OPERATING SYSTEMS

PROJECT REPORT

GROUP ASSIGNMENT – LINUX BASED OS

Introduction

The operating system (OS) is the most important program that runs on a computer. Every general purpose computer must have an operating system to run other programs and applications.

But there is no perfect Operating system based on the tasks which they perform for a specific application or for an organization. Many organizations find that the best approach is to run multiple operating systems. Linux and Windows are only two choices there are many others.

As Linux being a free and open source operating system which is developed and customized by Linux community it provides the best advantage in customizing an operating system as you wish. Thus selecting Ubuntu mini fits the cause.

Ubuntu is a community developed, Linux-based operating system that is perfect for laptops, desktops, and servers, and is used by millions of people around the world.

We have selected Ubuntu Mini.iso for the customization purpose, it is a light weight iso which has a size of 57Mb, and after installation it has only a dos menu. The minimal iso image will download packages from online archives at installation time instead of providing them on the install media itself.

Through customizing the OS we have done following changes to the default operating system;

1. Removing default splash screen.
2. Removing administrative password.
3. Changing the whole user interface.
4. Setting up the terminal as a startup program.

Modifications:

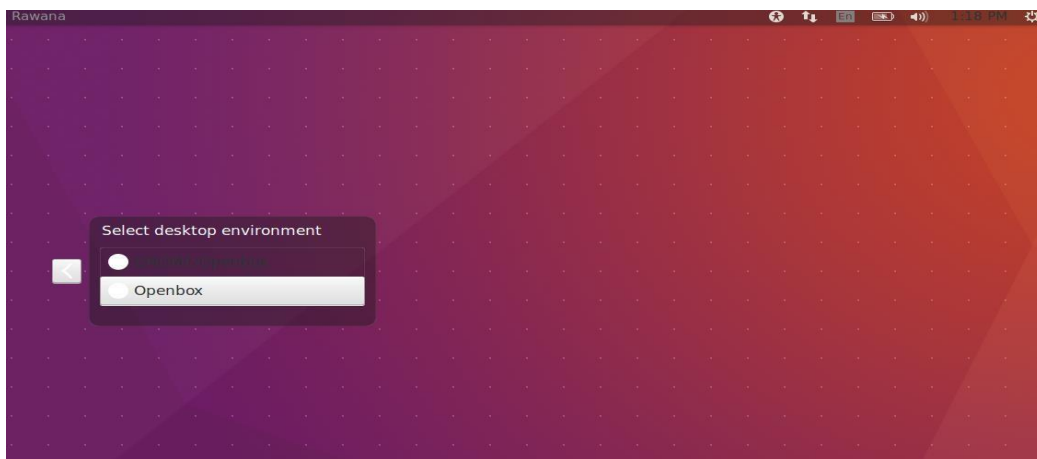Installing System Login Environment:

Code: `sudo apt install lightdm` Installing
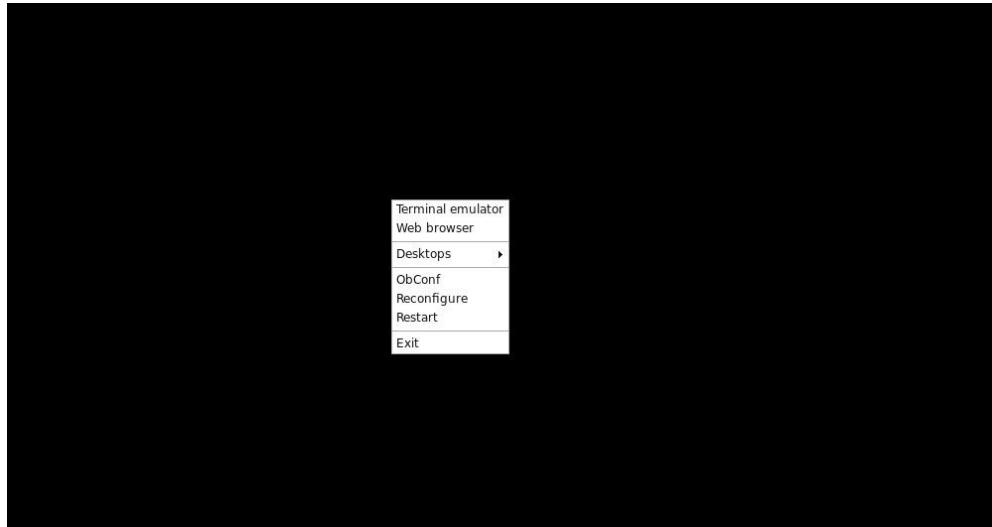
Openbox Desktop environment:

