

# CSCI 2170 LAB 1

## Getting Started

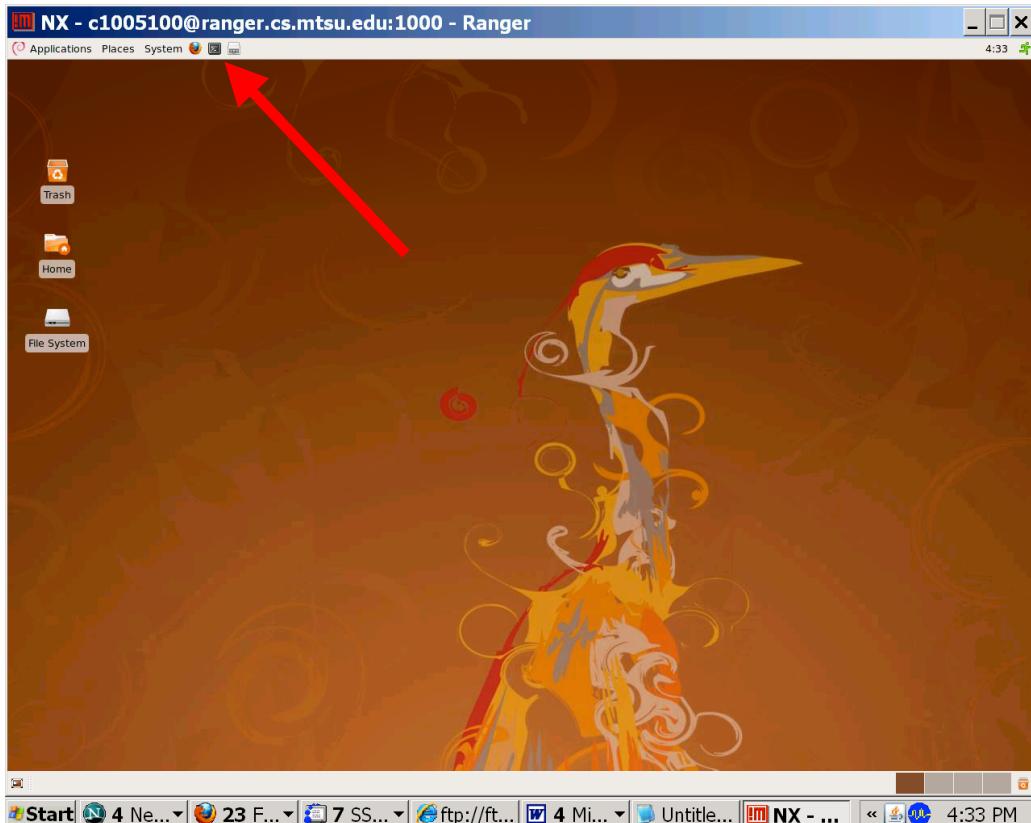
We have a number of book keeping items before continuing with C++ programming that you did in CSCI 1170:

- Most of the closed labs will be done primarily using the ranger (ranger.cs.mtsu.edu) system. You should always access ranger using an NX client. The first part of this closed lab will show you how to use NX if you are not familiar with NX connectivity.
- The second part of this lab shows you how to enter a simple Hello World program using NetBeans
- The third part of this lab is to acquaint you with the handin program.

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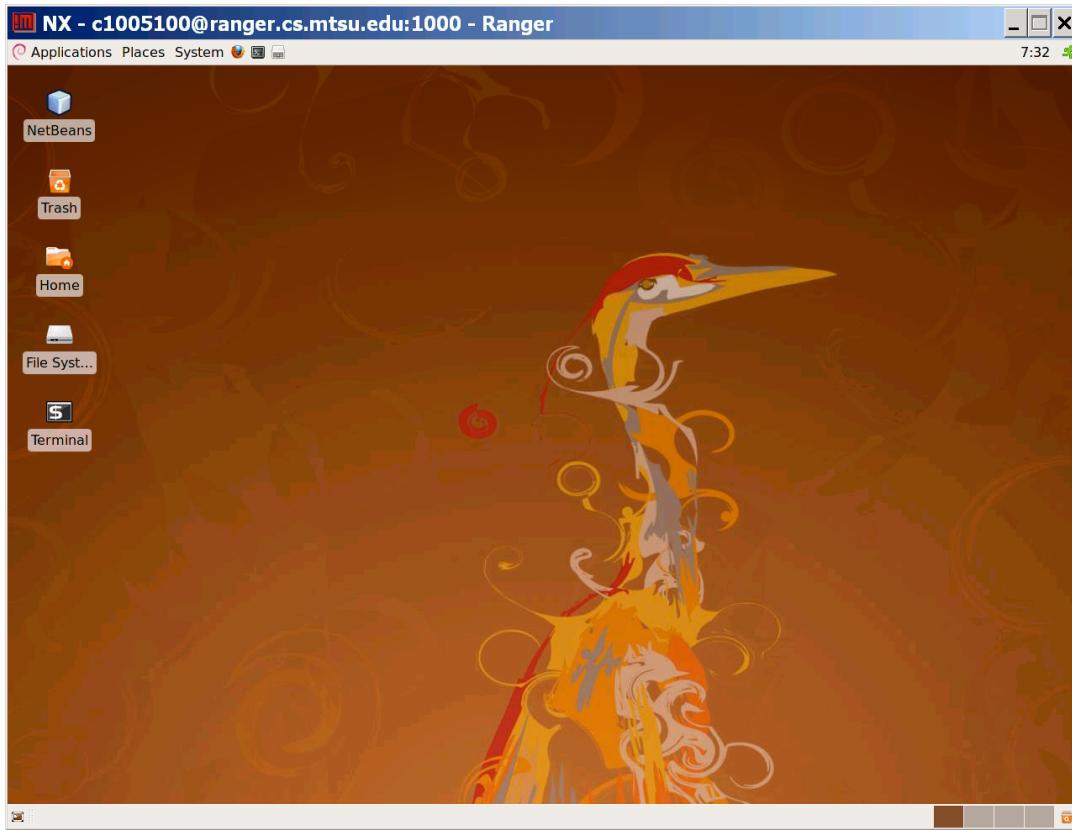
First you need to connect to Ranger and customize your account.  
Click on the CS Linux Gnome NX icon on the lab system desktop.

