5.2.2 Comparing Linux Desktops Facts

In Linux, a desktop or desktop environment is a way to bundle together a variety of components in a graphical user interface (GUI). These components include such things as wallpapers, desktop icons, toolbars, and desktop widgets. Most Linux desktop environments also include a set of integrated applications and utilities.

This lesson compares and contrast a few of the commonly used Linux GUIs.

This lesson covers the following topics:

- Installing a Linux desktop
- Selecting a Linux desktop
- GNOME
- Unity
- Cinnamon
- Mate
- KDE

Installing a Linux Desktop

While installing your Linux workstation, many distributions give you the option as to which desktop to install. For the distributions that do not, or if you just want to add an additional desktop, you can install the desired desktop at a later time. The method of installation will vary depending on the distribution and the desktop being installed. In most cases a simple internet search will locate the detailed steps required.
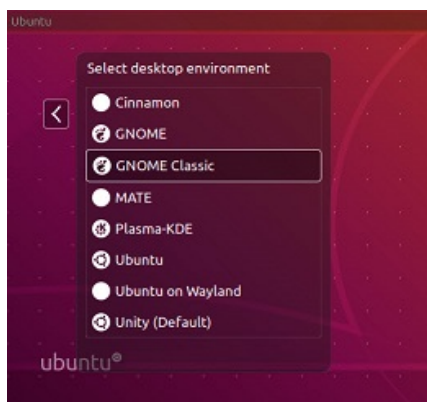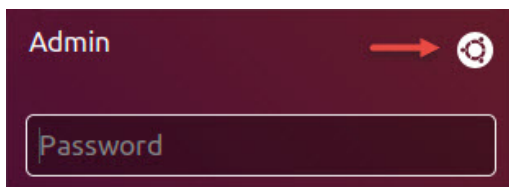
The following is an examination of how to install the Unity desktop on Ubuntu:

1. Open a terminal window.
2. Run: **sudo apt update**
3. Run: **sudo apt install ubuntu-unity-desktop**
4. Follow the remaining prompts.
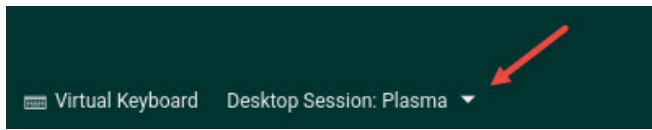5. Restart your computer after the installation is complete.

Selecting a Desktop

When more than one desktop has been installed, you can select which desktop to run from the logon screen. This is typically done by clicking on an icon or a drop-down list located on the logon screen. Each distribution may vary on how this is done. The images below show two examples:
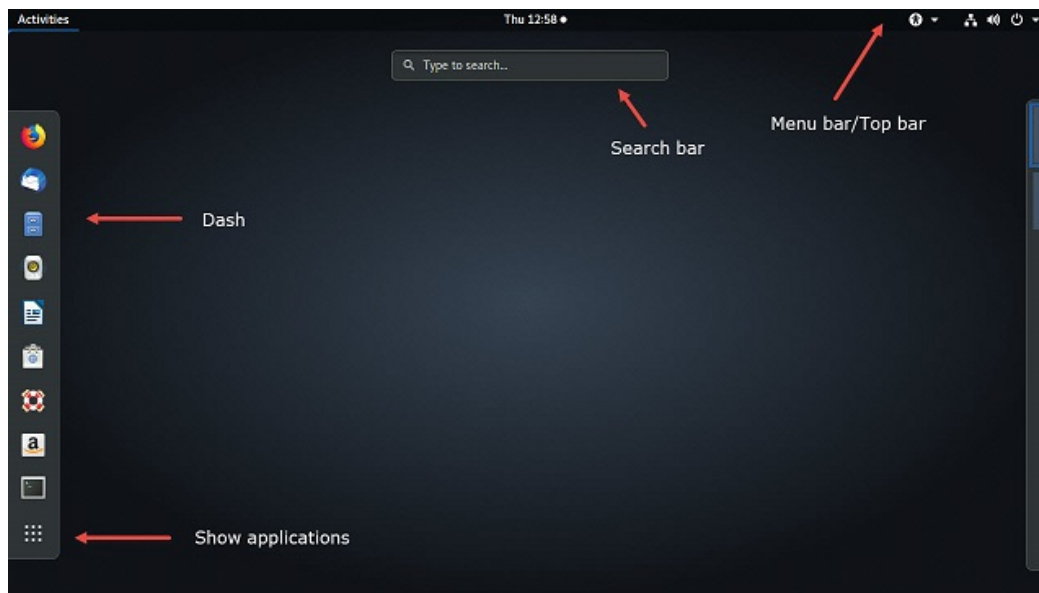
Ubuntu

Fedora

GNOME

GNOME (pronounced nōme) is one of the most popular desktop environments and is the default GUI for many distributions, such as Fedora and Ubuntu. Gnome is an acronym for GNU Network Object Model.