Code: `Sudo apt install openbox`

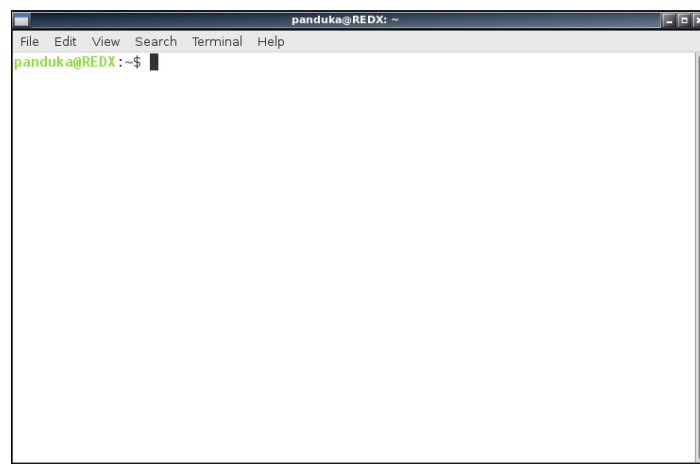`Sudo apt install openbox-gnome-session`

Openbox Login:

Openbox Desktop Environment (blank):

Installing Terminal Interface:
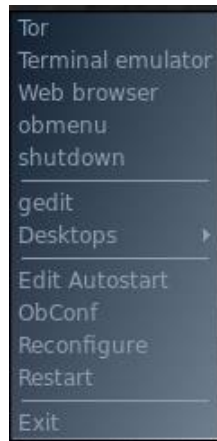
Code: `Sudo apt install gnome-terminal`

Terminal:

Installing Obmenu:

Code: `Sudo apt install obmenu`

Obmenu:

Installing tint2 taskbar:

Code: `sudo apt-get install tint2`

Installing Xfce desktop environment:

Code: `sudo apt-get install Xfce4`
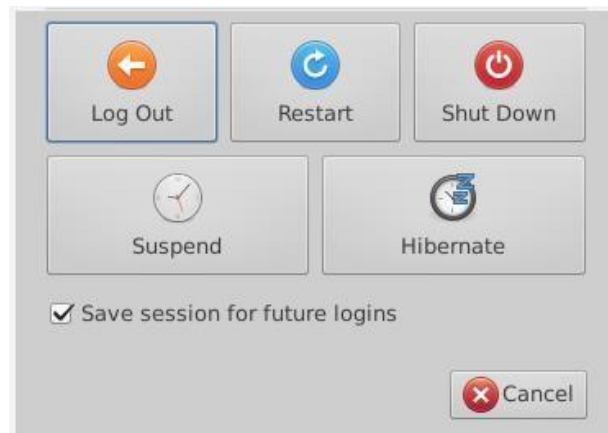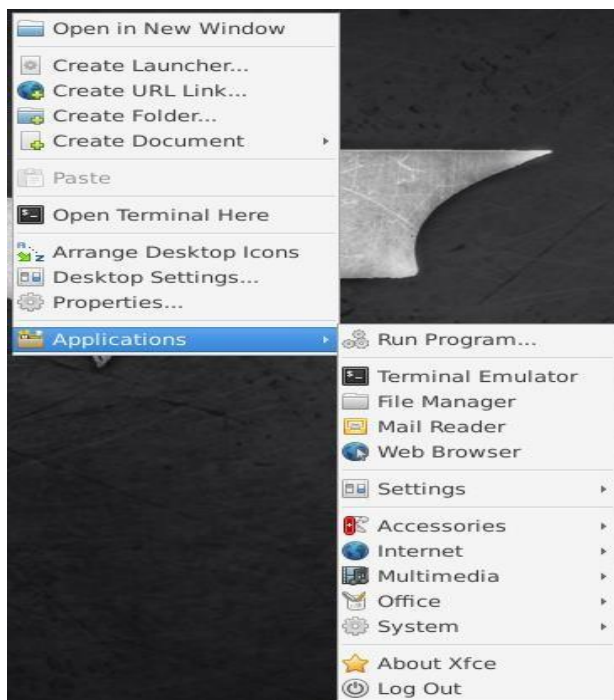
Xfce desktop environment with tint2 taskbar:

Xfce4 desktop environment has the basic functionality of the system, it has more attractive working environment than the openbox desktop and has more inbuilt functionalities than the openbox environment.
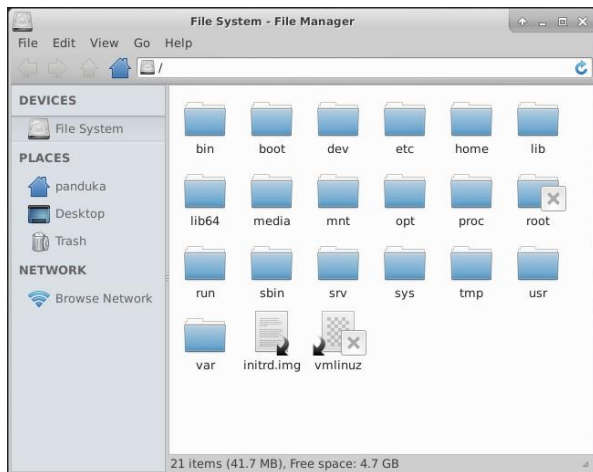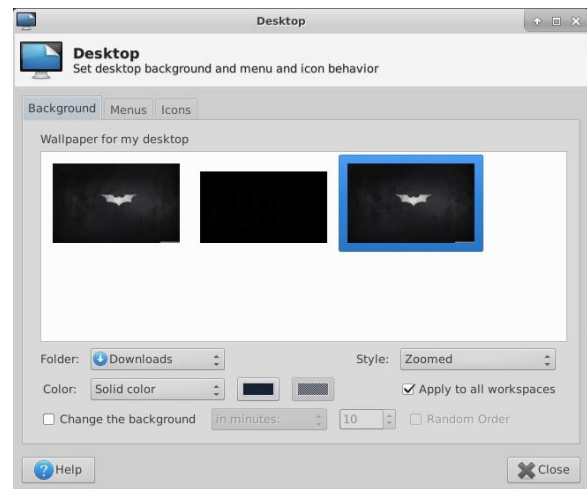
Functionalities: Right click menu
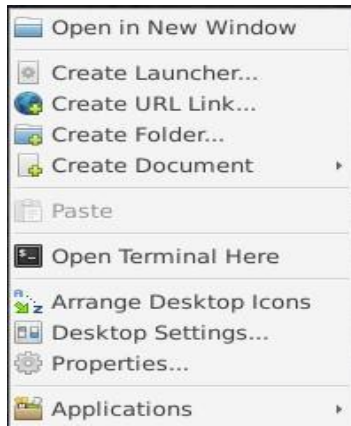
Menu with more features   Logging out menu
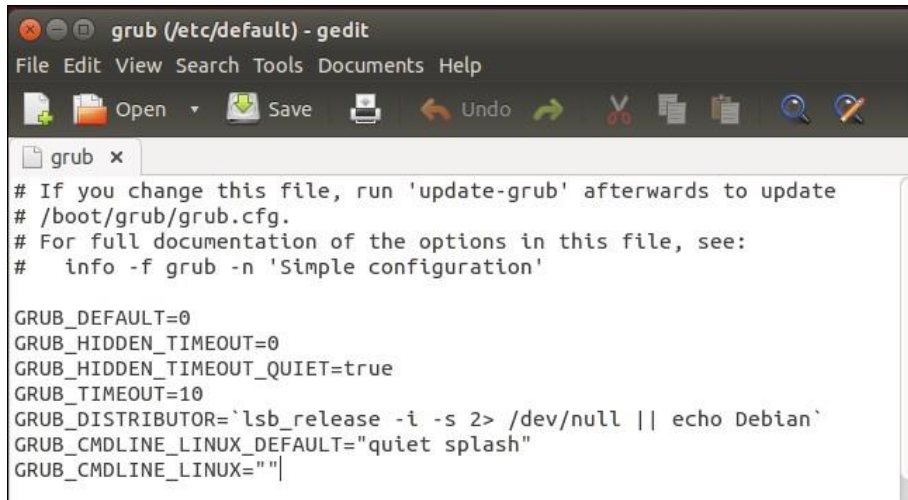
File Manager

Desktop Settings

Removal of splash screen

Code: `sudo gedit /etc/default/grub`

Change the default code into following code:

GRUB_CMDLINE_LINUX_DEFAULT=""
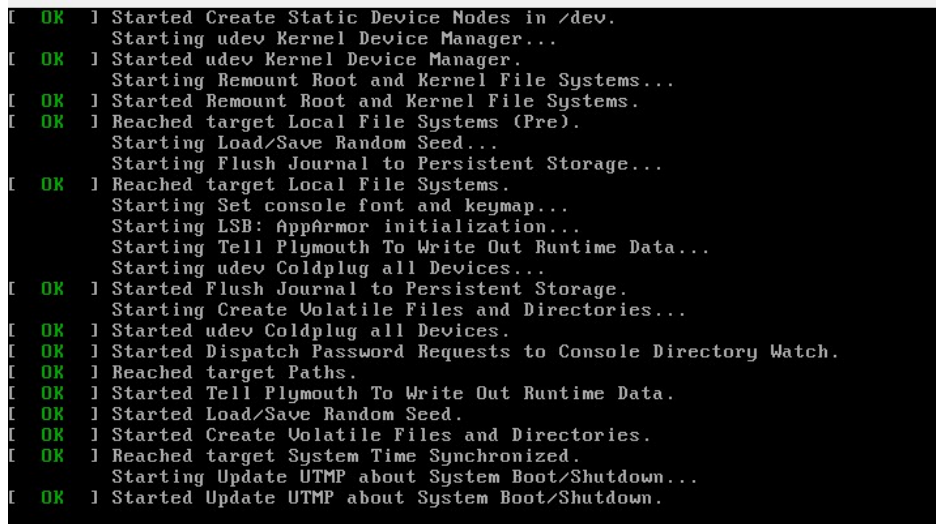
Update the grub file: `sudo update-grub2`