1. After successfully connecting and logging into Ranger via an NX Client session, locate the '**terminal**' icon as shown in the next window.



- a. customized your account with the command:  
**~cs/customize 2170 cen**

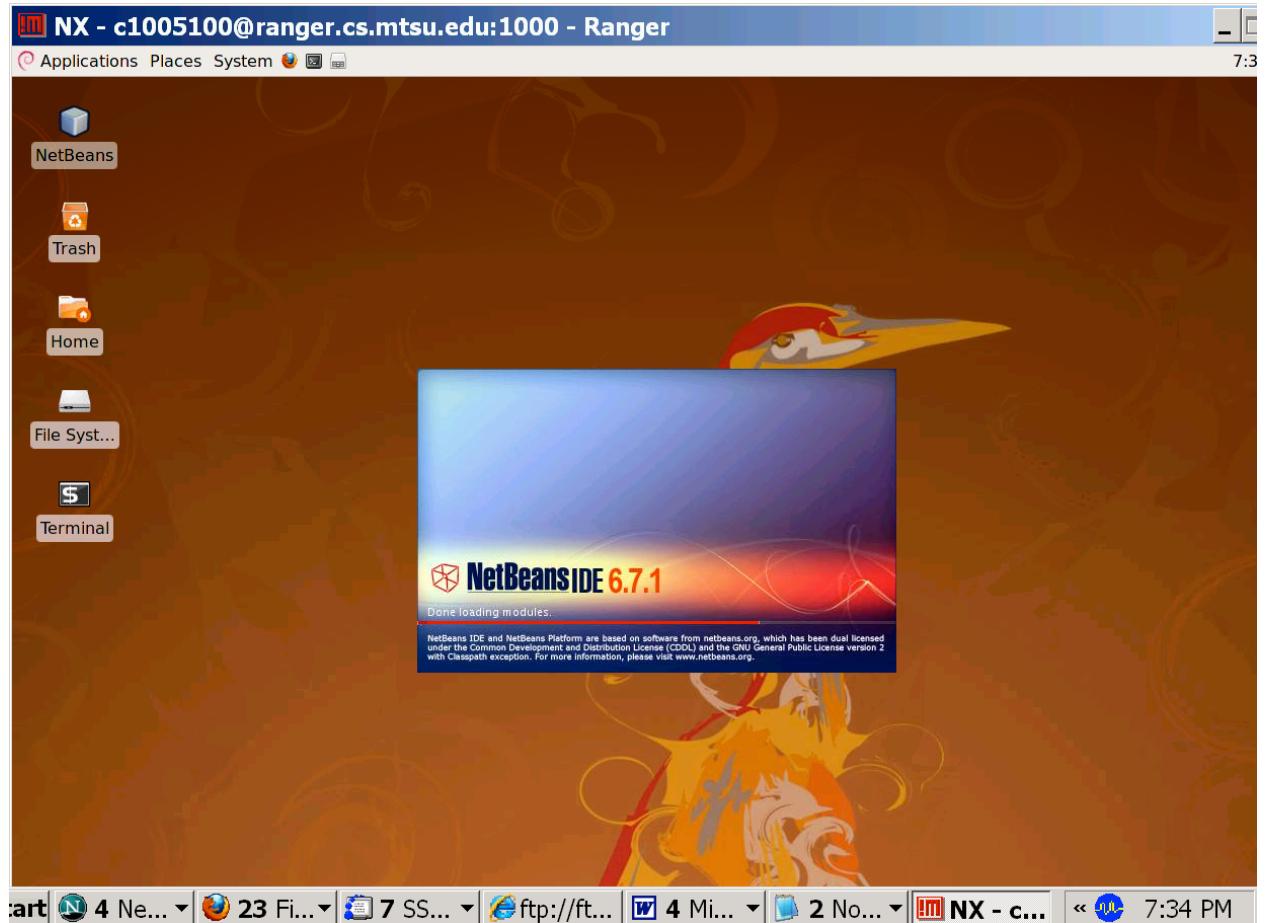
- b. **AFTER** you have customized your account, exit NX. Then log back in Ranger. Your desktop should look like the following.