When using GNOME, you typically have the choice of using several variation of GNOME, including:

- GNOME Classic
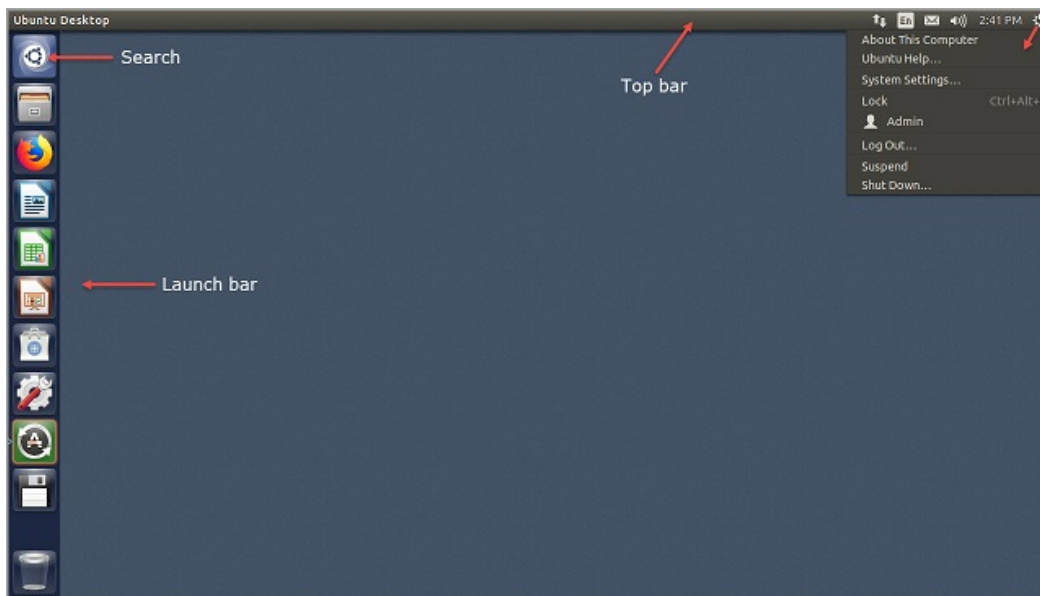- GNOME on Xorg
- GNOME
- GNOME (Wayland)

Although each of these look similar in appearance they use different X servers or are built with different toolkits. Each flavor of GNOME differs somewhat on how the initial desktop looks, but most have or can be configured with the following:

- A getting started tutorial - this tutorial is shown the first time a user logs into the desktop, showing how to perform common tasks.
- Dash - contains icon shortcuts to the most frequently used applications. To view the dash, click on 'Activities'.
- Search - the search field lets you enter a name of a desired application or function. The desktop will then show a list of possible hits.
- Top bar - includes links to default functions. In this example, clicking on the down-arrow at the right end and expanding 'Admin', displays user management options. Clicking on 'Activities' at the left end shows the view in the example above.
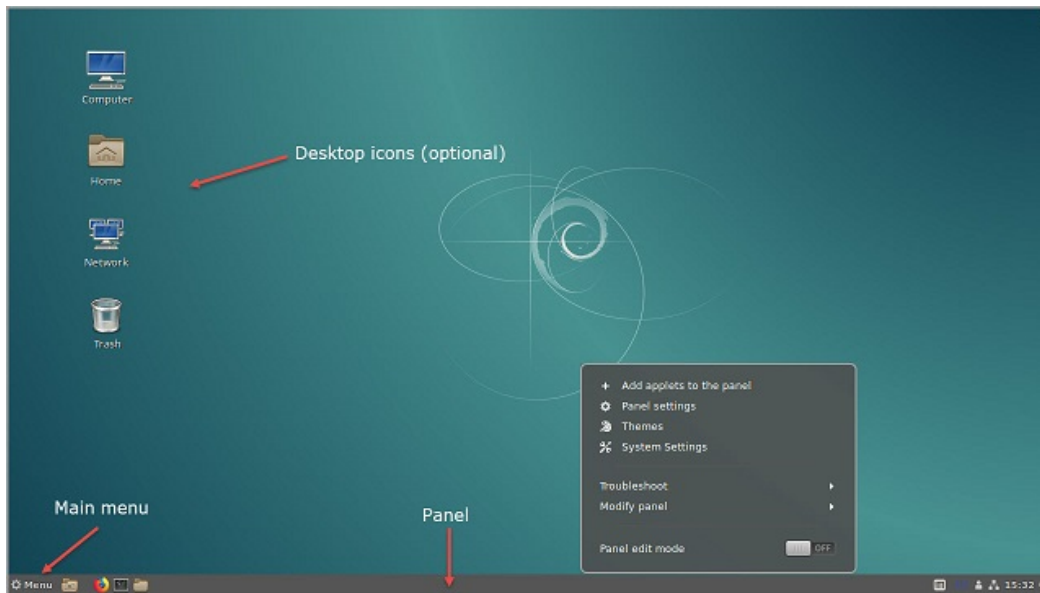- Show applications - displays all of the currently installed application.

