GB but you can allocate more/less as per your requirements (See figure 7).

After that your virtual machine is created and is shown in one of the virtual machines named "Ubuntu 18.04" as we named earlier it as Ubuntu 18.04 which is currently powered off. (You can also see more details of virtual machine here) (See figure 8).

2.3 Attach Optical drive (iso file) to virtual machine

Near menu bar, click the settings button. Move to Storage section and in storage tree subsection, you can see controller: IDE field empty since we've not included our file yet. Now in attribute section (which is in right side of pop up), in Optical Drive field featuring IDE Secondary master. Aside of that click on the CD icon there, which will open file manager, select that iso file (Optical drive file/disk image file). You can now

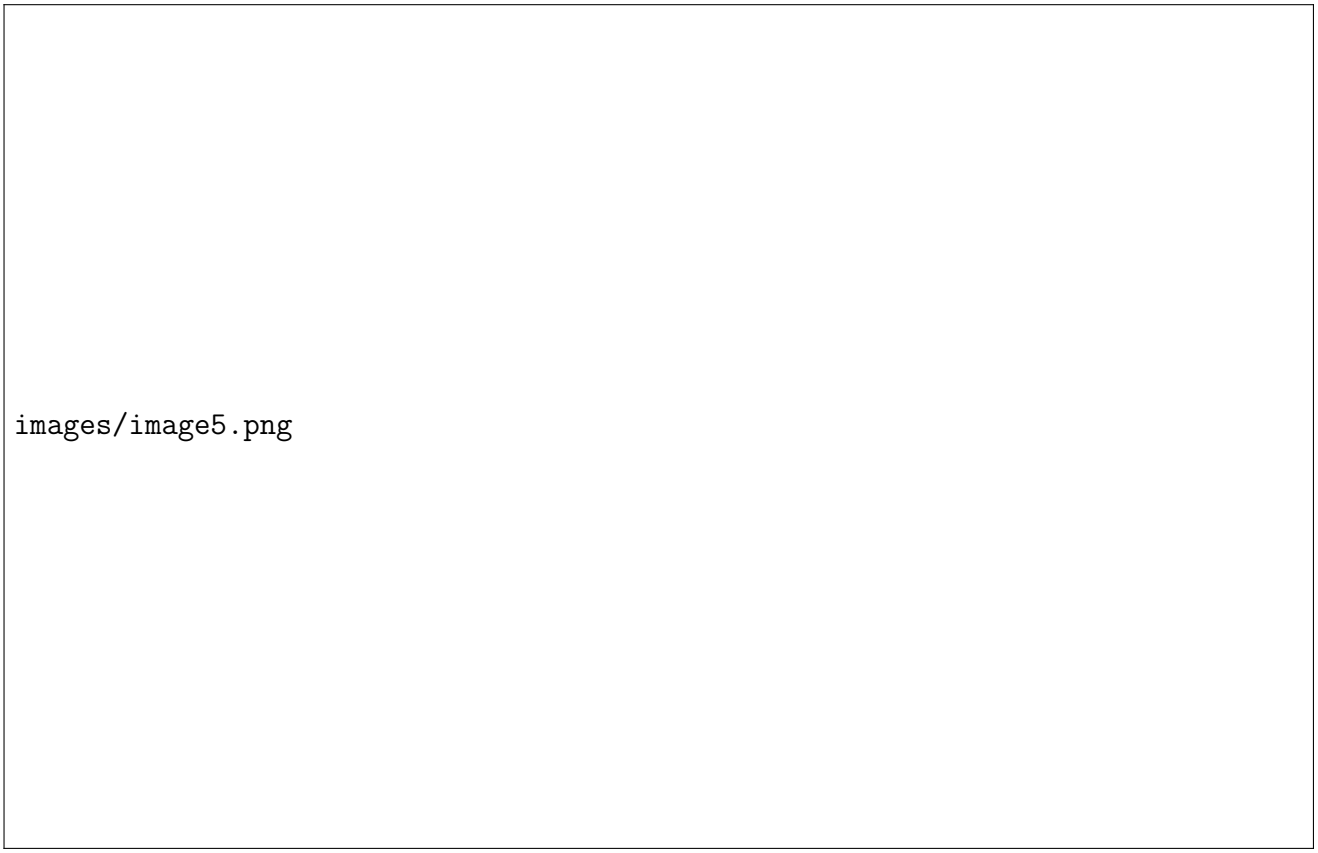

Figure 5: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

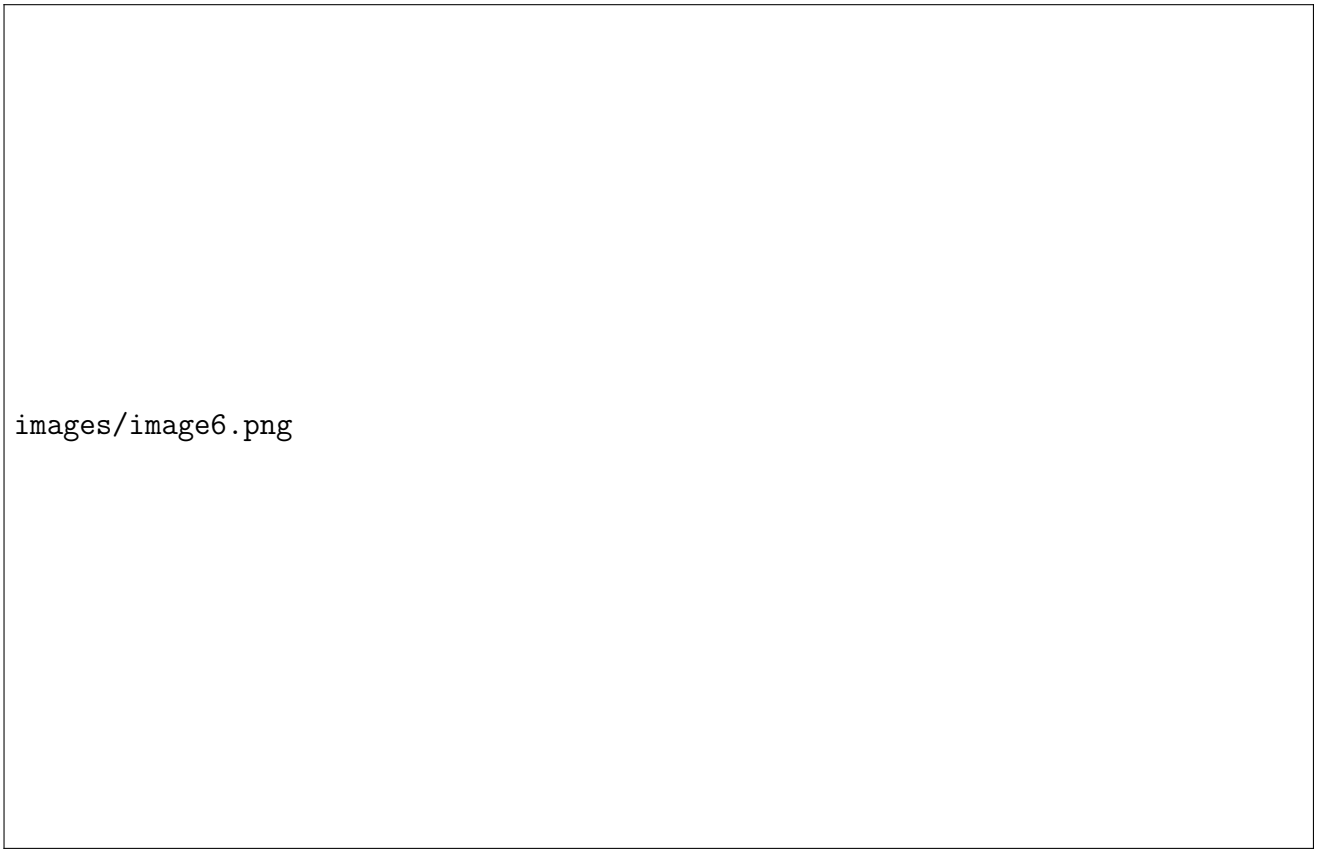

Figure 6: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

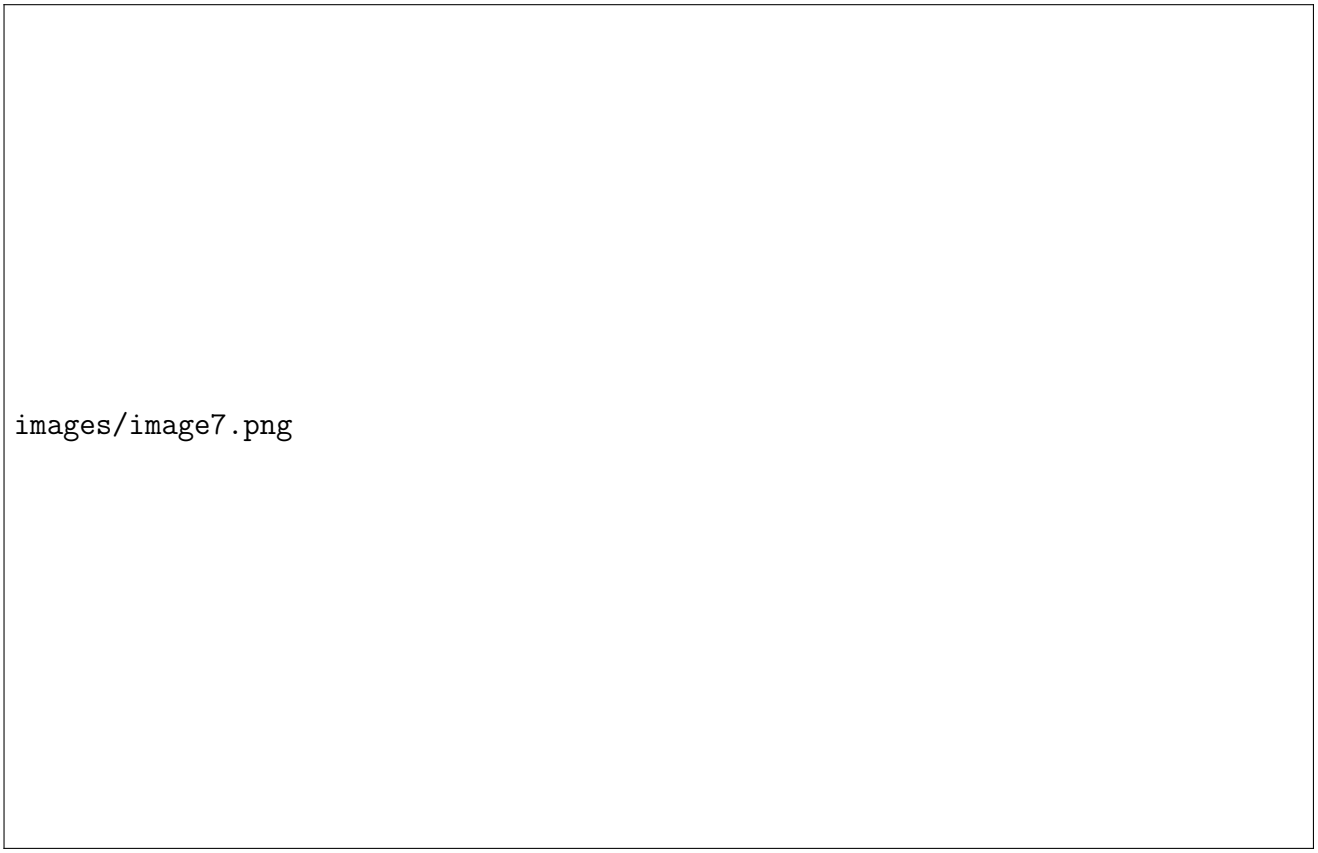

Figure 7: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

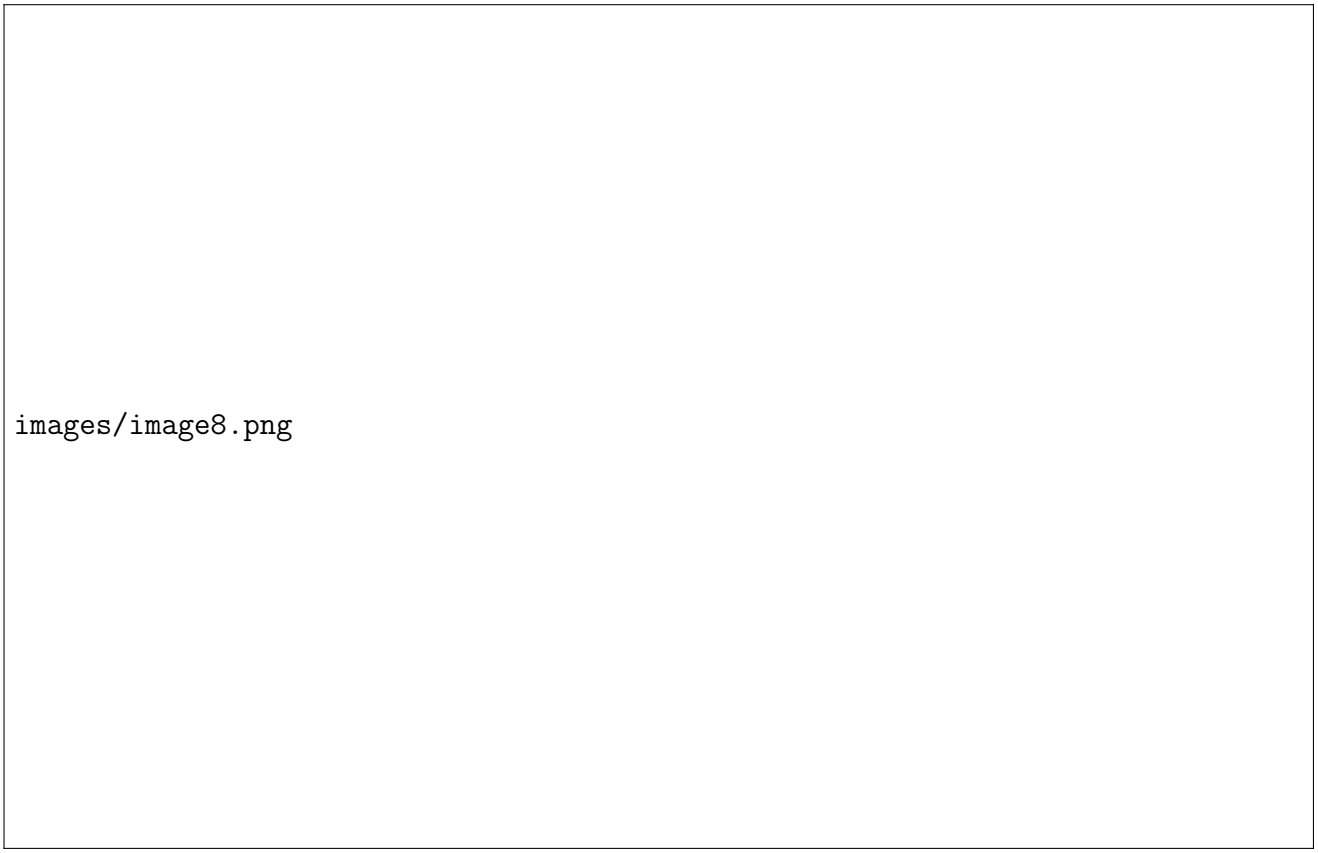

Figure 8: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

Figure 9: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

see file name instead of that empty in Controller: IDE field. Now click OK (See figure 9, 10, and 11).

We're now ready to start our virtual machine.

2.4 Installing Ubuntu 18.04 inside Virtual Machine

It is better to use only keyboard from now, as most of installation of Linux will not make use of mouse. Make sure you have a working keyboard buttons. Now we just set fields it asks for and done it to move on to next fields, until the installation has been completed.

Start the Ubuntu 18.04 virtual machine (as shown in figure 12), and see a window similar to that in figure 13.

Now some internal processes starts as shown in figure 14.