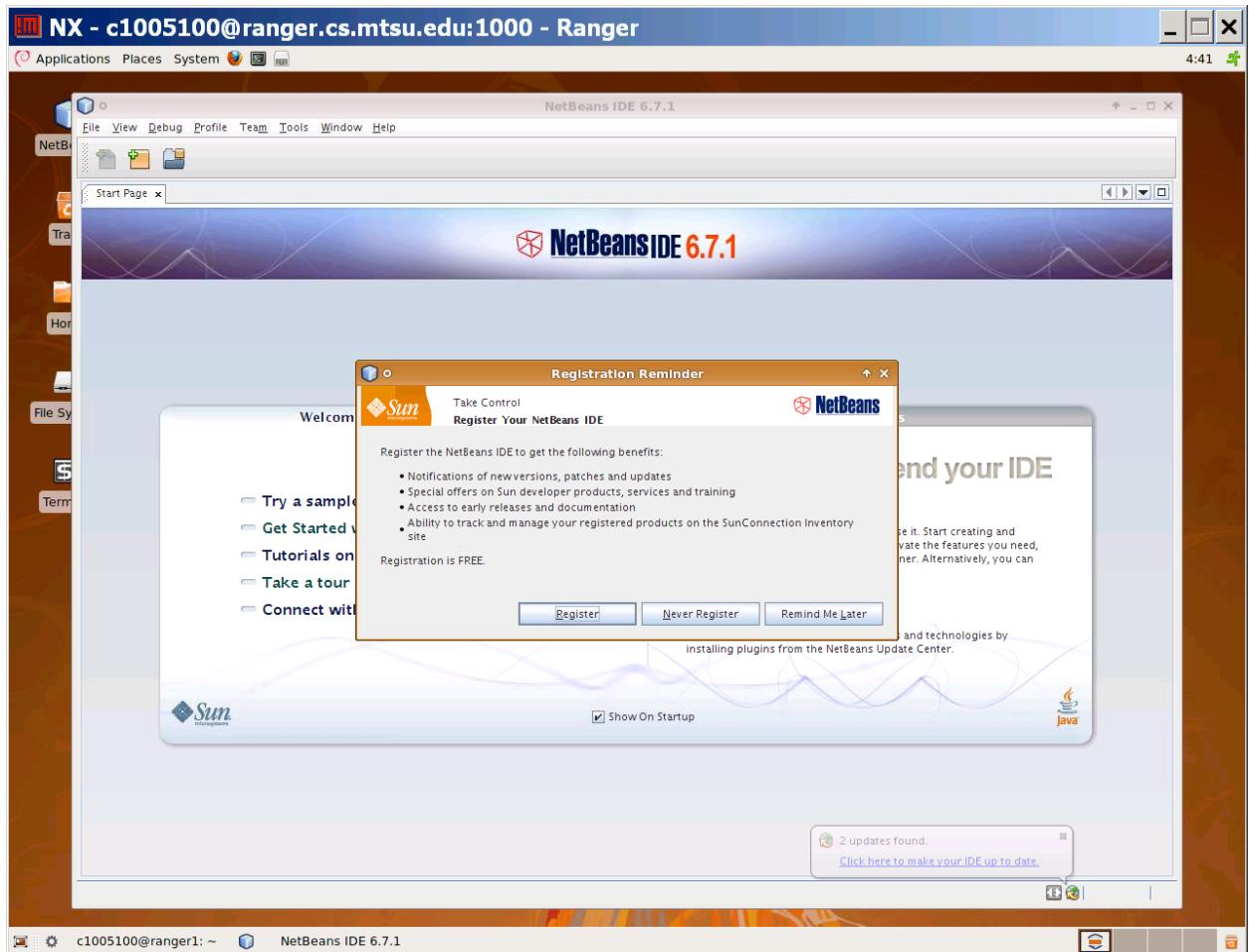
2. Now you should have a NetBeans icon on your desktop; double click on the **NetBeans** icon.



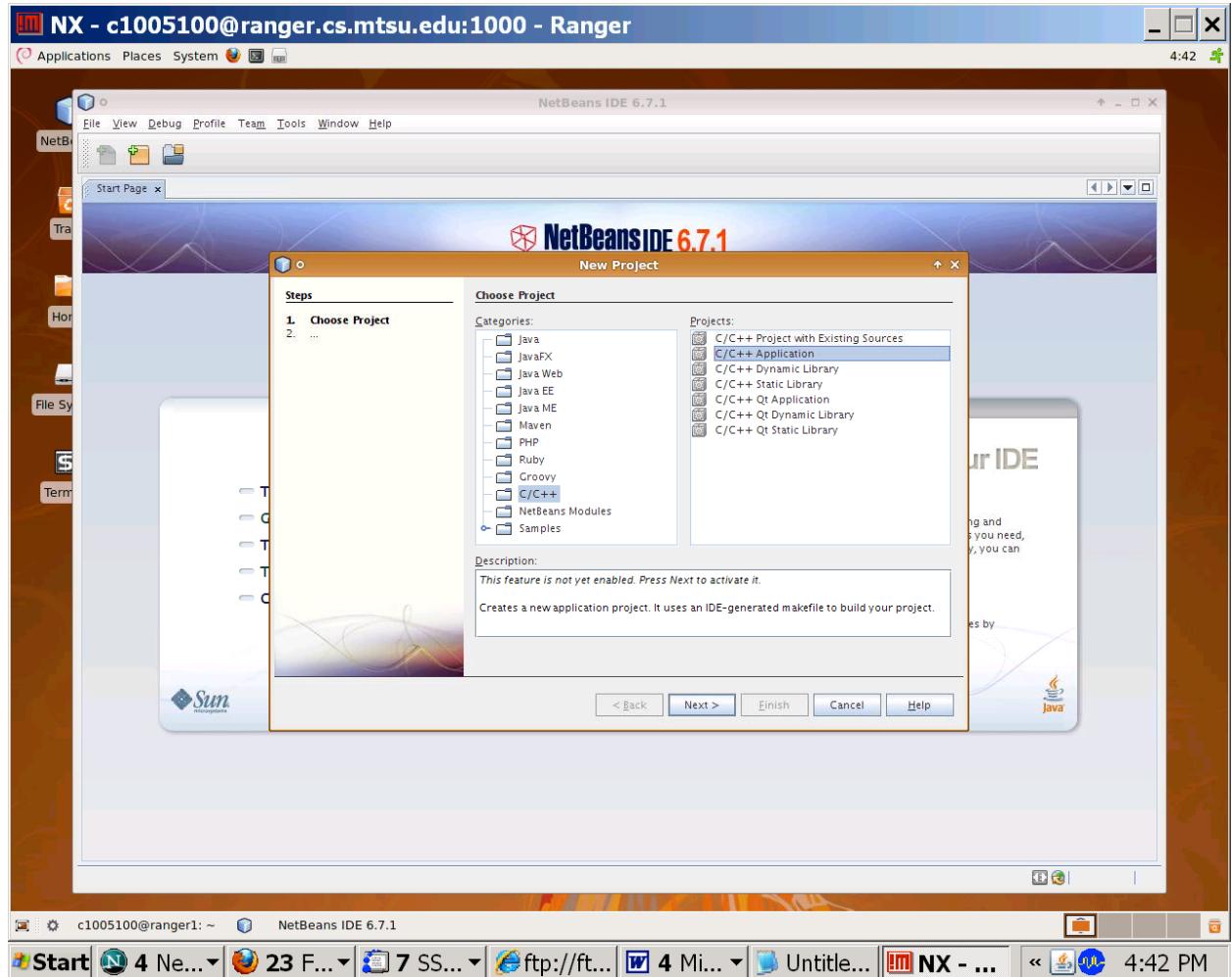
3. During the load, a window similar to the following should appear..