Booting OS without splash screen:

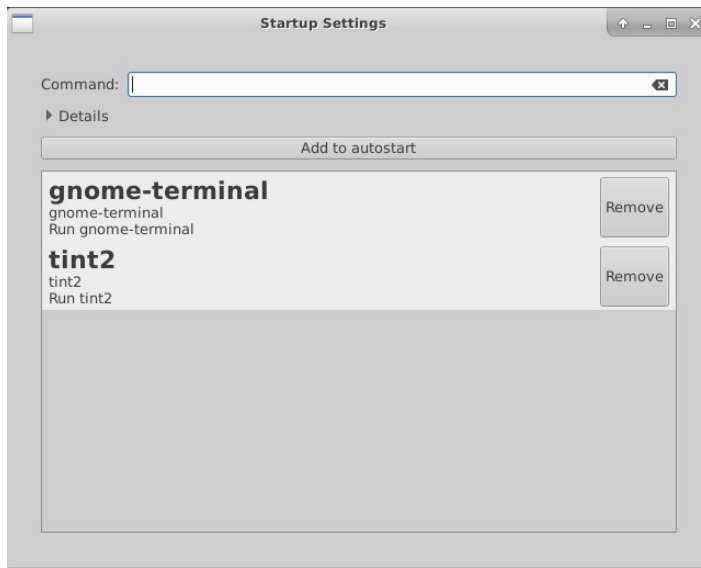## Installing Startup - Settings:

This application manage startup applications at the booting up the OS.

Code: `wget` https://github.com/hant0508/startupsettings/raw/master/Debian/startup-settings-amd64.deb

```
Dpkg -I startup-settings-amd64.deb
```

To open the program type "startup-settings" on terminal and run.

Startup settings interface:

Here you can add or remove the startup applications to the program, we have set the terminal and the taskbar to run at the startup of the system.

Experts always use keyboard command for functions, so we have set the terminal as a startup application for effective use.
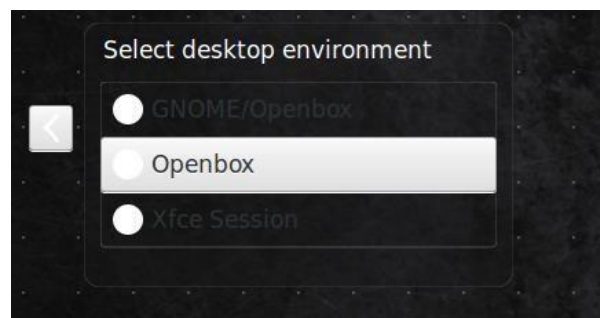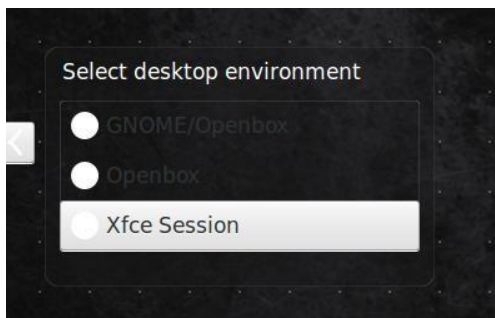
Login screen environment:

We have changed the default background using another image.

Procedure: Replace the current background image (PNG) with another image using root access.

Image location: usr/share/backgrounds

Selecting the login Desktop Environment:

Here the user can select which desktop environment is to use.

Removing the administrator password:

Code: Sudo visudo

Do the following changes;

admin ALL=(ALL)NOPASSWD: ALL

%sudo ALL=(ALL:ALL)NOPASSWD: ALL

Due to the security concerns, we didn't remove the administrator password.

References https://www.ubuntu.com/ https://beebom.com/linux-vs-windows/

https://askubuntu.com/questions/12394/getting-back-ubuntus-default-boot-splash

https://help.ubuntu.com/

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