Unity

Unity was primarily available on Ubuntu distributions and when used is shown as the 'Ubuntu Desktop'. Unity was the default GUI for Ubuntu until 2017 when they switched to GNOME. By default, Unity displays a launch bar populated with several shortcuts, such as Search, Files, Web Browser, System Settings, and Software.

The 'Search" link in the launch bar makes finding menu entries quick and easy. Once selected, you enter a keyword or two, and select the correct result from the list. In lieu of launching an application, after finding it in search, you can drag it to the launch bar. Likewise, you can right-click on a launch bar item and choose to unlock it from the launch bar. In the top bar, on the right side, you have access to such things as network settings, character map, calendar, and settings.
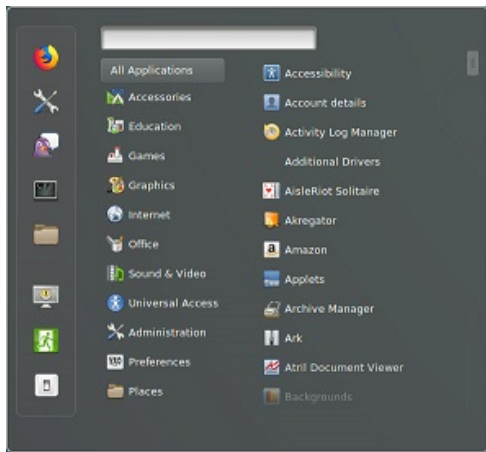
Cinnamon

The cinnamon desktop was derived from GNOME 3 but follows traditional desktop metaphor conventions. Cinnamon is the principal desktop environment of the Linux Mint distribution and is available as an optional desktop for other Linux distributions as well. Although Cinnamon is built on GNOME technologies and uses GTK+, it no longer requires GNOME itself to be installed.

The cinnamon desktop closely resembles the Windows desktop, including a shortcut panel (taskbar) with access to basic settings, such as user information, networking, time, and a main menu giving you access to your favorites and other settings and applications. The main menu also includes search feature to help you find a needed application or feature.
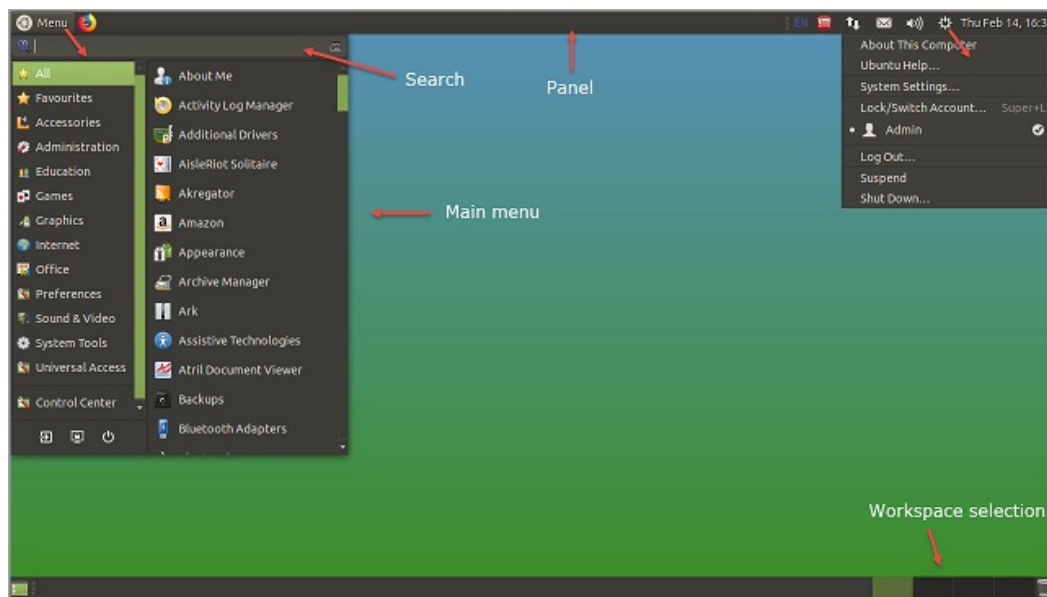
Main menu:

You also have the option to add desktop icons, providing quick access to such things as the Home directory, Trash, Computer, Mounted volumes, and the Network.

Another nice feature with Cinnamon, is the ability to not only modify what is shown on the panel, but to also move the panel to any edge of the screen (top, left, right, or bottom). These types of changes are made by right-clicking on the panel and selecting the applicable options. This feature is available on a few other desktops, such as MATE and KDE.
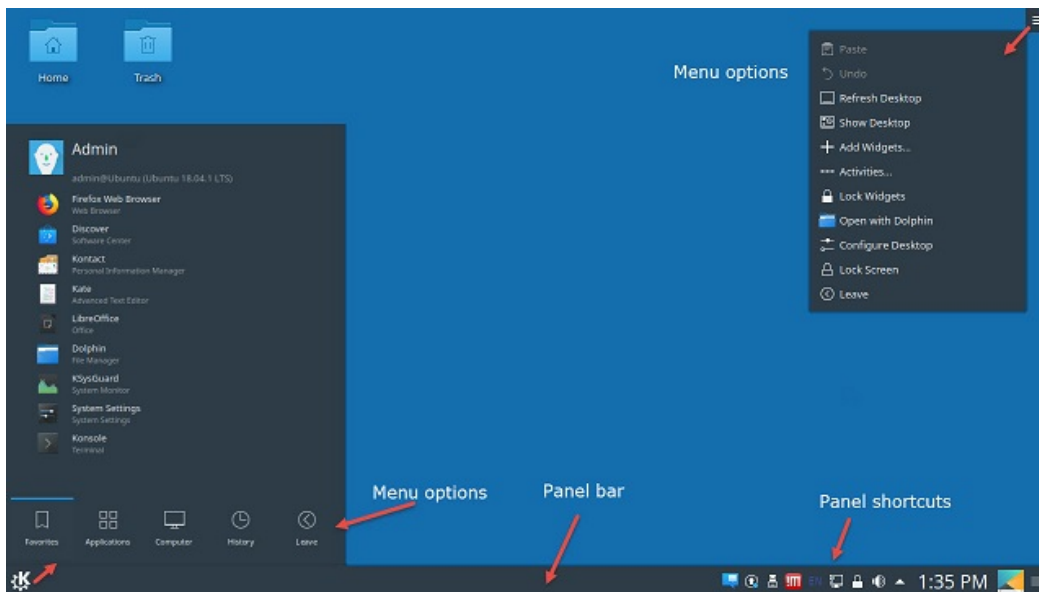
MATE

MATE (pronounced Ma-teh) was started by an Argentine Arch Linux user in response to the negative reception of GNOME 3. MATE's goal is to maintain and continue the latest GNOME 2 code base, frameworks, and core applications.

Like the other environments discussed in this lesson, the top-right corner has menus for network, volume, and system settings. The Menu link in the top-left corner opens a drop-down where you can view the installed applications grouped by category. The icons in the bottom-right corner are for switching between workspaces.

KDE

KDE is an acronym for K Desktop Environment. Like Cinnamon, KDE also emulates the Windows desktop, in that most of its menu options are located on the bottom panel bar. This panel bar can be customized to include favorite shortcuts to applications, services, and widgets. For example, as you look on the right side of this panel, you can see several options that are similar to Windows, such as the time, volume controls, and networking.

Clicking on the KDE icon, found at the right of the panel bar, displays the main menu options. By default, the items added to the favorites menu are shown, but as you can see, you can view other menu items such as application, computer, history, and leave (power options). In the upper-right area of the desktop, there is another menu to access the options shown.