Now in blank screen, it is written as Ubuntu 18.04 LTS ubuntu-server acknowledging that the iso file inserted was of 18.04 version. If it is showing different version, you might

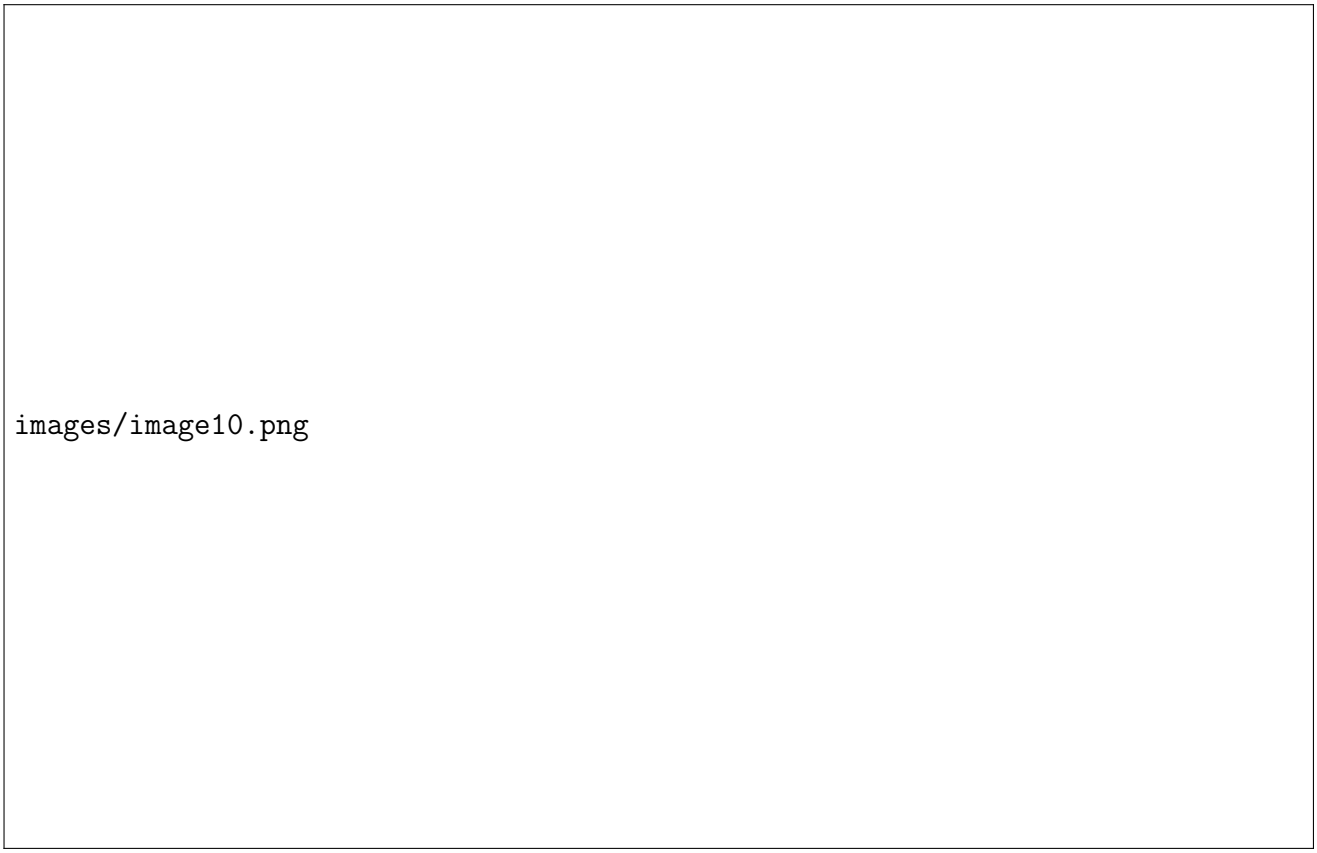

Figure 10: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

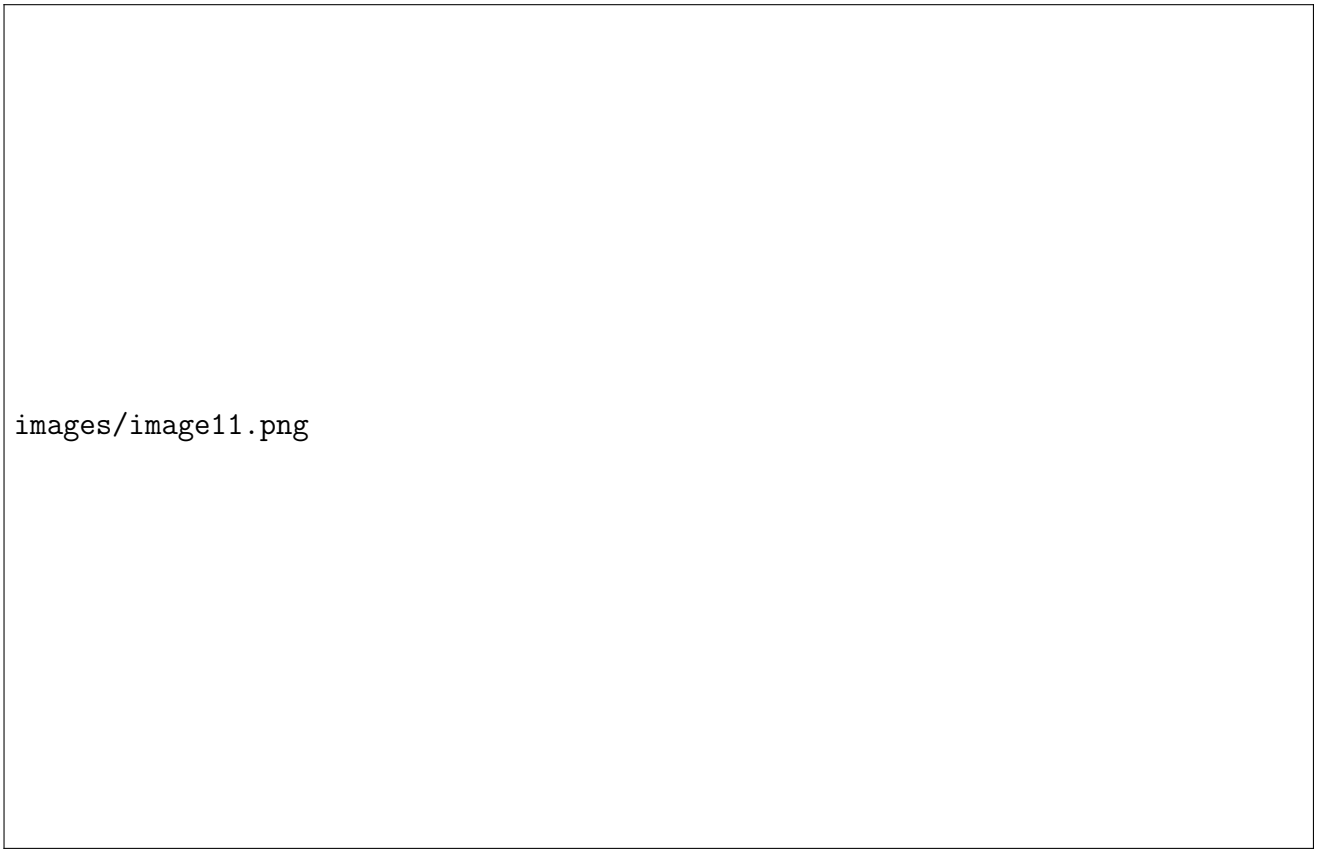

Figure 11: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

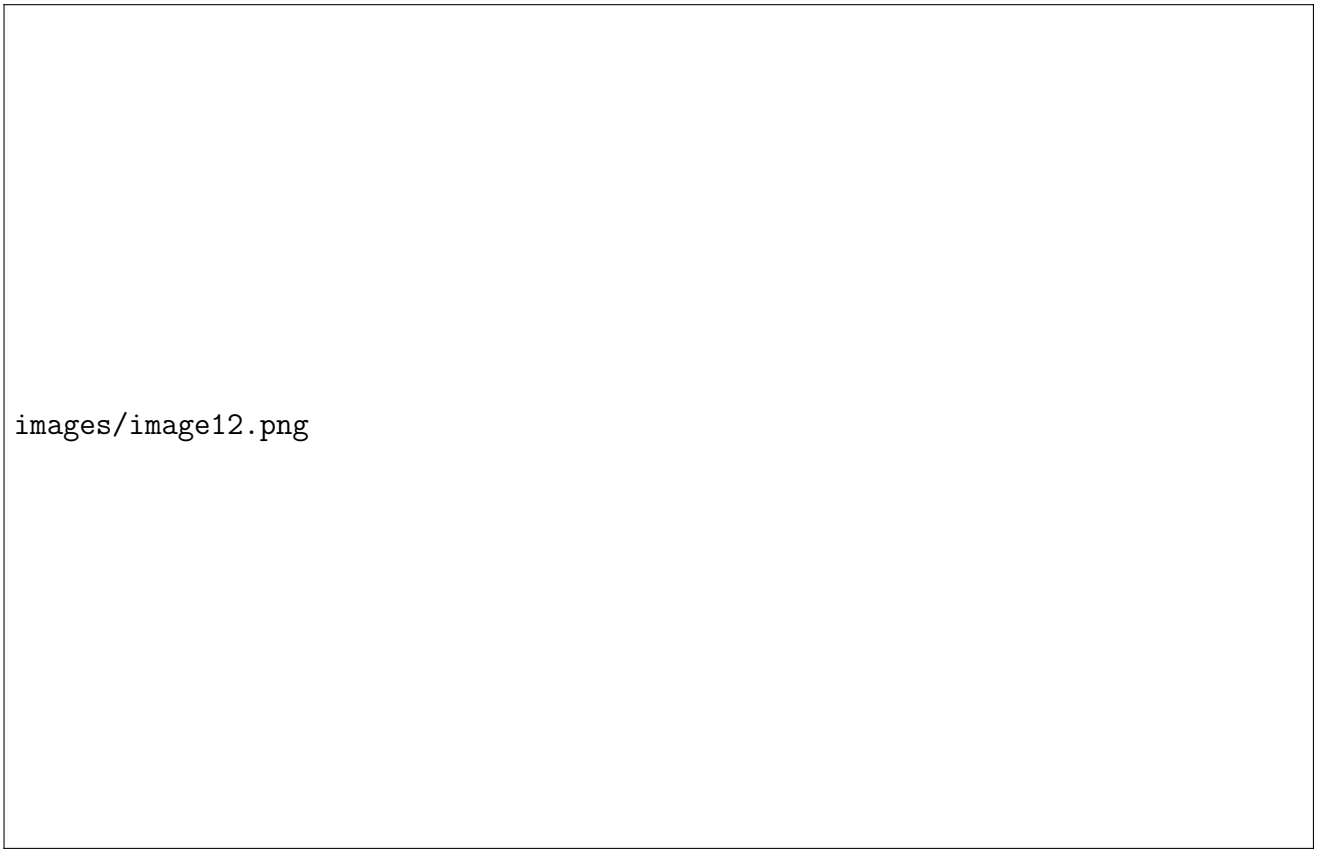

Figure 12: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

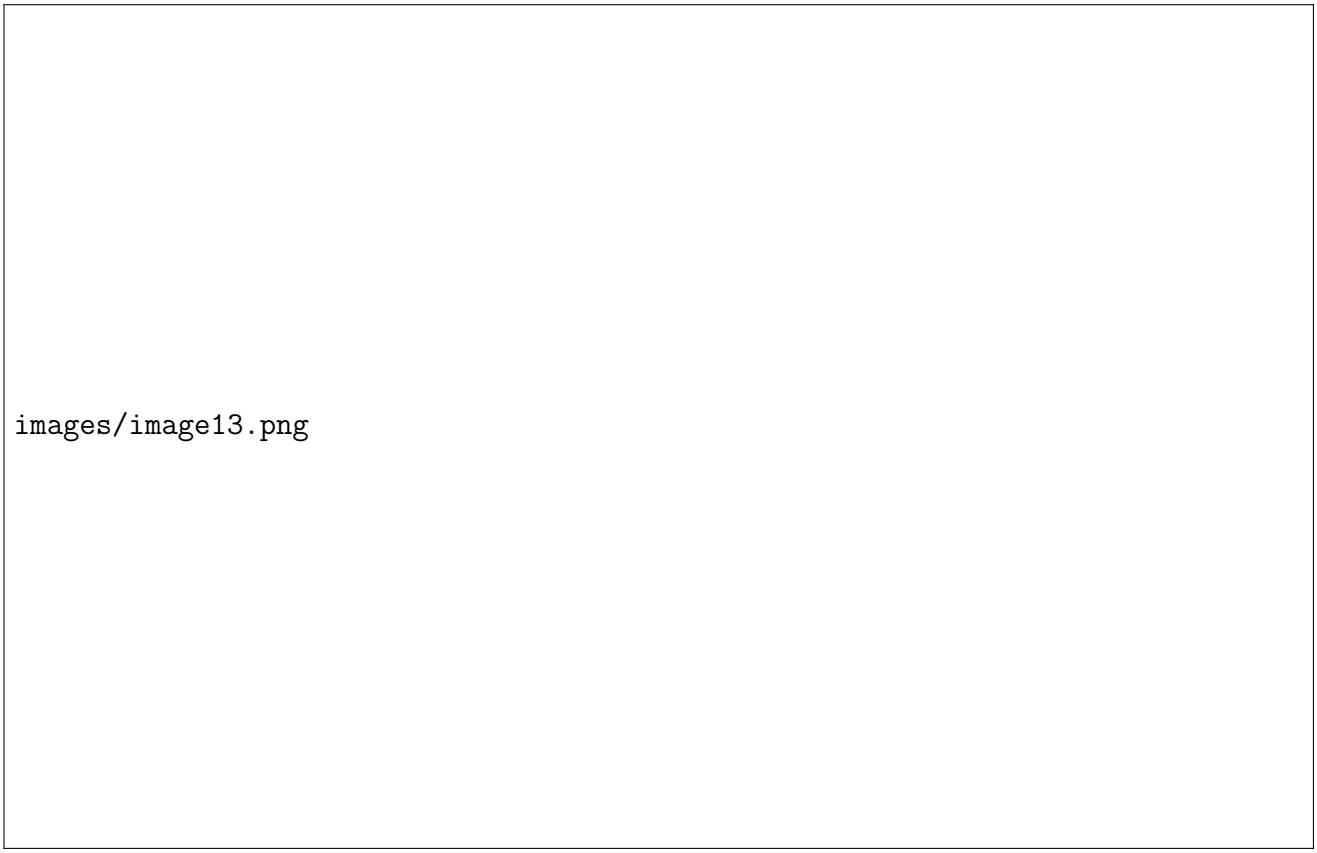

Figure 13: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

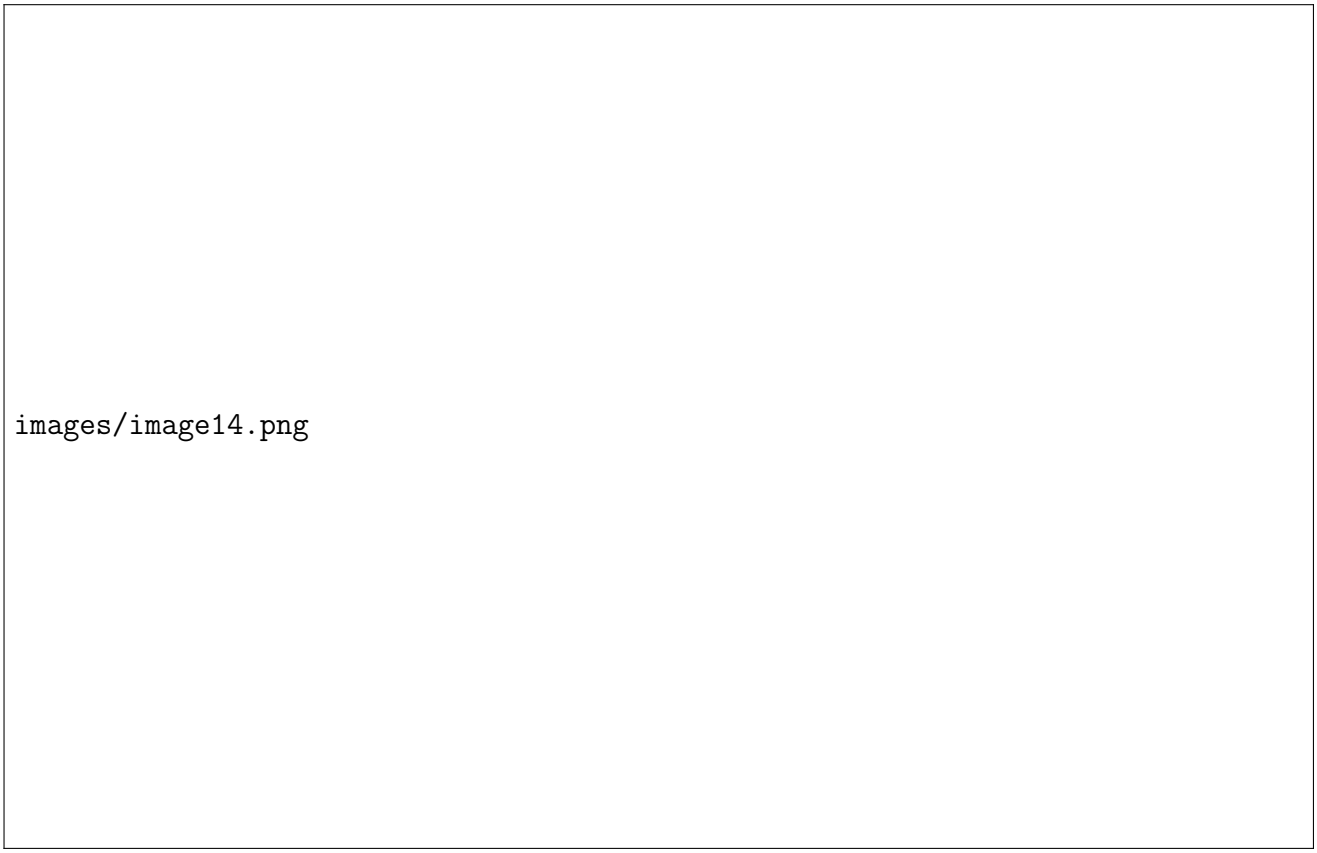

Figure 14: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

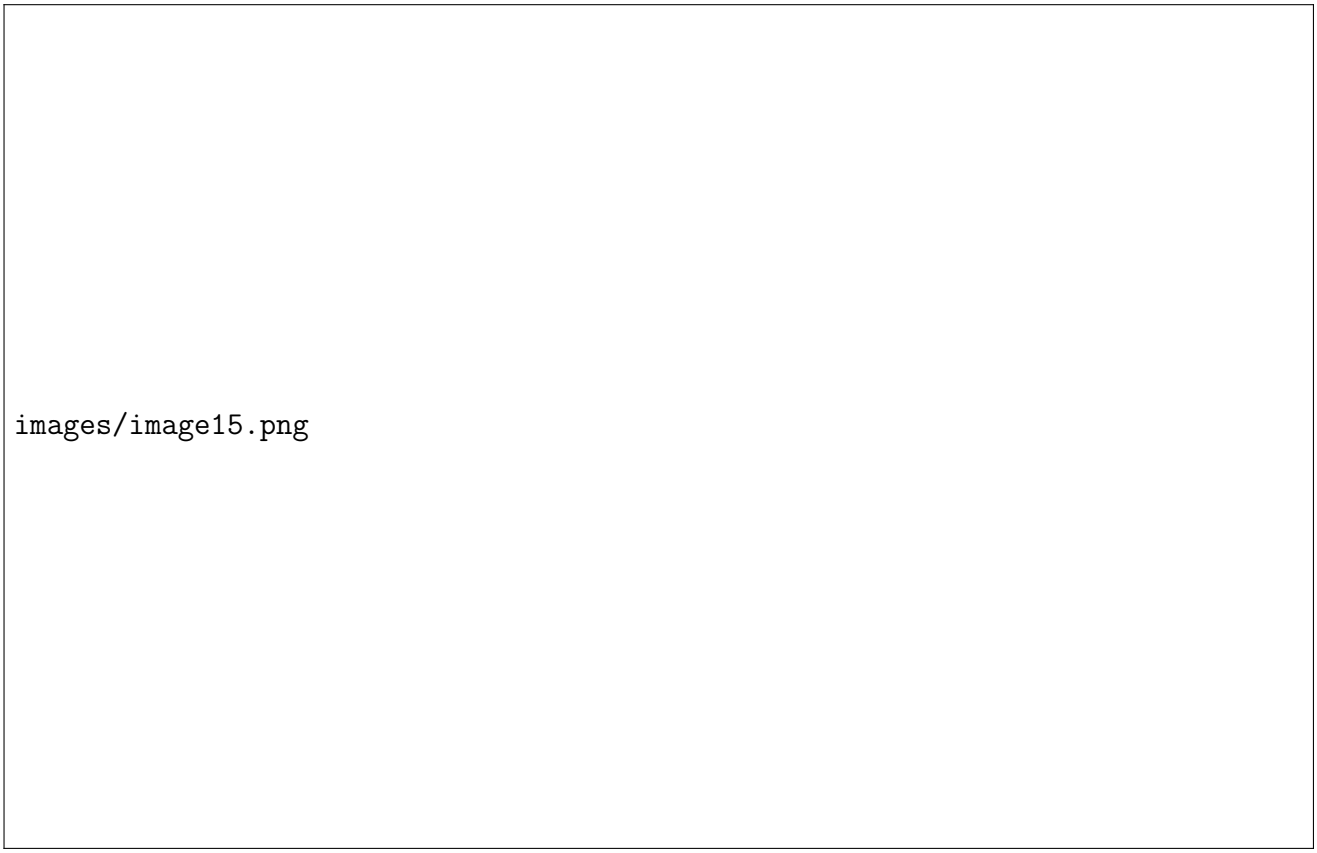

Figure 15: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

Figure 16: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

have downloaded other version of Ubuntu (See figure 15).

Actual configuration of ubuntu-server starts here, it welcomes and asks for language used. Select the language you preferred (See figure 16).

Next it asks for keyboard configuration, layout and variant both fields are set English (US) or, preferred as per requirements (See figure 17).

Next it asks for installation of Ubuntu. You might seek to install Ubuntu on cloud (See figure 18).

Next it confirms network connections configuration as it is required to use at least one interface for connection (See figure 19).

Next it asks for proxy configuration, currently we may or may not use proxy as per requirements of usage (See figure 20).