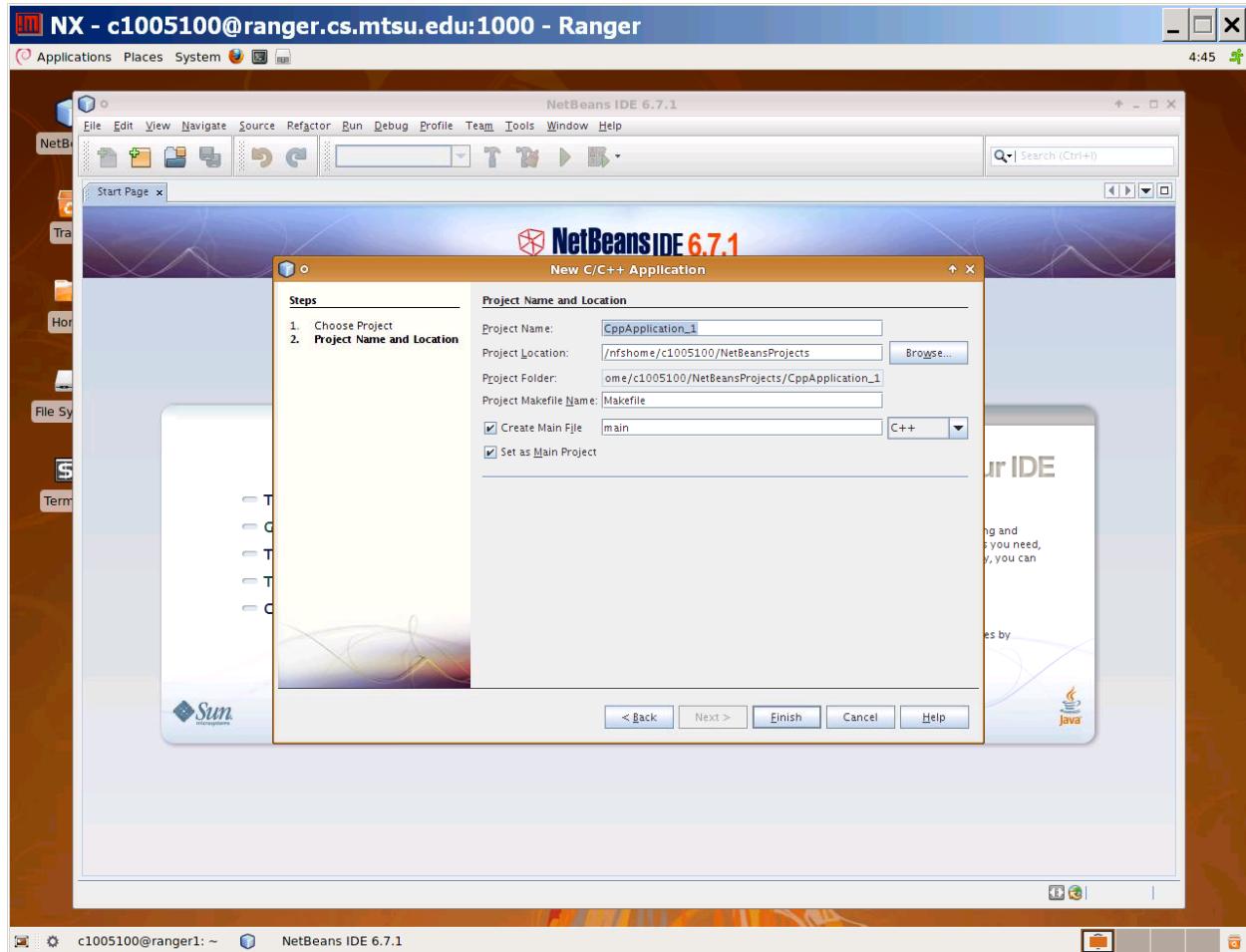
4. If you see the following window, click “Never register” button.



