



## Experiment No- 1.2

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**Subject Name:** Cloud Computing & Distributed Systems

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1. **Aim:** To install a C compiler within the virtual machine established using VirtualBox and run basic programs.
2. **Objective:** To install a C compiler GCC within the virtual machine Ubuntu and run basic programs add two numbers.

3. **Input/Apparatus Used:** Virtual Box

4. **Procedure:**

### Steps to install GCC in Ubuntu-

- Open the terminal.
- Type “sudo apt-get install gcc” then press enter.

```
ubuntu@ubuntu:~$ sudo apt update
Ign:1 cdrom://Ubuntu 16.04.7 LTS _Xenial Xerus_ - Release amd64 (20200806) xenial InRelease
Hit:2 cdrom://Ubuntu 16.04.7 LTS _Xenial Xerus_ - Release amd64 (20200806) xenial Release
Get:4 http://security.ubuntu.com/ubuntu xenial-security InRelease [99.8 kB]
Hit:5 http://archive.ubuntu.com/ubuntu xenial InRelease
Get:6 http://archive.ubuntu.com/ubuntu xenial-updates InRelease [99.8 kB]
Get:7 http://security.ubuntu.com/ubuntu xenial-security/main amd64 Packages [913 kB]
Get:8 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 Packages [1,267 kB]
Get:9 http://security.ubuntu.com/ubuntu xenial-security/main Translation-en [211
```

- Type the admin password and press enter.
- Type y and press enter.

```
ubuntu@ubuntu:~$ sudo apt install build-essential
Reading package lists... Done
Building dependency tree
Reading state information... Done
build-essential is already the newest version (12.1ubuntu2).
0 upgraded, 0 newly installed, 0 to remove and 205 not upgraded.
```

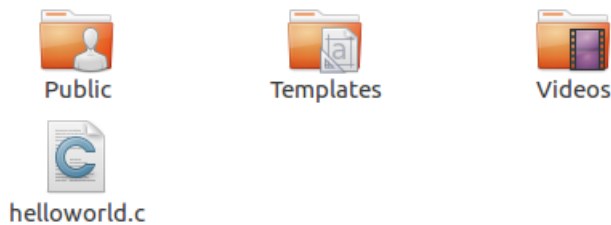
- Now type “sudo apt install build-essential” and press enter.

**Installation of C compiler GCC is completed.**

### Steps to run C program:

- Open the terminal
- Type “touch helloworld.c” and press enter to create a c program file

```
ubuntu@ubuntu:~$ touch helloworld.c
ubuntu@ubuntu:~$
```



- Now write a simple c program
- Save the file.

```
Open [v] [F1]
#include<stdio.h>
int main(){
printf("Hello World");
printf("Welcome to programming world");
return 0;
}
```

- Type “gcc helloworld.c -o test” and press enter to compile the program.

```
ubuntu@ubuntu:~$ touch helloworld.c
ubuntu@ubuntu:~$ gcc helloworld.c -o test
ubuntu@ubuntu:~$
```

- Now type “./test” and press enter to run the program.

```
ubuntu@ubuntu:~$ gcc helloworld.c -o test
ubuntu@ubuntu:~$ ./test
Hello WorldWelcome to programming worldubuntu@ubuntu:~$
```

## 5. Code:

```
#include <stdio.h>
int main() {
    printf("Hello World ");
    printf("Welcome to programming world ");
    return 0;
}
```

## 6. Result/Output:

```
ubuntu@ubuntu:~$ gcc helloworld.c -o test
ubuntu@ubuntu:~$ ./test
Hello WorldWelcome to programming worldubuntu@ubuntu:~$
```

**The Simple C program executed Successfully.**

## 7. Learning Outcome:

- Learn how to install C compiler in VirtualBox.
- Understand the concept of Virtualization.
- Understand how to create Virtual Machines.
- Learned to create and run the simple C program using Ubuntu Virtual Machine Terminal.