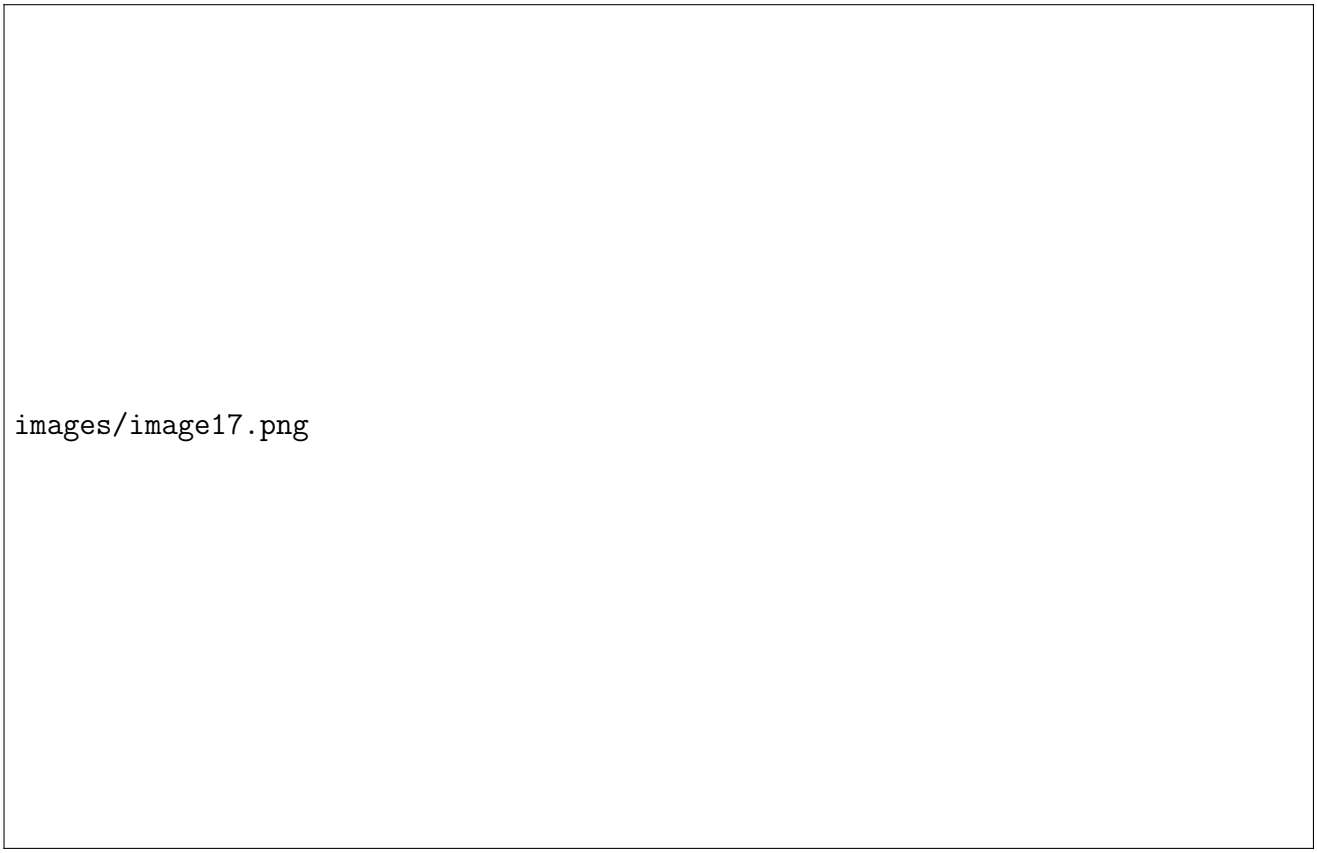

Figure 17: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

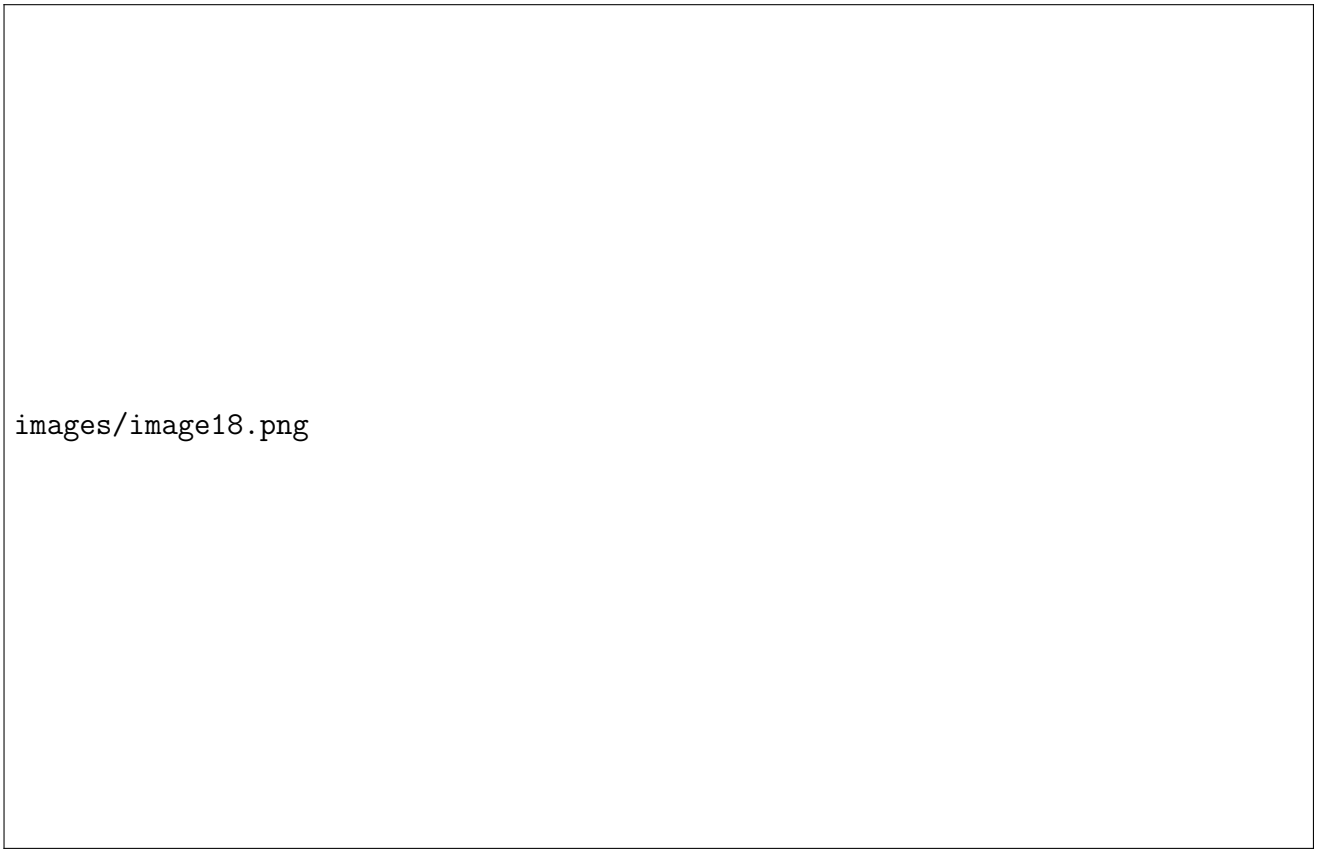

Figure 18: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

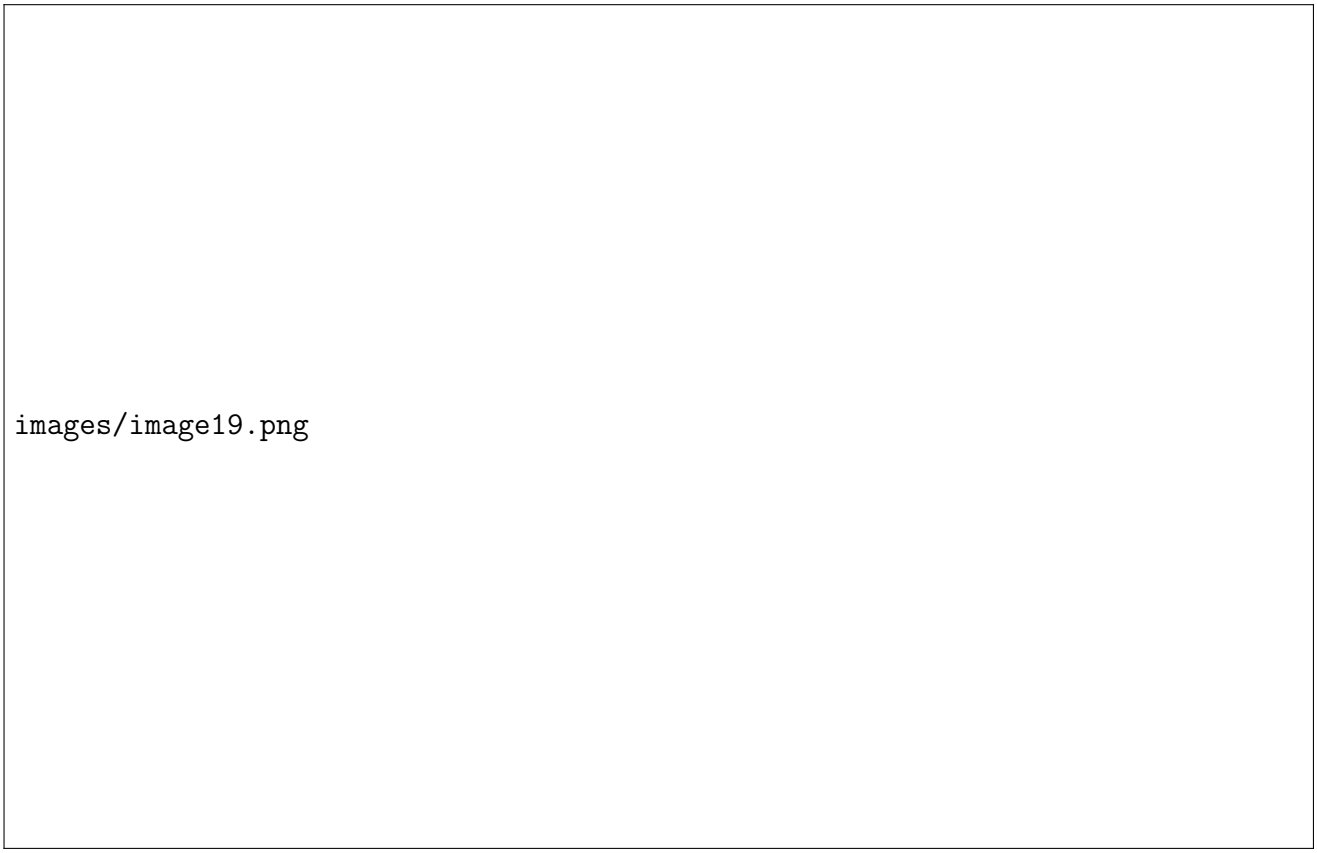

Figure 19: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

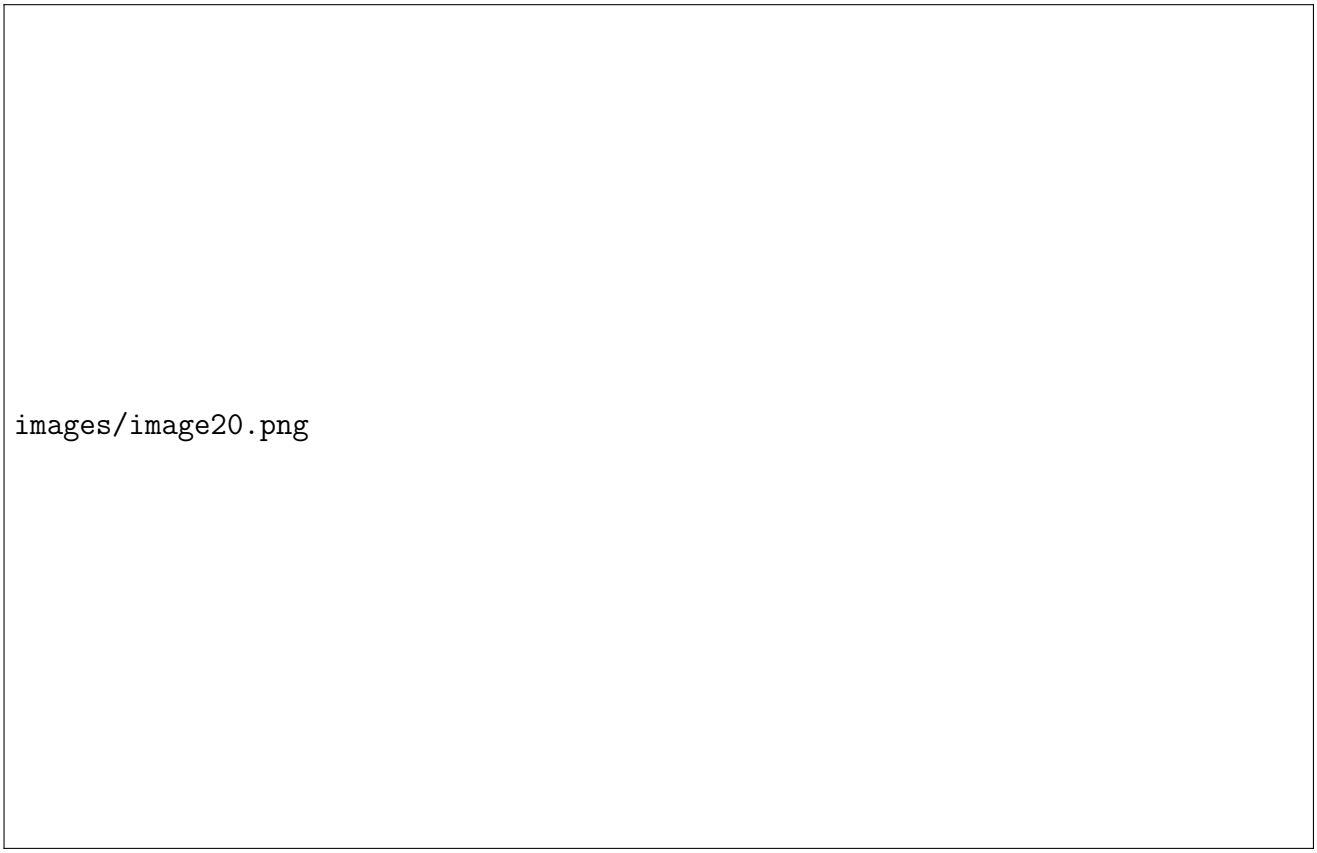

Figure 20: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

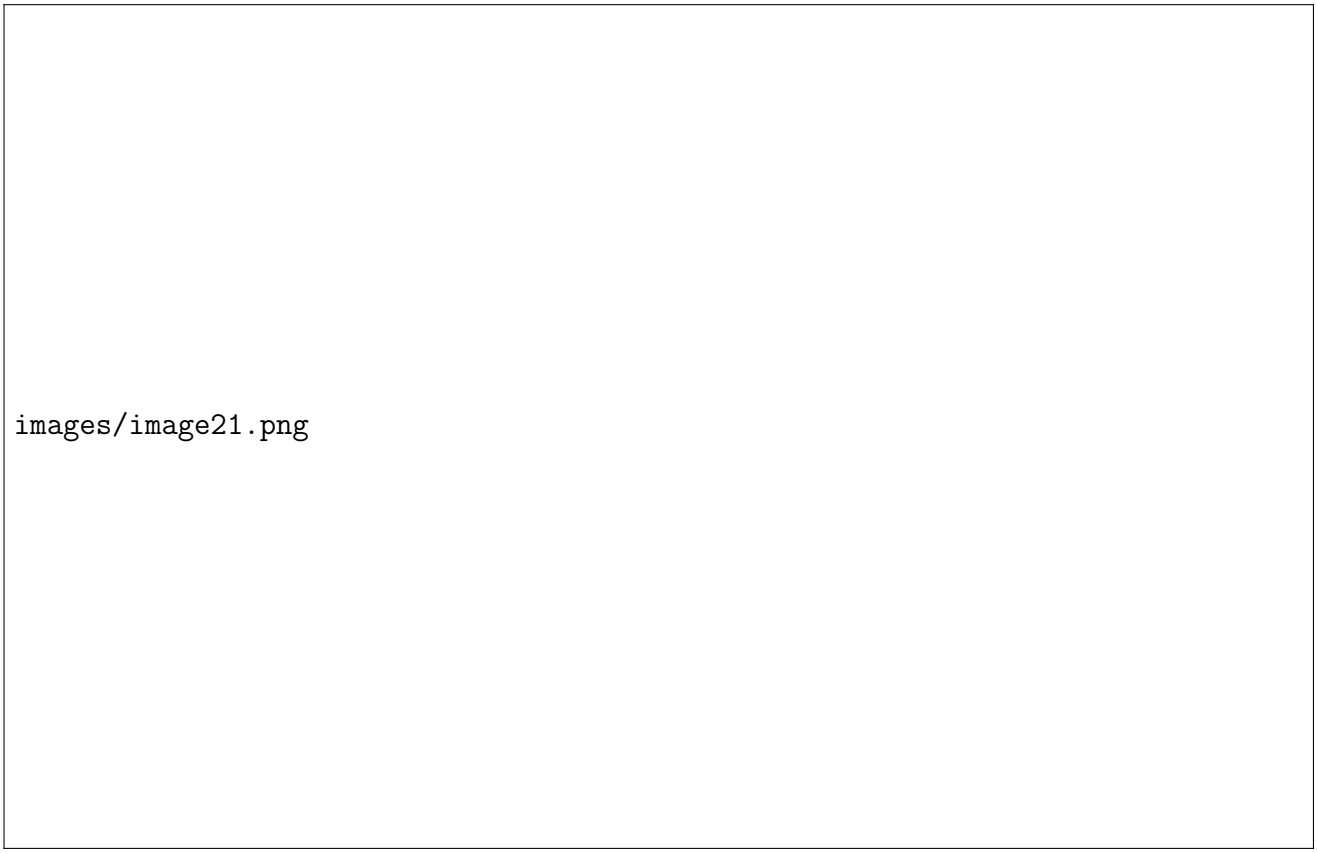

Figure 21: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

Figure 22: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

Next it asks for file configuration (filesystem setup), it can be done on all 10 GB memory we've allocate it. Or it can be done manually. Manual configuration helps us in more customization leading as per requirements (See figure 21).

Now we set up first partition of memory manually, for sake we use 5 GB from 9.99 GB (10 GB). You can make more partitions as per your own requirements (See more at figure 22, 23, 24, 25, and 26).

After that it will ask for installation of a boot loader specifically GRUB boot loader, it will be installed on 5 GB memory we allocated (See figure 27).

Now, it shows the partitions we've created. Move down to Done, as we are done here (See figure 28).

It asks again for continuation of installation process, the process done here cannot be reverted; so it ask for confirmation. Click continue to proceed (See figure 29).

Set up a profile for you (As an admin). Name the server; it will appear as we see when