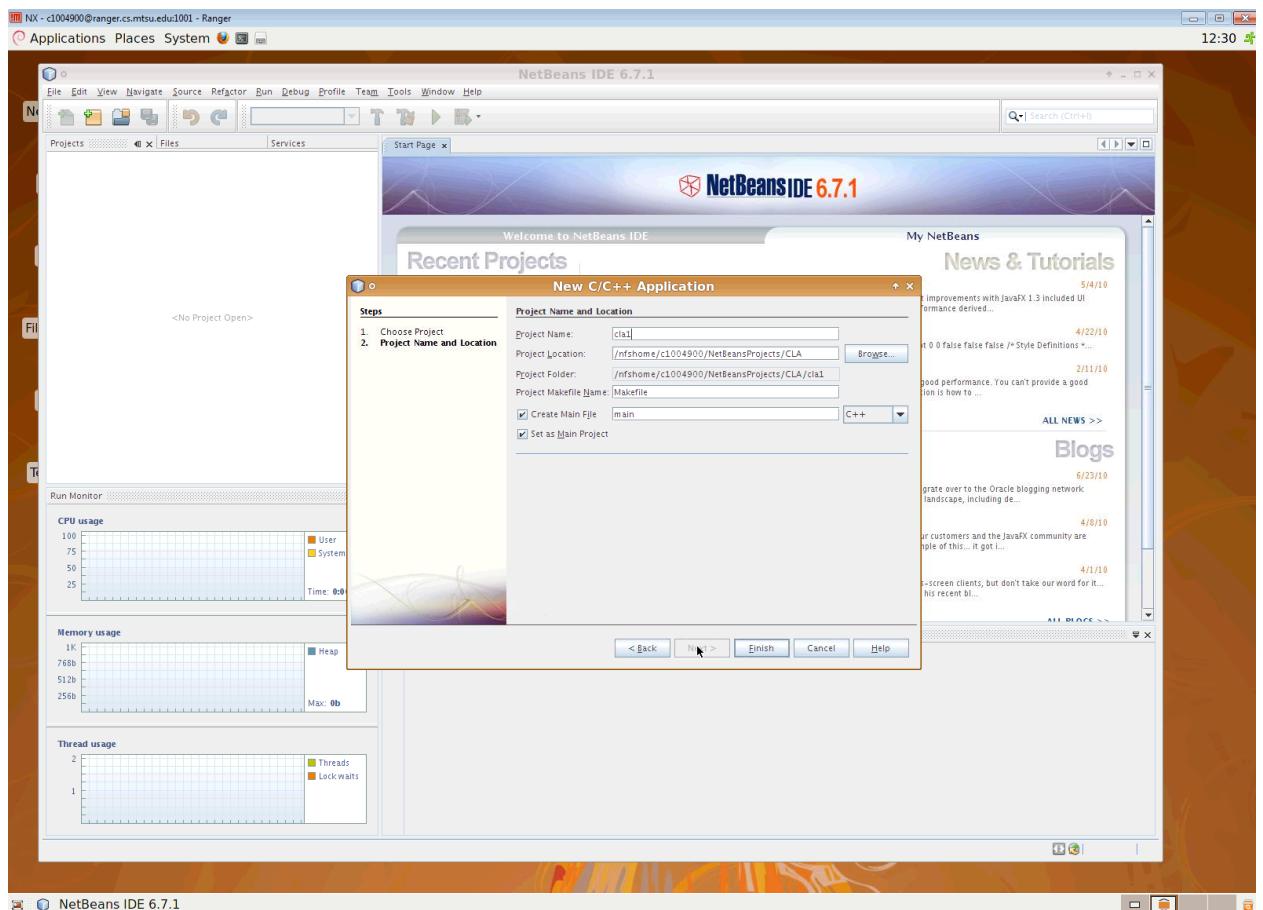
5. To create a C++ project in NetBeans (after it loads), the first thing you need to do is to create a new project by clicking **File -> New Project** followed by choice of **C/C++** and **C/C++ Application** as shown in the following window.



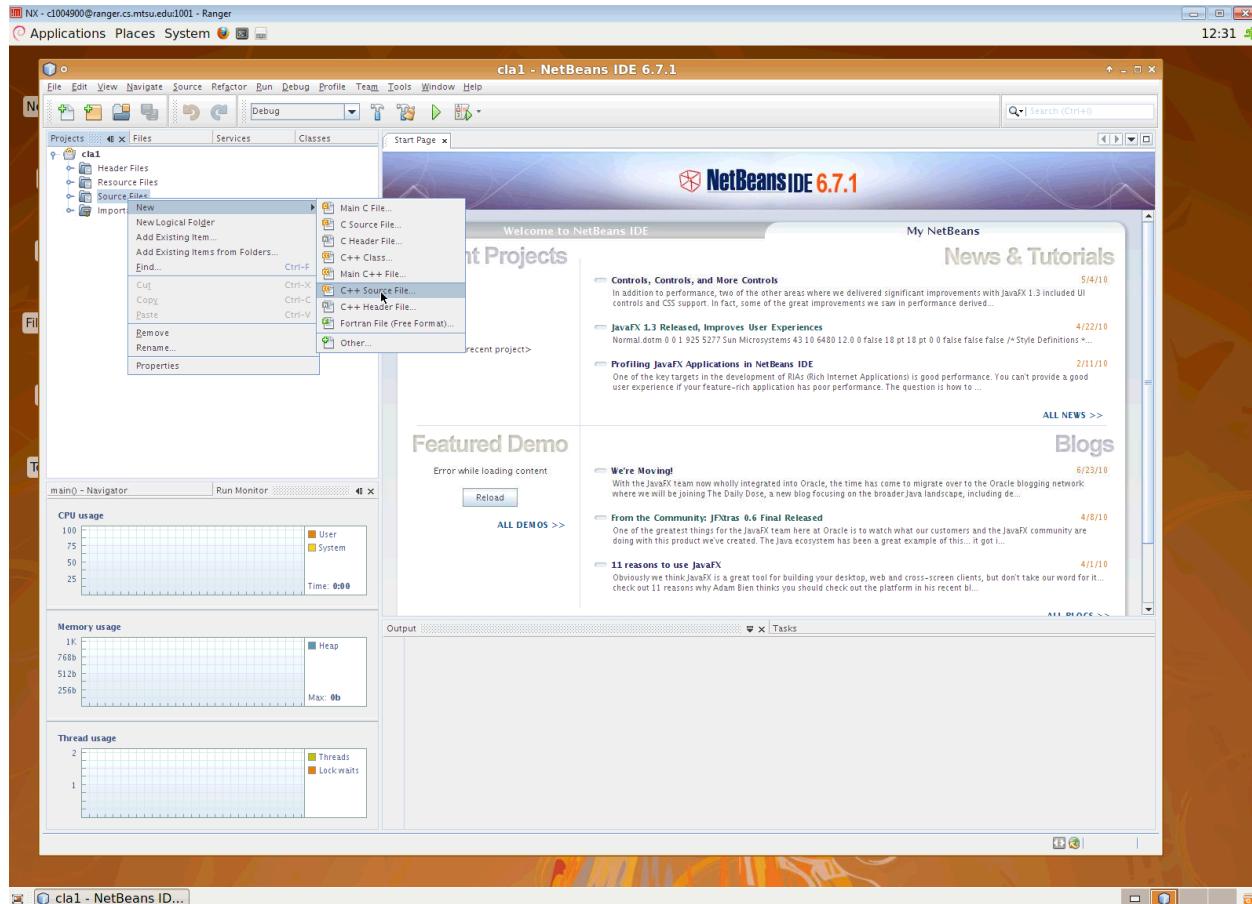
6. Click the **Next** button and you should get a window comparable to the following.



