

How to Install OpenGL on Linux

Part-1 Prepare your Linux Mint operating system for OpenGL Development

- 1 Open a terminal and enter the following commands to install the necessary libraries for OpenGL development:

Type/Copy/Paste following commands:

```
$ sudo apt-get update
$ sudo apt-get install freeglut3
$ sudo apt-get install freeglut3-dev
$ sudo apt-get install binutils-gold
$ sudo apt-get install g++ cmake
$ sudo apt-get install libglew-dev
$ sudo apt-get install g++
$ sudo apt-get install mesa-common-dev
$ sudo apt-get install build-essential
$ sudo apt-get install libglew1.5-dev libglm-dev
```

- 2 Get information about the OpenGL and GLX implementations running or not?

```
$ glxinfo | grep -i opengl
```

You will get following information : (It Means OpenGL Installed)

```
OpenGL vendor string: NVIDIA Corporation
OpenGL renderer string: GeForce 8800 GT/PCIe/SSE2
OpenGL version string: 2.1.2 NVIDIA 310.44
OpenGL shading language version string: 1.20 NVIDIA via Cg compiler
OpenGL extensions:
```

Part-2 Create your first OpenGL program

To create an OpenGL program, open up a terminal, make a directory, change into the directory and use text editor such as gedit to create your OpenGL source code.

Enter the following commands below.

- Type/Copy/Paste:

```
$ mkdir Sample-OpenGL-Programs
```

(This will create a directory to hold your OpenGL programs)

- Type/Copy/Paste:

```
$ cd Sample-OpenGL-Programs
```

(This will change you into your directory)

- Type/Copy/Paste:

```
$ gedit main.c
```

Copy and paste OR Type the code :

```
1. #include <GL/freeglut.h>
2. #include <GL/gl.h>
3.
4. void renderFunction()
5. {
6.     glClearColor(0.0, 0.0, 0.0, 0.0);
7.     glClear(GL_COLOR_BUFFER_BIT);
8.     glColor3f(1.0, 1.0, 1.0);
9.     glOrtho(-1.0, 1.0, -1.0, 1.0, -1.0, 1.0);
10.    glBegin(GL_POLYGON);
11.        glVertex2f(-0.5, -0.5);
12.        glVertex2f(-0.5, 0.5);
```

```

13.         glVertex2f(0.5, 0.5);
14.         glVertex2f(0.5, -0.5);
15.     glEnd();
16.     glFlush();
17. }
18. int main(int argc, char** argv)
19. {
20.     glutInit(&argc, argv);
21.     glutInitDisplayMode(GLUT_SINGLE);
22.     glutInitWindowSize(500,500);
23.     glutInitWindowPosition(100,100);
24.     glutCreateWindow("OpenGL - First window demo");
25.     glutDisplayFunc(renderFunction);
26.     glutMainLoop();
27.     return 0;
28. }

```

- Save the file and exit

Part-3 Compile and Run your OpenGL application

- 1 This command will compile and link your OpenGL libraries.
\$ g++ main.c -lglut -lGL -lGLEW -lGLU -o OpenGLExample
- 2 In order to run the program type the following below:
\$./OpenGLExample