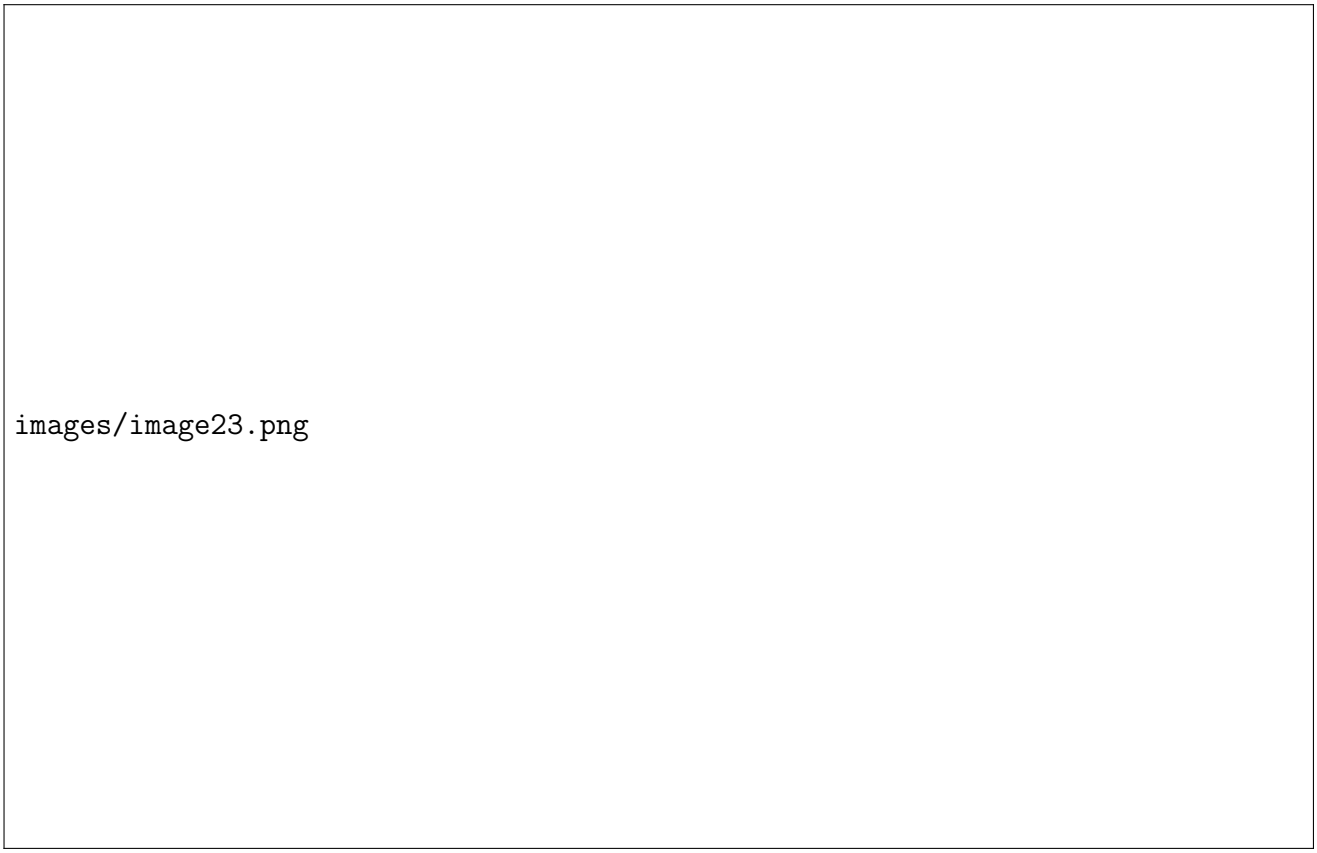

Figure 23: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

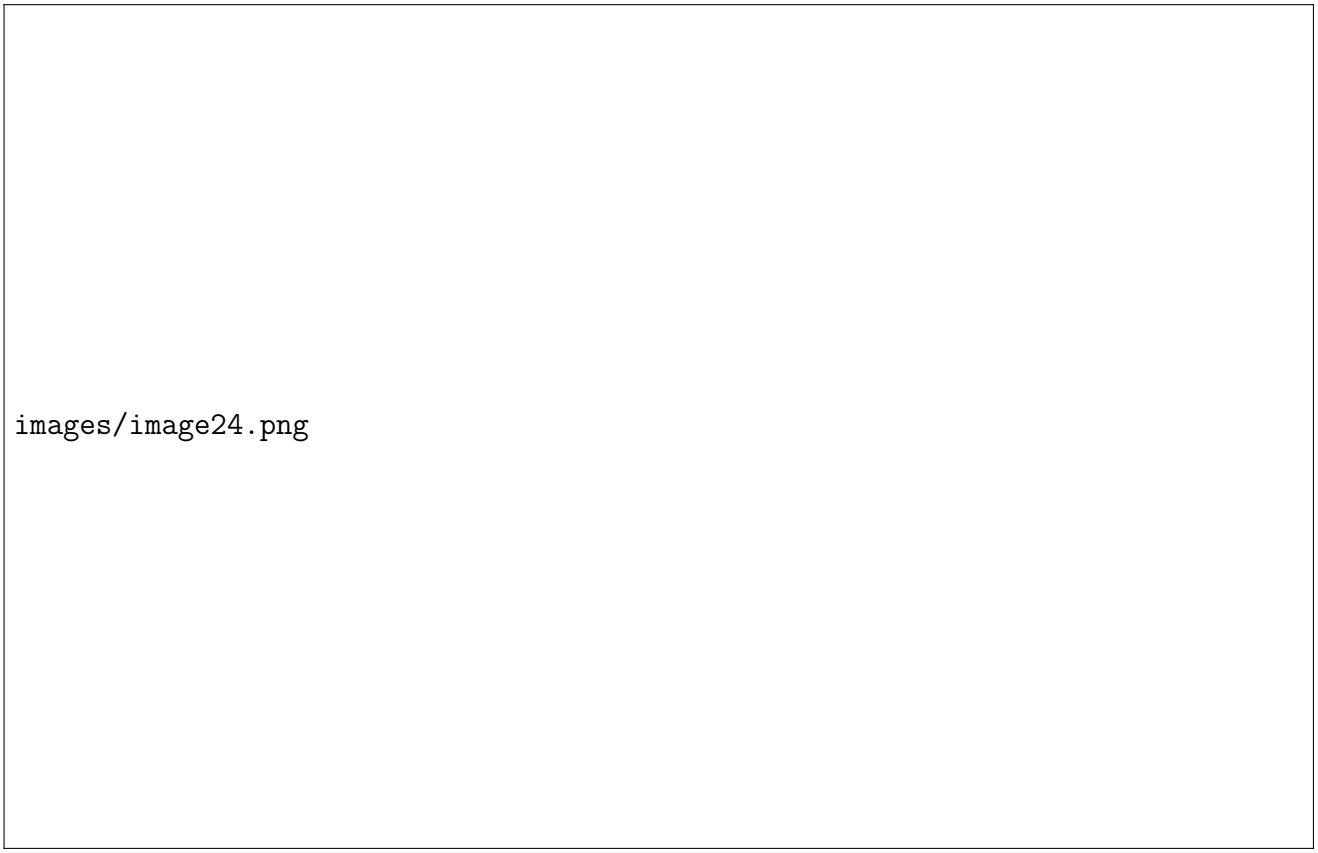

Figure 24: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

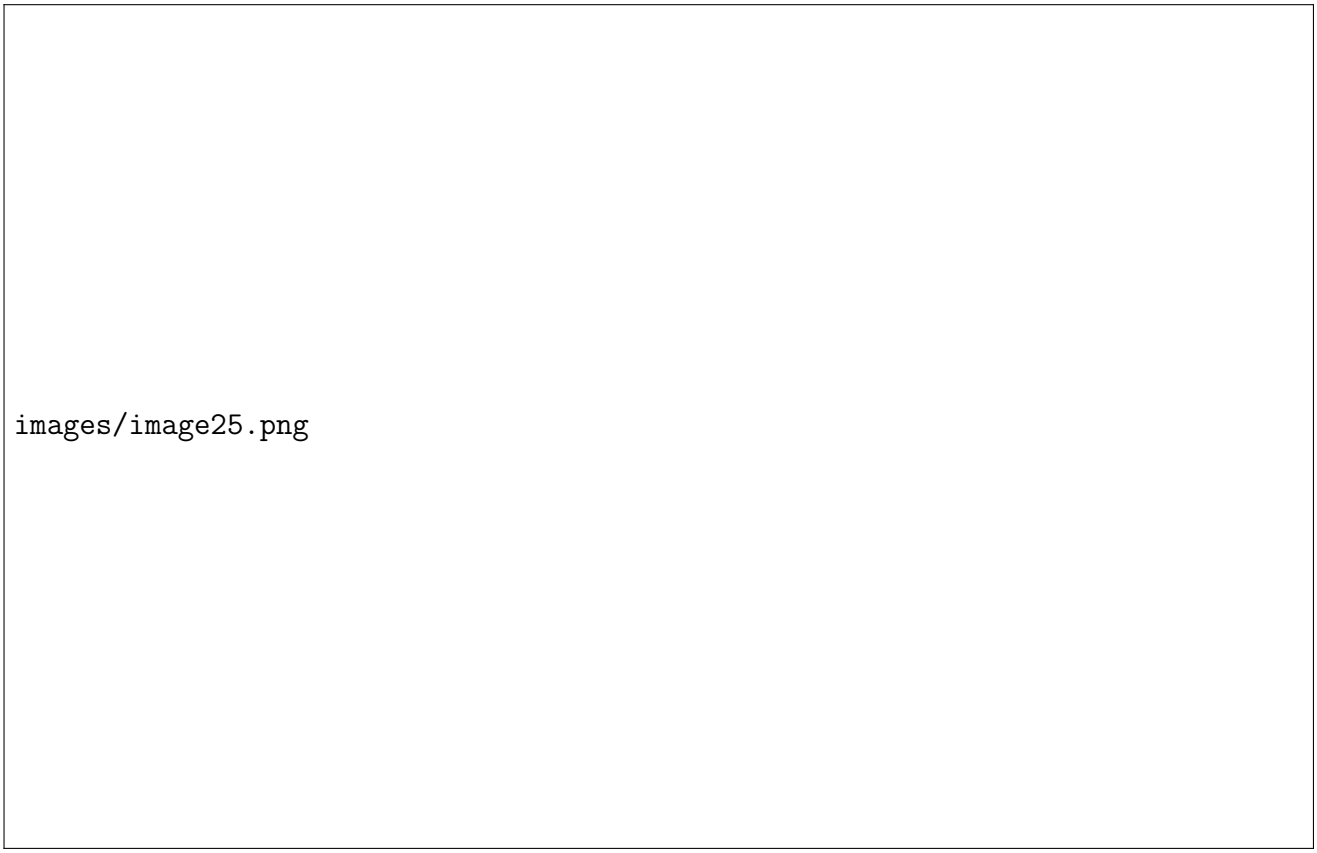

Figure 25: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

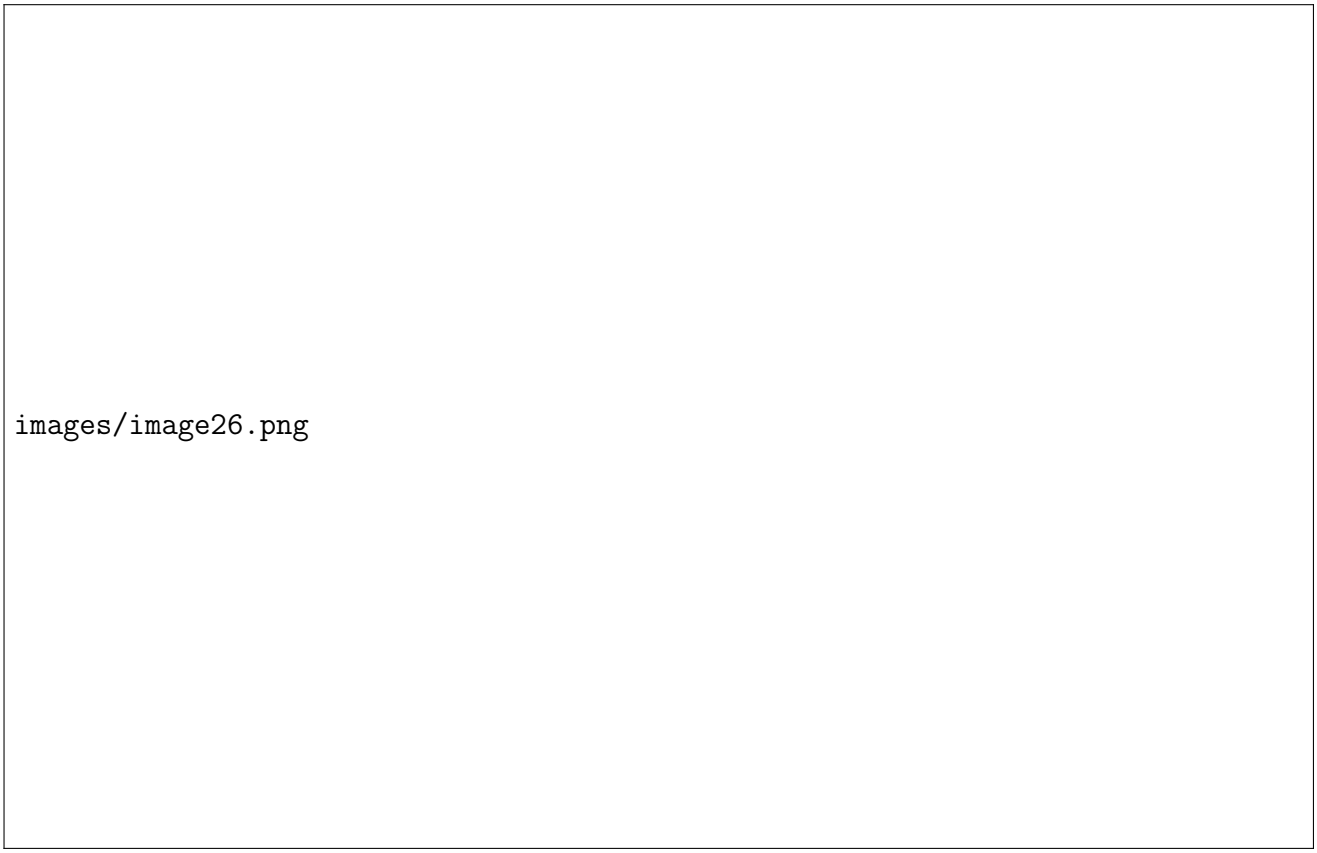

Figure 26: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

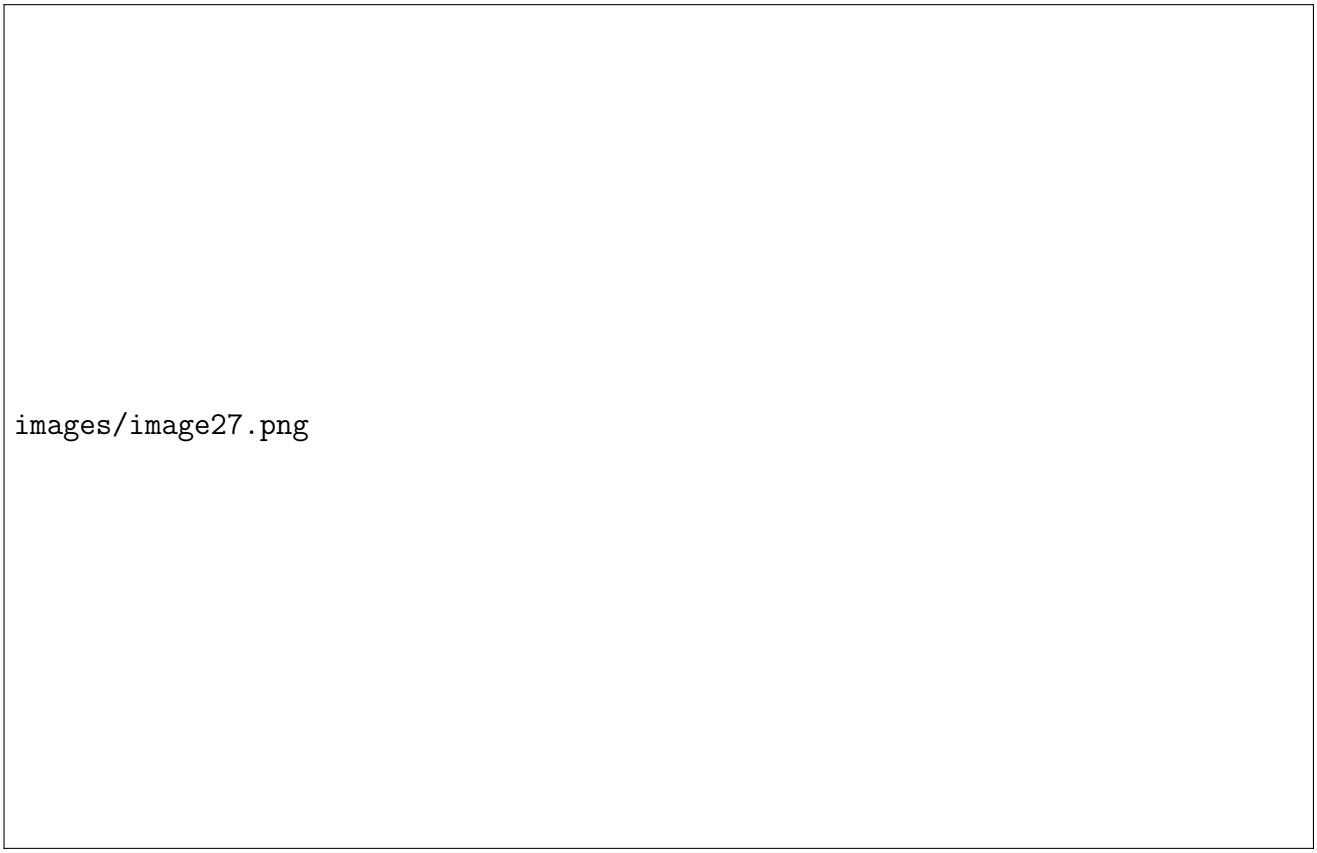

Figure 27: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

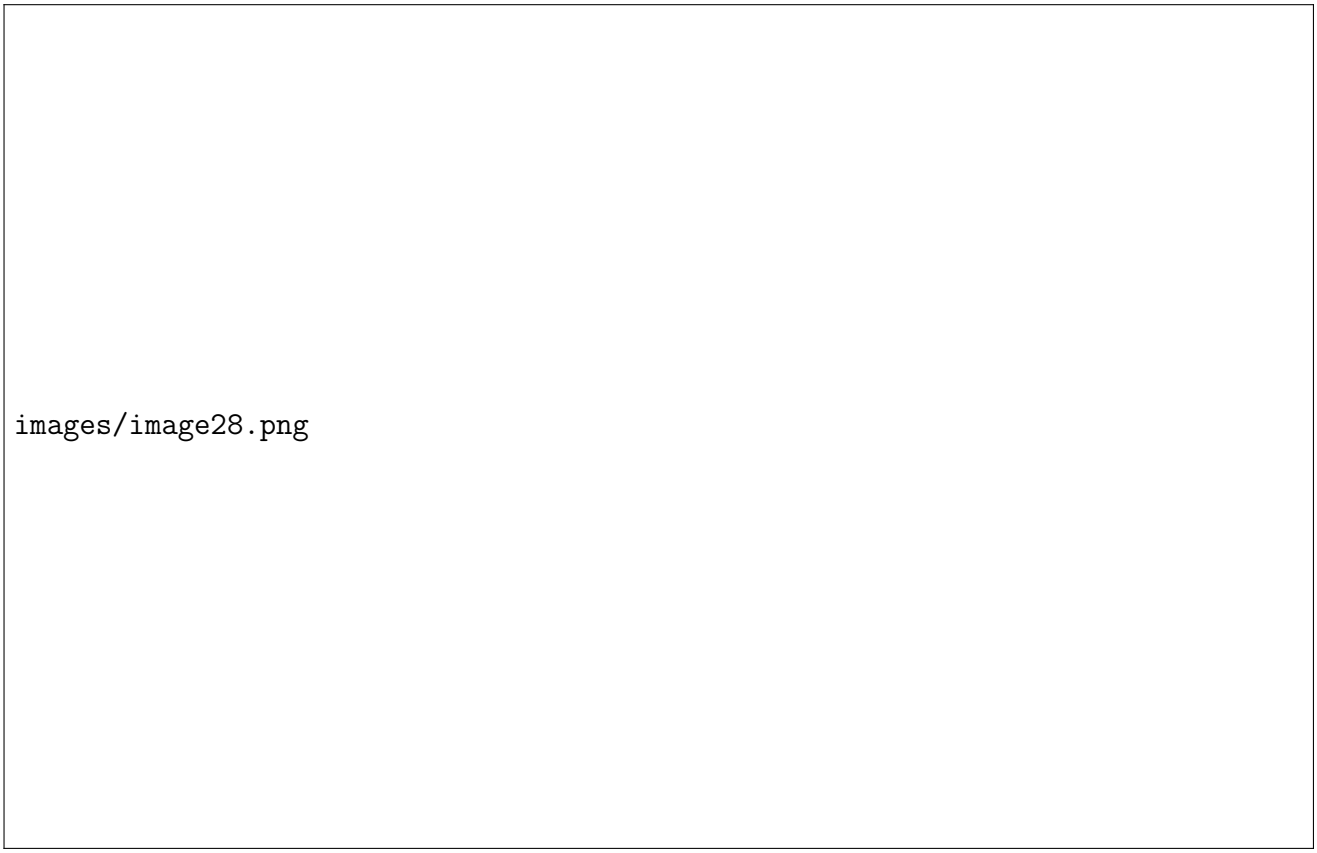

Figure 28: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

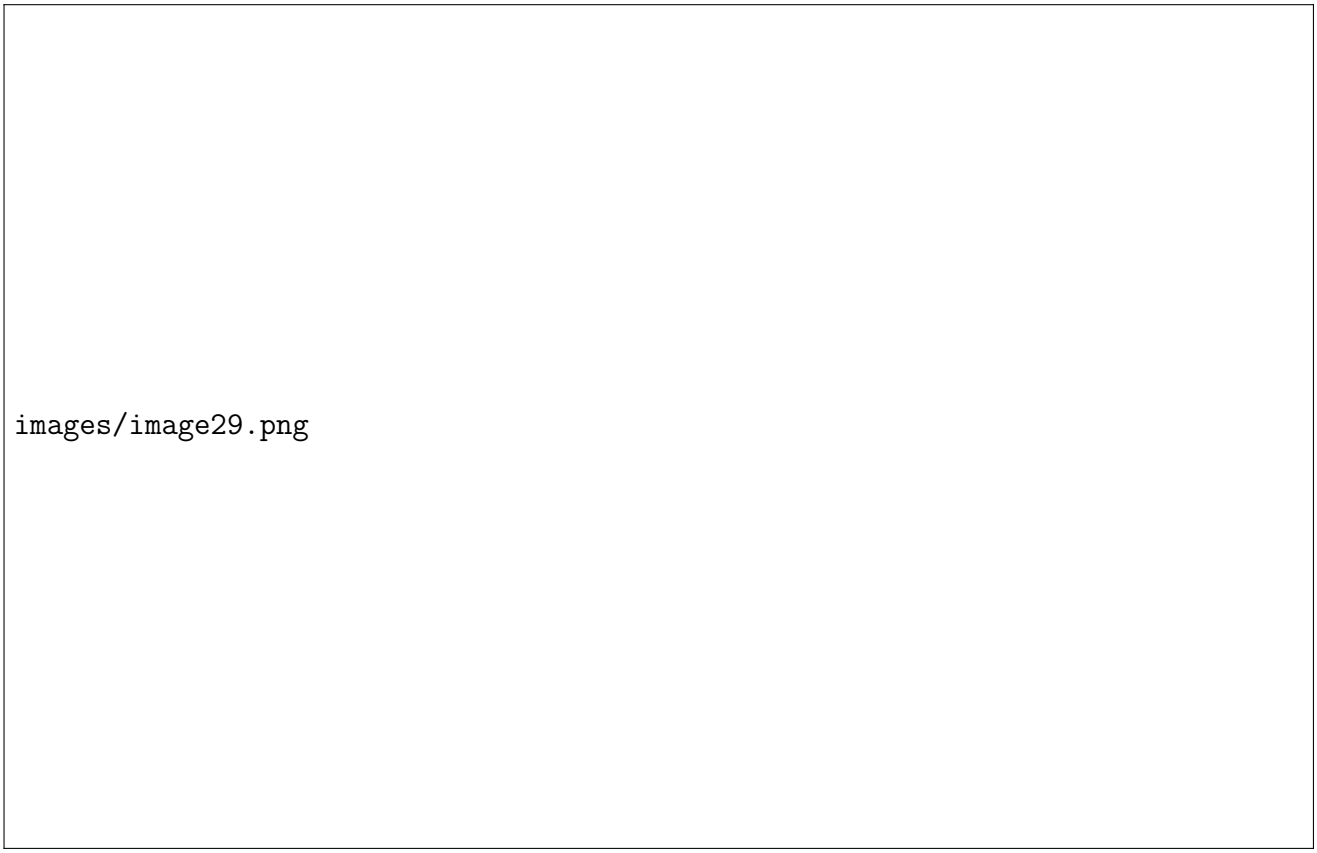

Figure 29: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

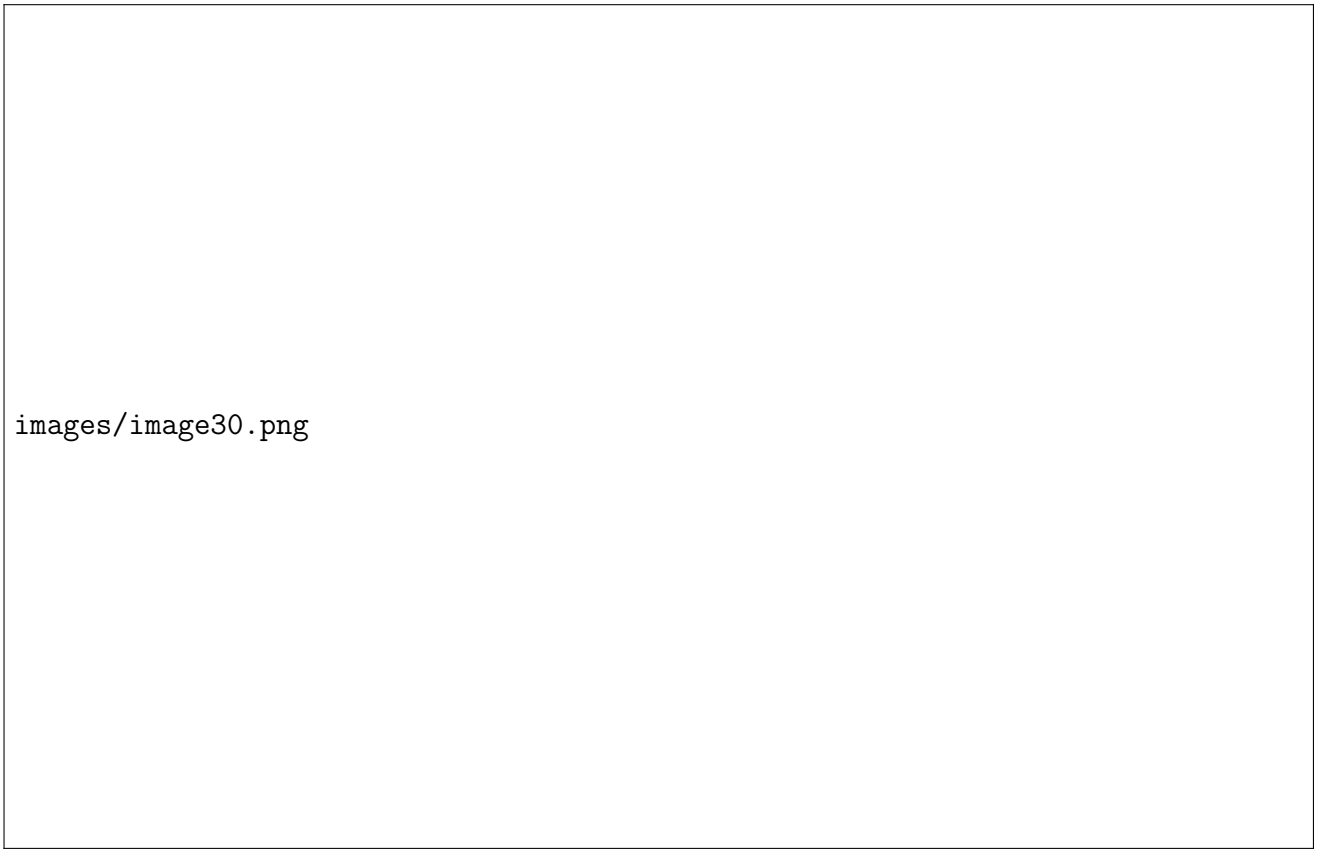

Figure 30: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

Figure 31: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

this server will available. Make use of lowercase letters as username, and make a strong password using lowercase, uppercase letters, numbers, special characters, and make use of at least 8 characters (Please do not forgot this password!) (See figure 30).

As shown in figure 31; Name: Jishan Shaikh, servername: ubuntu_server, username: admin1, password: ********. There is no need to import SSH Keys from Launchpad/Github currently as it asks for.

Next, it starts installing system by extracting files and dependencies. It may take few minutes to complete. It also shows Thank you for using Ubuntu! at footer of installation window (See figure 32, 33, 34).

After that, it is required to reboot the system inside virtual box. Move down to reboot now, and wait. It might take few minutes (See figure 35, 36, 37, 38, and 39).

At last, it requires the username and password which we used in figure . Enter username and password. Make sure each key in password is pressed from main keyboard (Buttons which are in center of keyboard, not from numerical keys located in right of