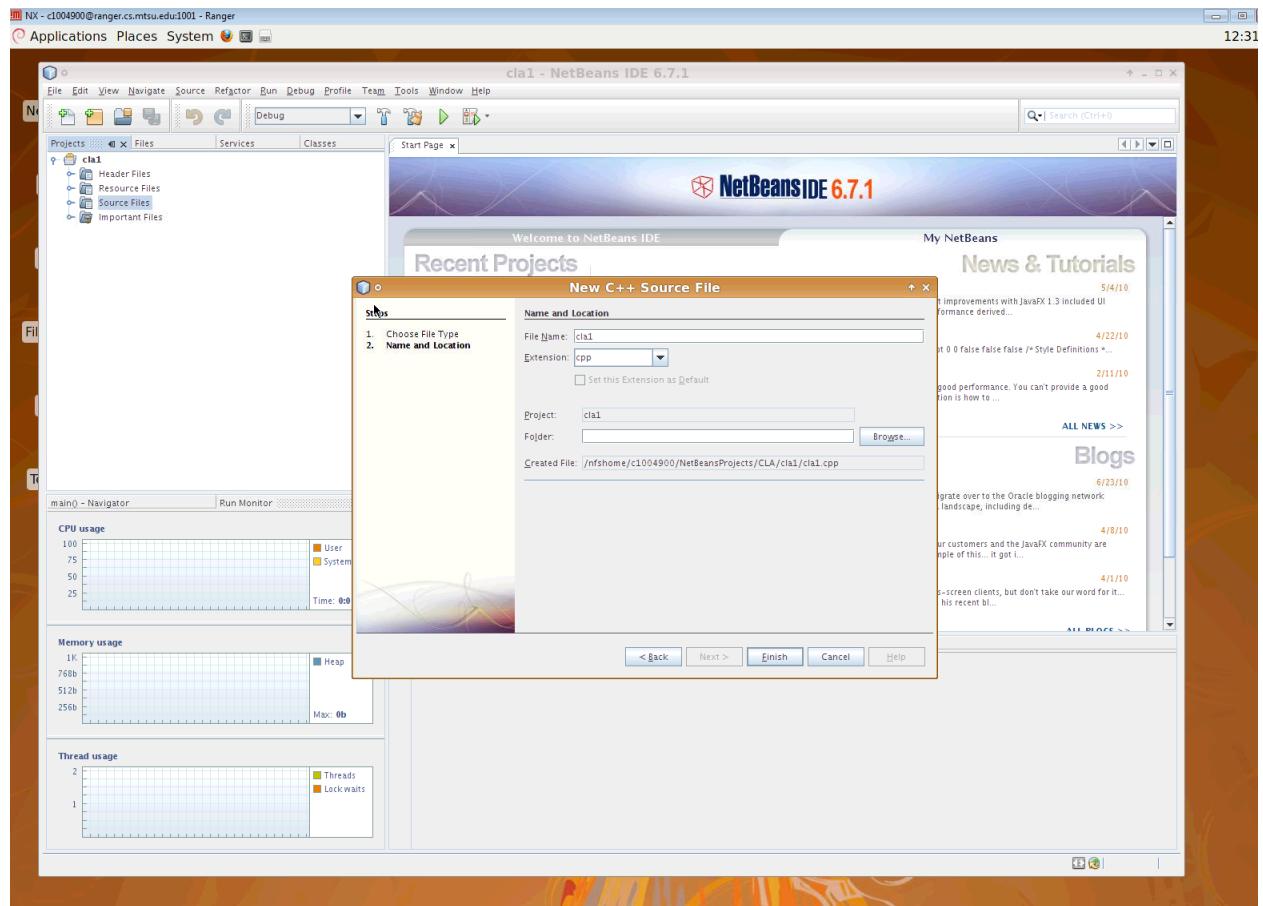
7. A window similar to the following will pop up.
- Since this is a CLA, in the **Project Location** window, add 'CLA' to the end of the path "/nfshome/c100xxxx/NetBeansProjects/". (If you are working on an OLA, then in the Project Location window, add 'OLA' to the location instead.)
  - Now in the **Project Name** window, enter the name such as olab1. NOTICE this is not the name of the '.cc' file.
  - Now click **Finish** button.