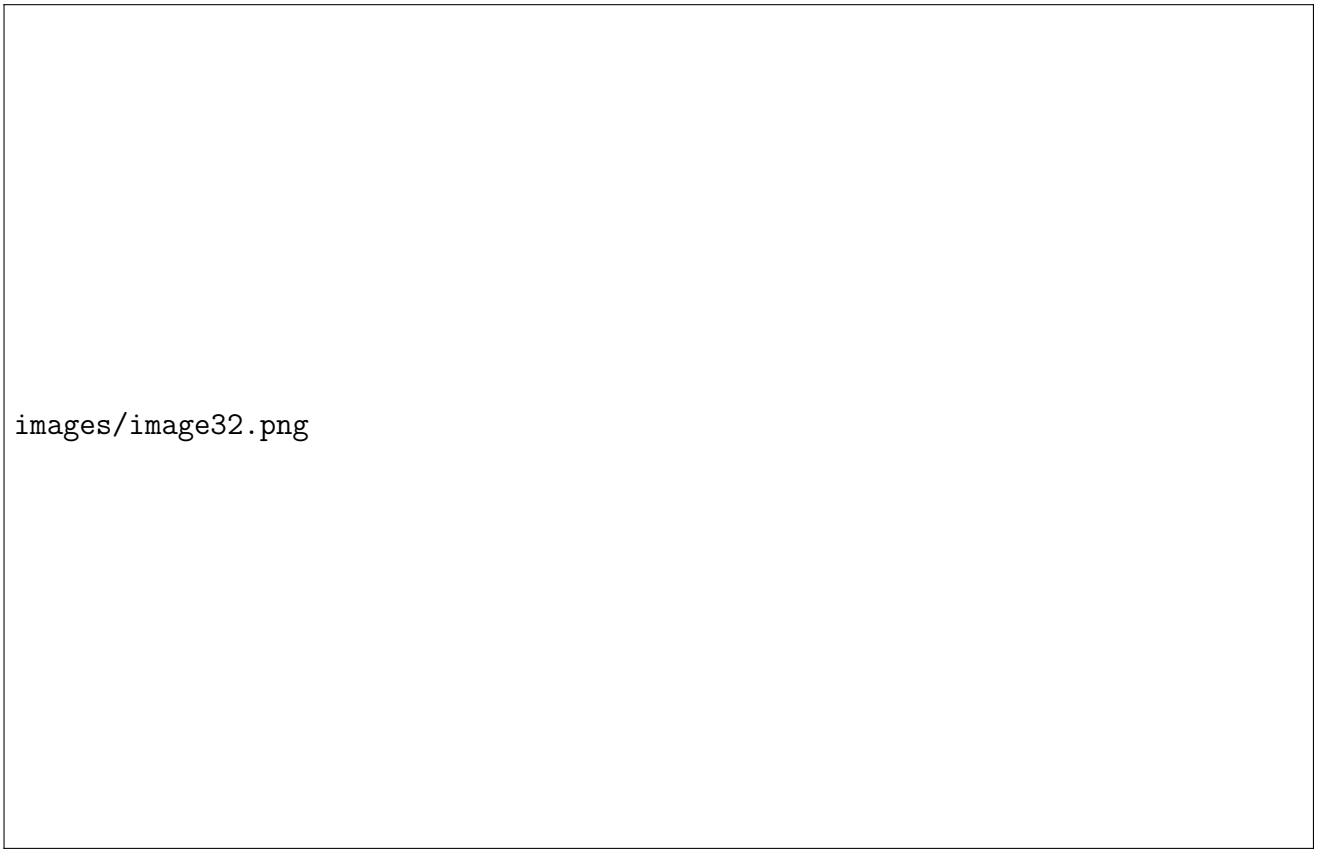

Figure 32: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

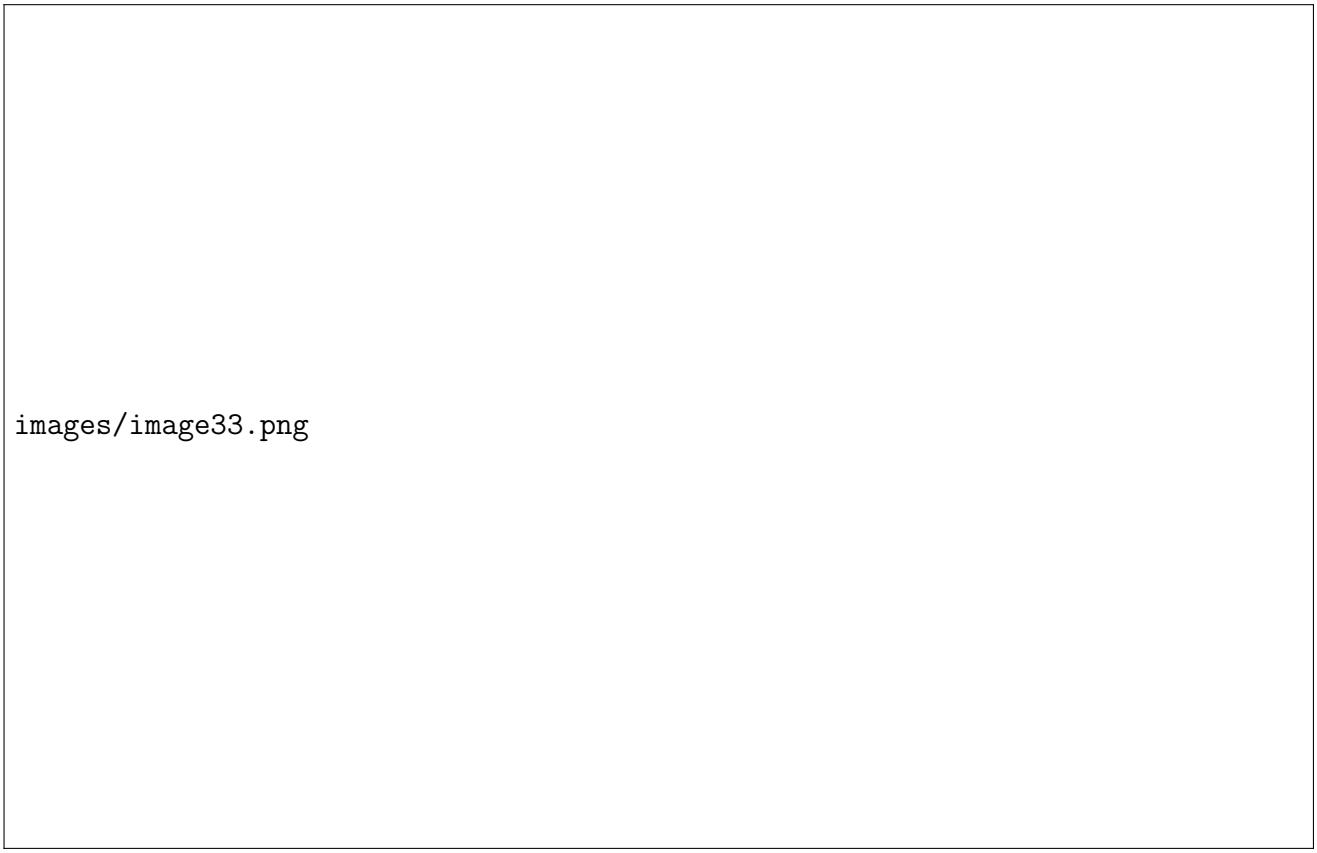

Figure 33: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

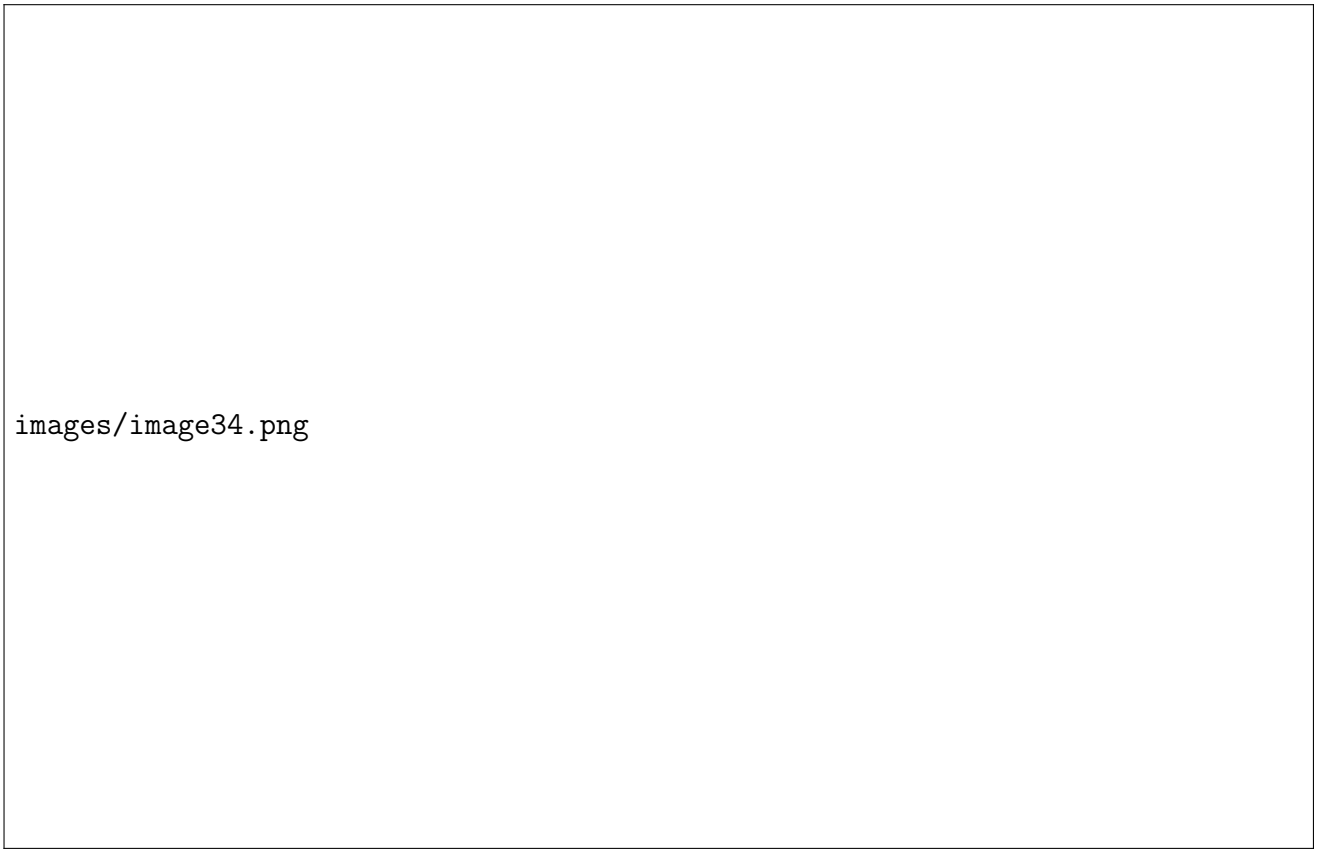

Figure 34: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

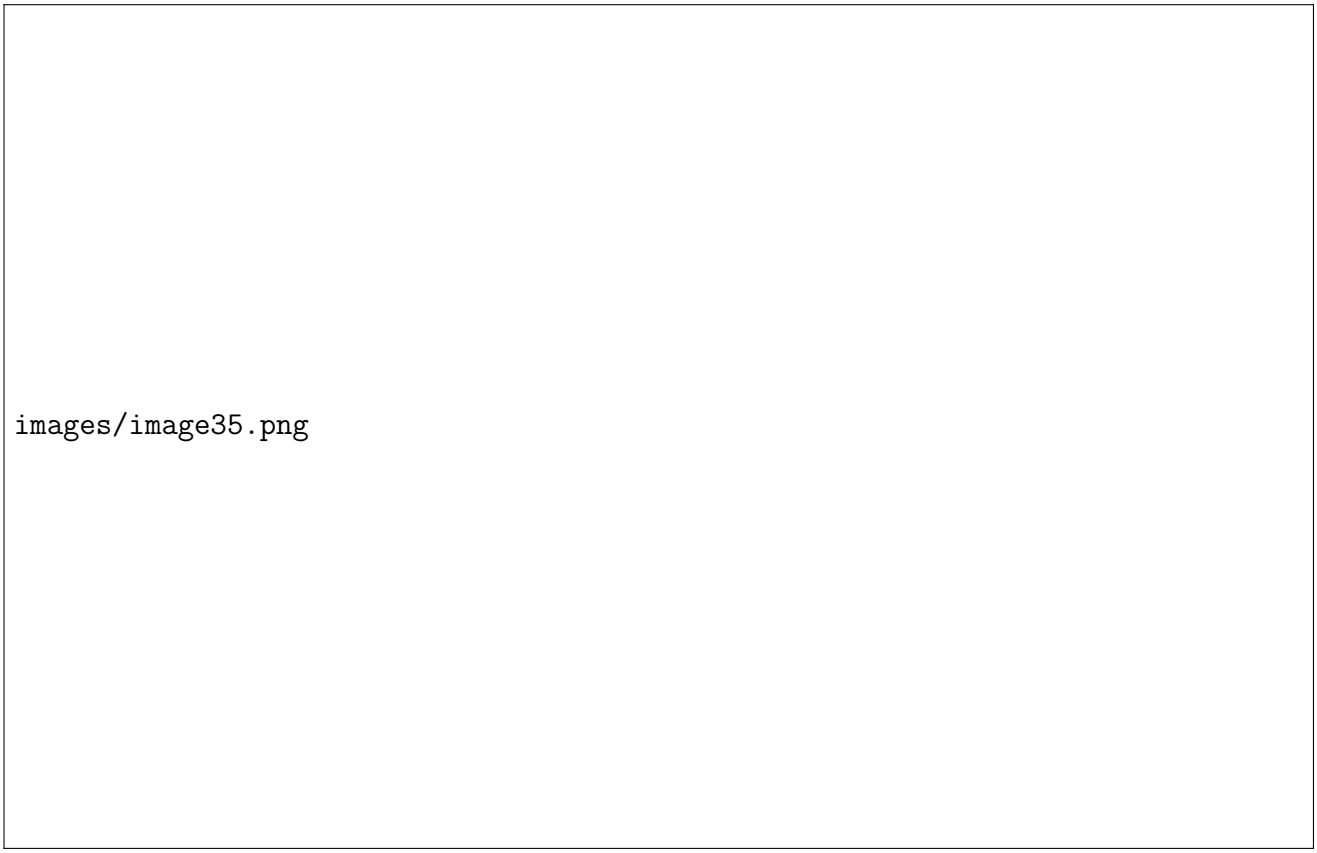

Figure 35: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

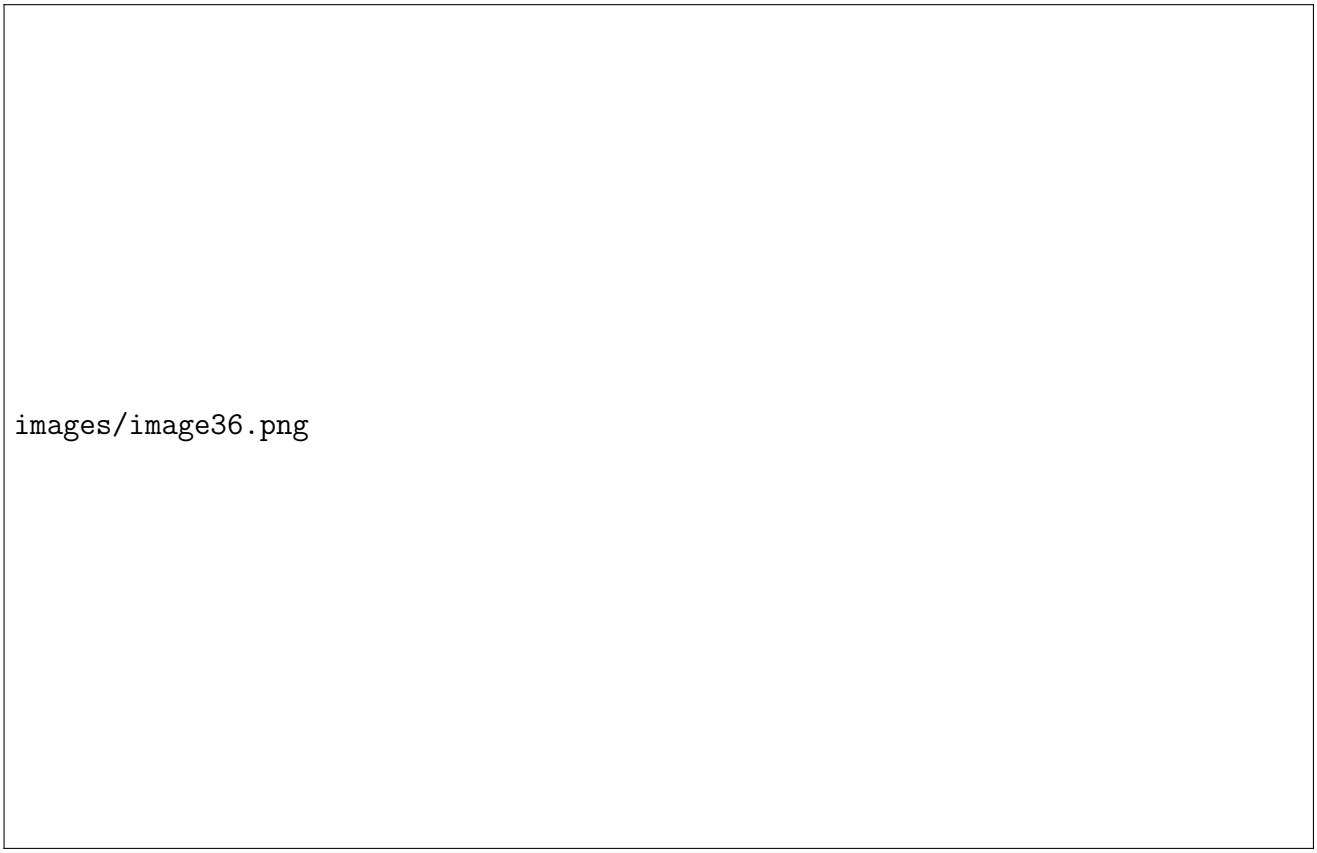

Figure 36: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

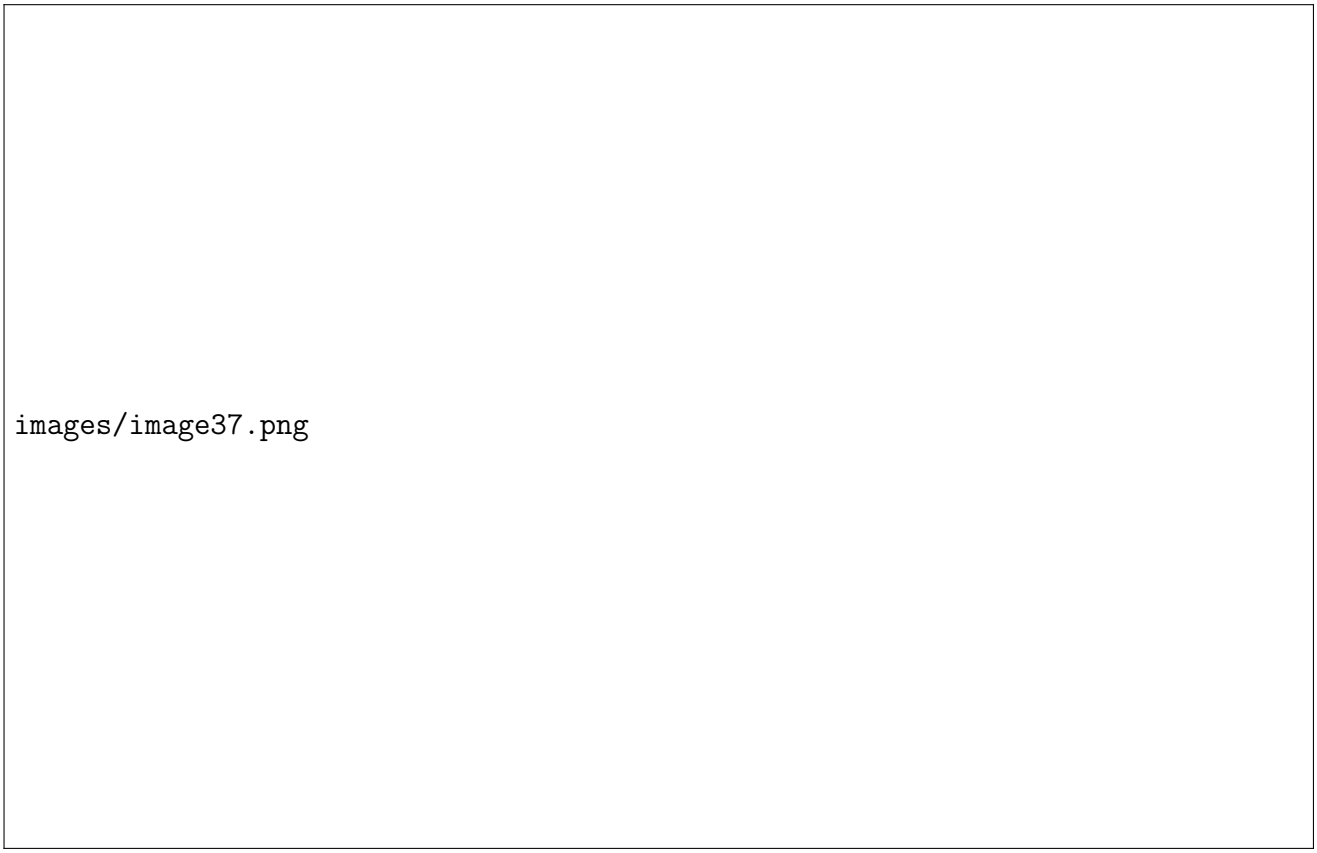

Figure 37: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

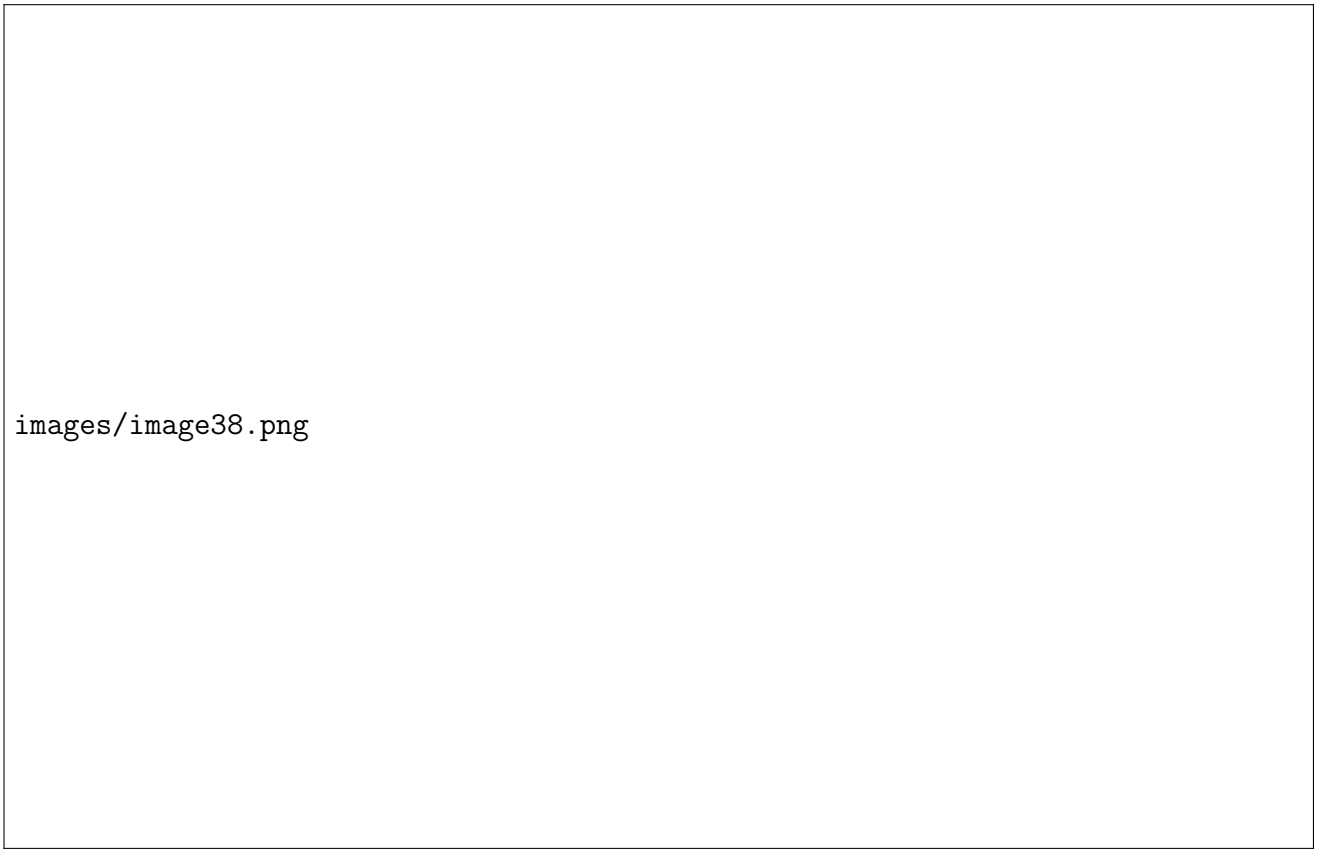

Figure 38: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

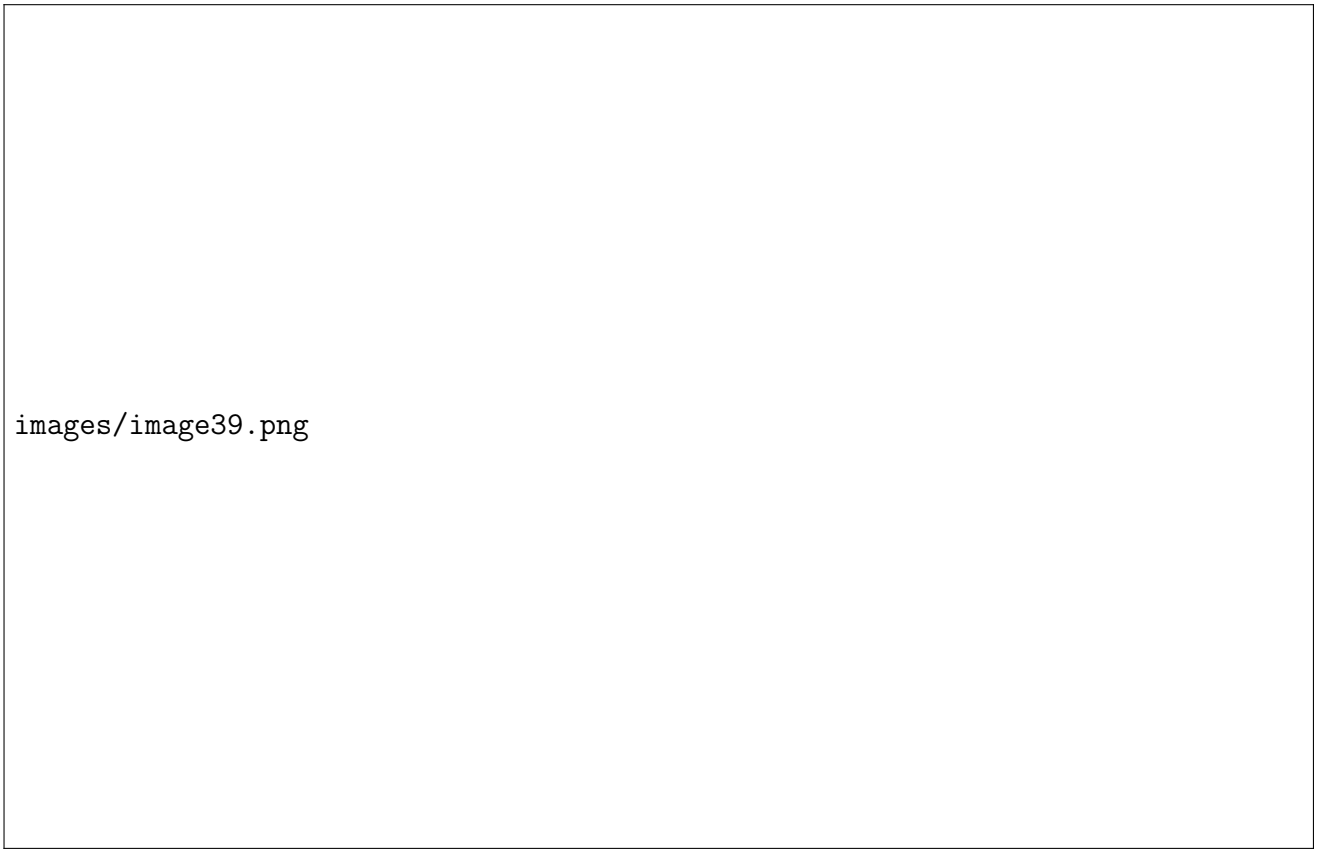

Figure 39: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

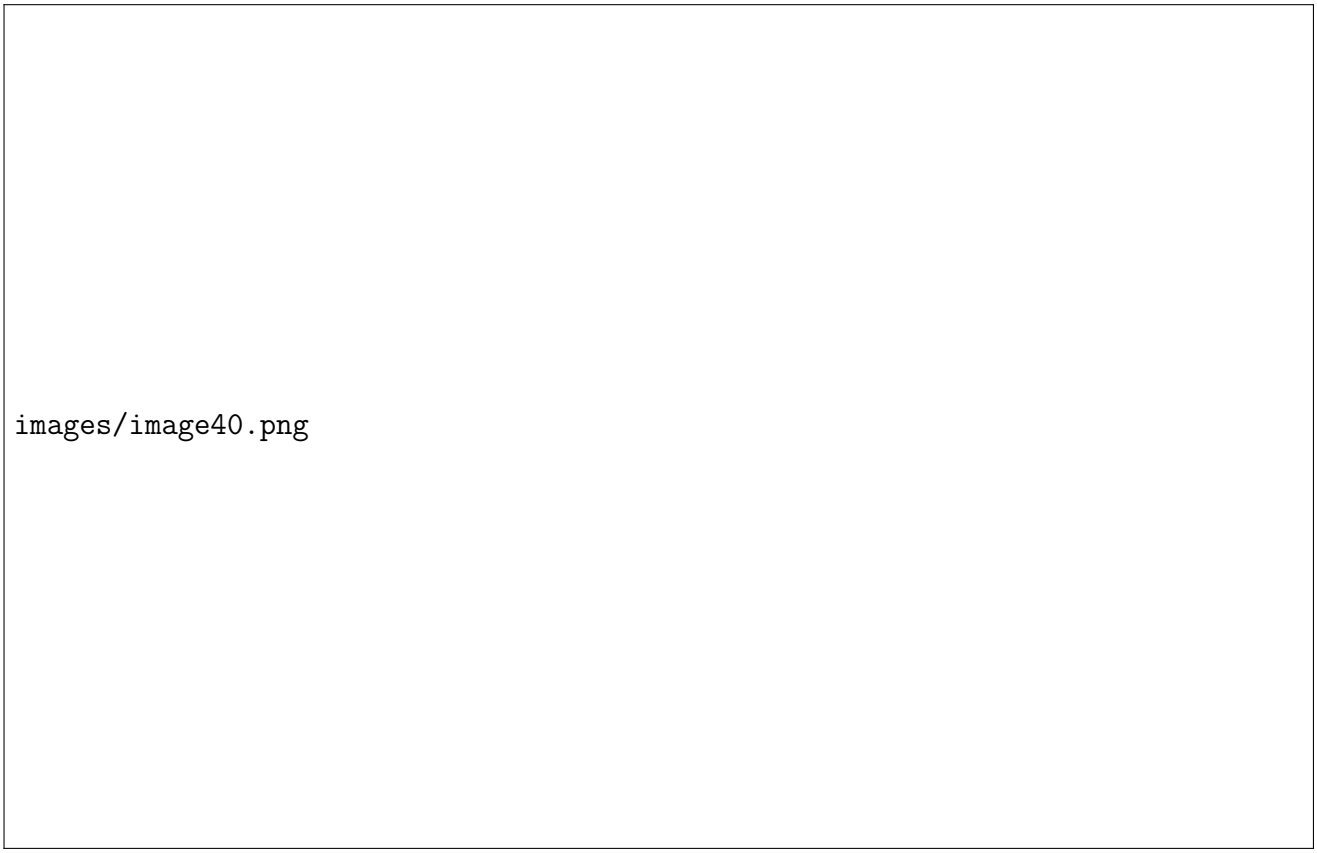

Figure 40: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

Figure 41: User interface for Oracle Virtual Box (Used system have installed Kali Linux, Fedora already, you might have installed other OS' or none).

keyboard) as typed password will not be seen.

When you are done login, you've a working Ubuntu 18.04 server. Congratulations! You are now using terminal of Ubuntu 18.04 as server. It will show username@servername. Since, the demo procedure is installed in computer; it is showing localhost because default server of computer is named as localhost (See figure 40).

Make sure the commands are running such as **cd /..**, et cetera. (See figure 41).

3 Removing Ubuntu 18.04

Removing Ubuntu 18.04 and deleting all settings and to undo all installation, is relatively very easy as compared to installation. See figure 42, 43, 44, 45, and 46 for complete removal of Ubuntu 18.04 from Virtual Box.

Figure 42: Close the virtual machine window, it will ask whether to save the state of machine or to power off the machine. Select any as we are removing it. Click OK.

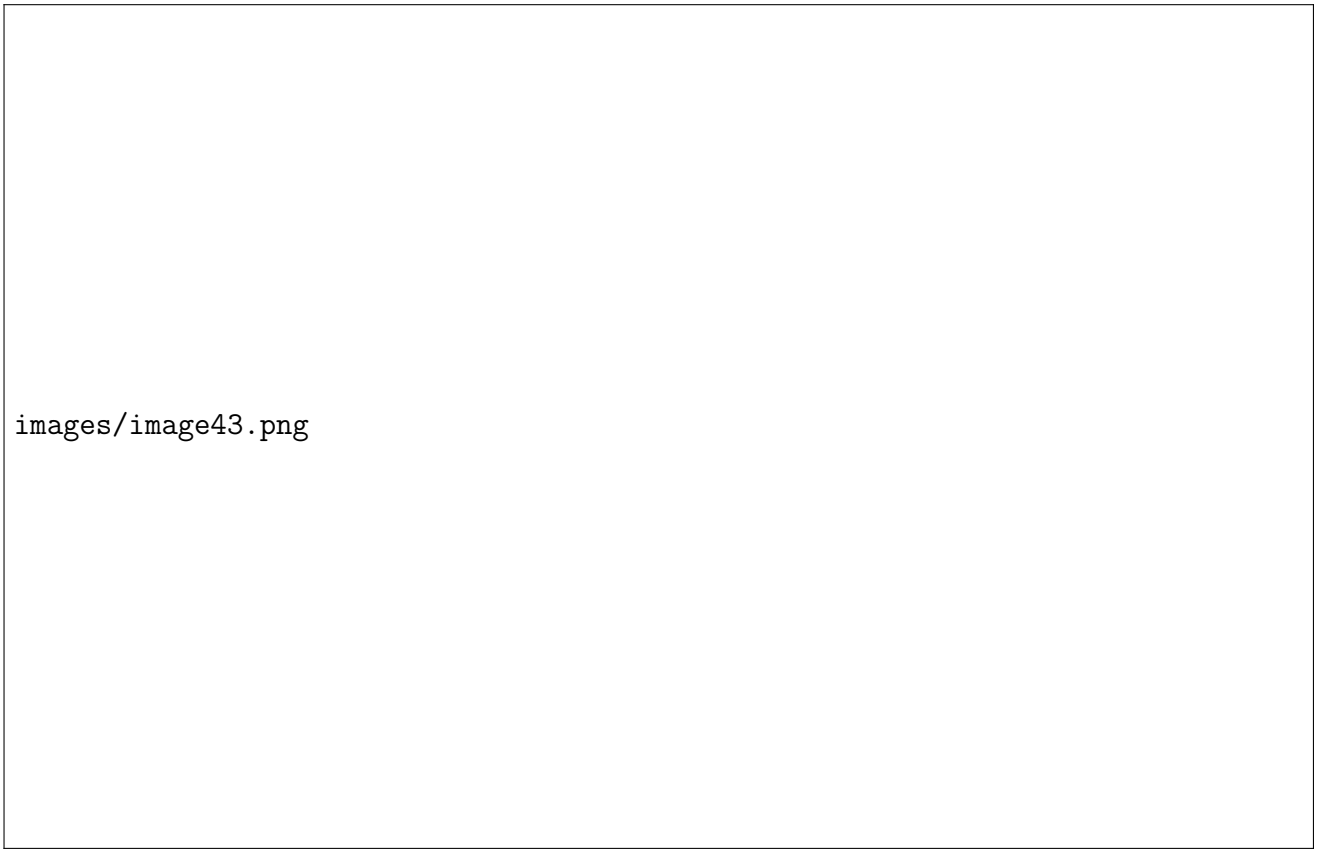

Figure 43: It saves the machine state, if we opt for saving the machine state in previous pop up.