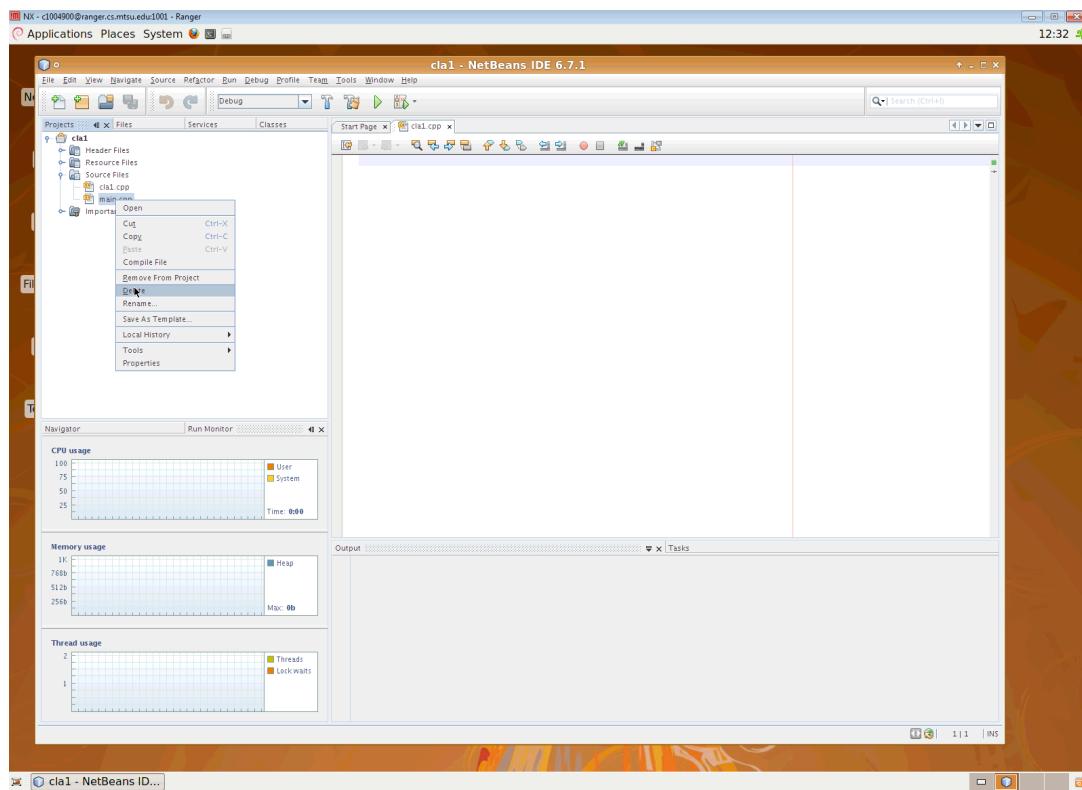
8. Now, let's create a new C++ source file for the project, right click on **Source Files** → **New** → **C++ Source file** **Do NOT choose main C++ file**.



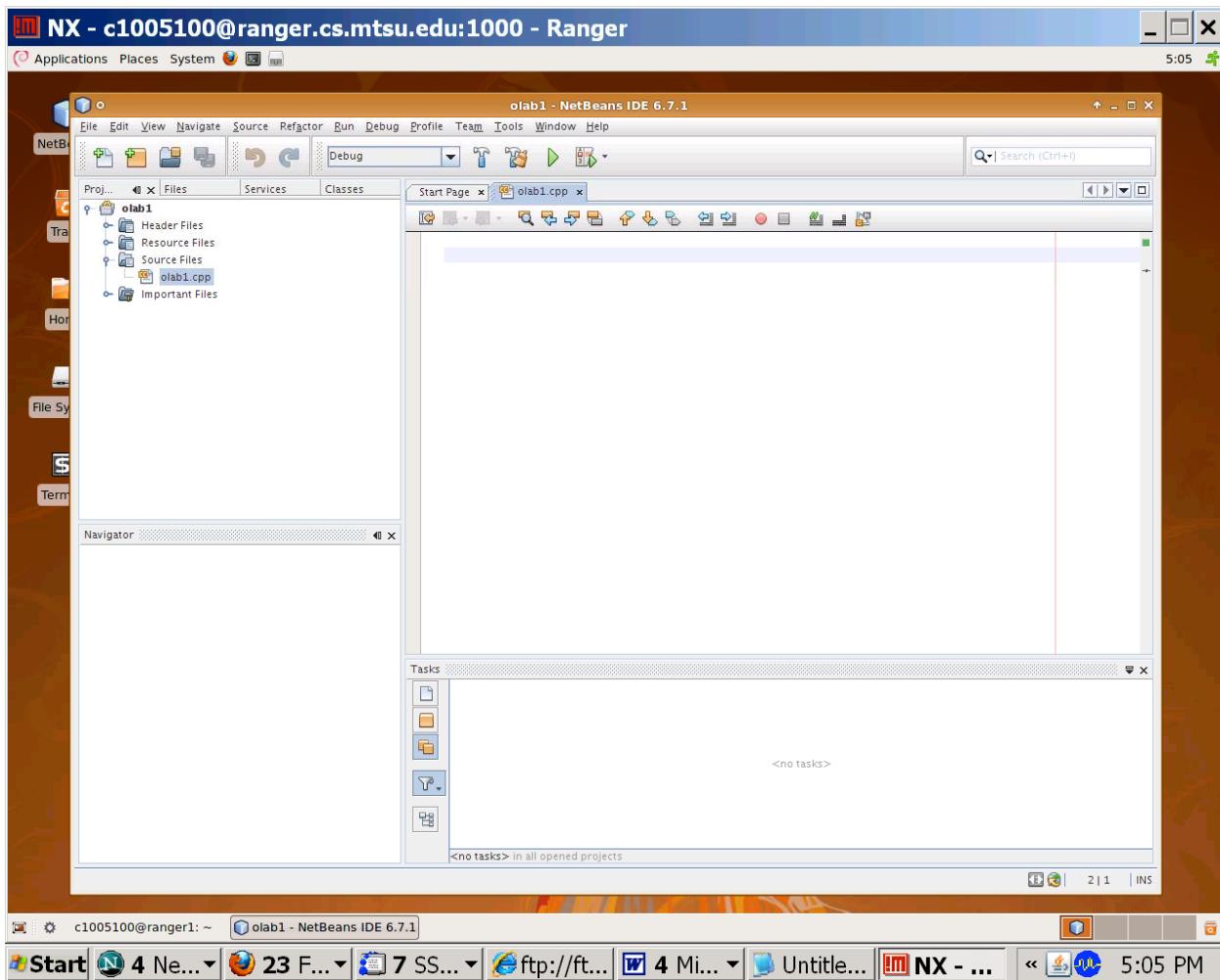
9. You will get the following window. Enter the FILE name, in this example, I have used the name, **clab1**. Then click **Next** button.