Figure 44: Right click on the Ubuntu 18.04 Virtual Machine and click remove.

Figure 45: Click on deleting all files, to delete all history as well as files/settings/installations/configurations/dependencies et cetera for deleting Ubuntu 18.04

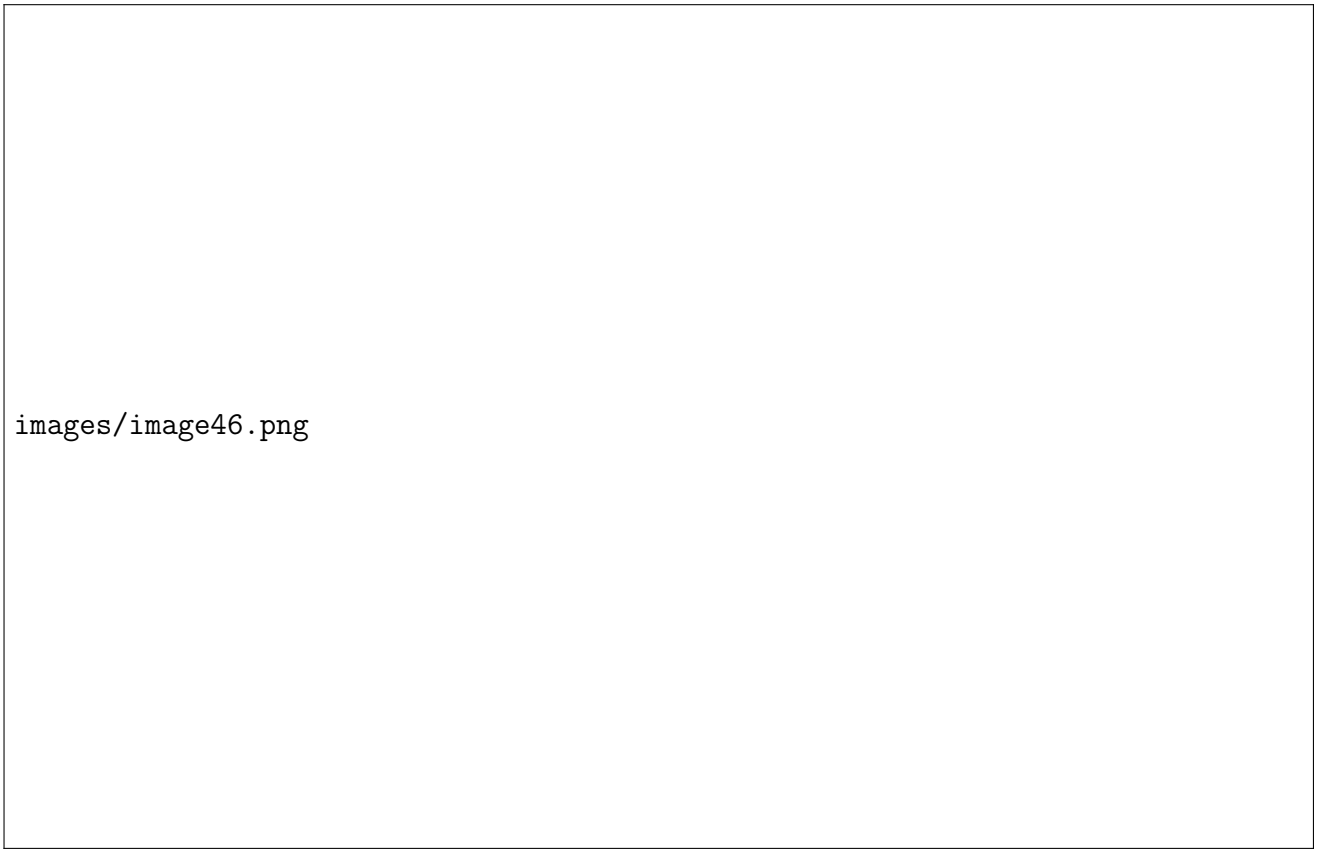

Figure 46: Now we are done as Ubuntu 18.04 is not shown in virtual machine. All memory allocatated in installation procedure is now freed.

4 Conclusions

Complete installation procedure of installing Ubuntu 18.04 as server on Oracle Virtual Box is described with the help of demo procedure and screenshots. Installation procedure includes creation of virtual machine, attaching iso file to created virtual machine, installing system, and configuration system with customized settings all led to working server terminal. Apart from that removing/deleting virtual machine named Ubuntu 18.04 with all its files/settings/dependencies are deleted and then can not be recovered. Note that the iso file in outside virtual box will not be deleted in deletion of virtual machine.