10. There is a default “main.cpp” file under Source Files. Delete this file as shown below:



11. Now you will get the following window in which you can enter your program

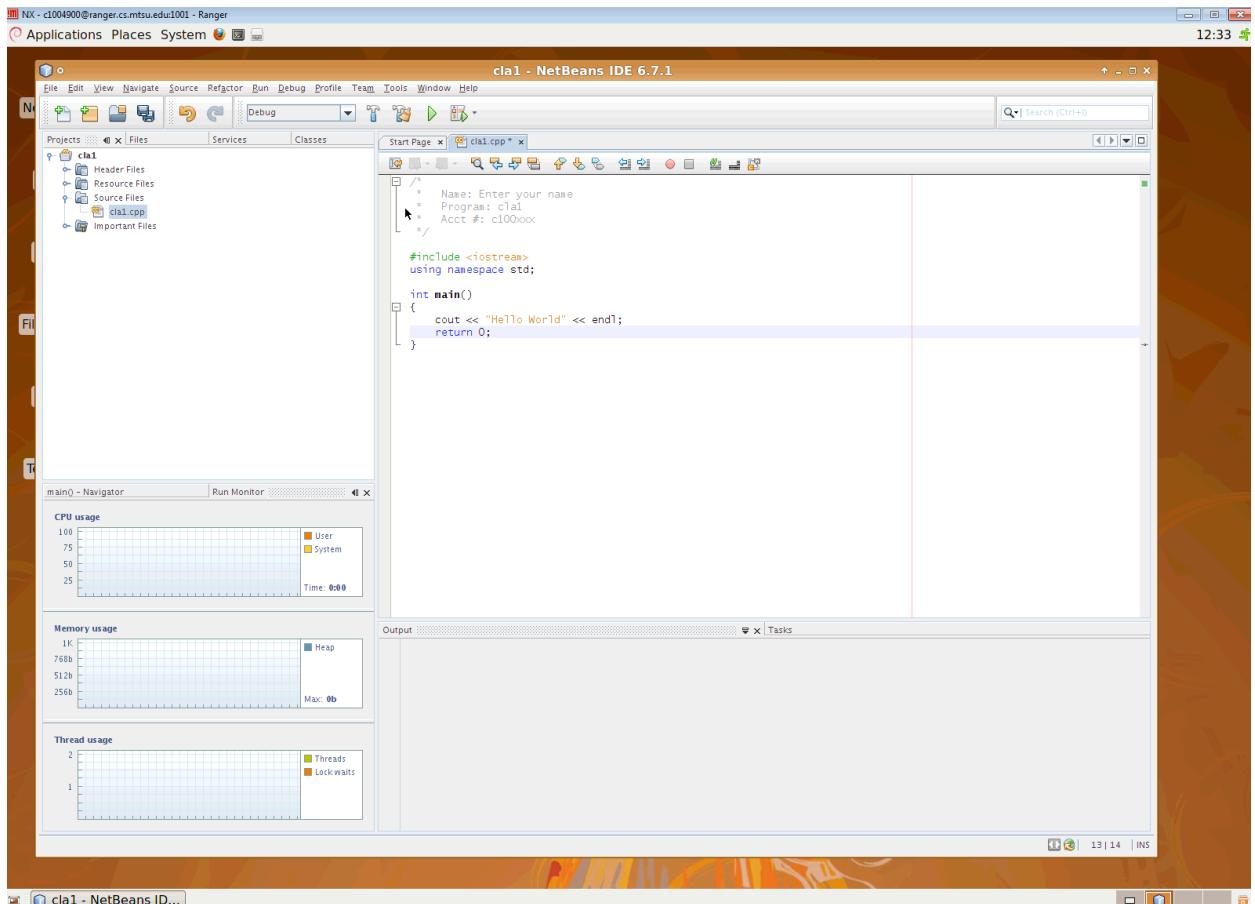


12. Let's enter a short test program to make sure every thing works up to this point. In the editor window, enter the following C++ program.

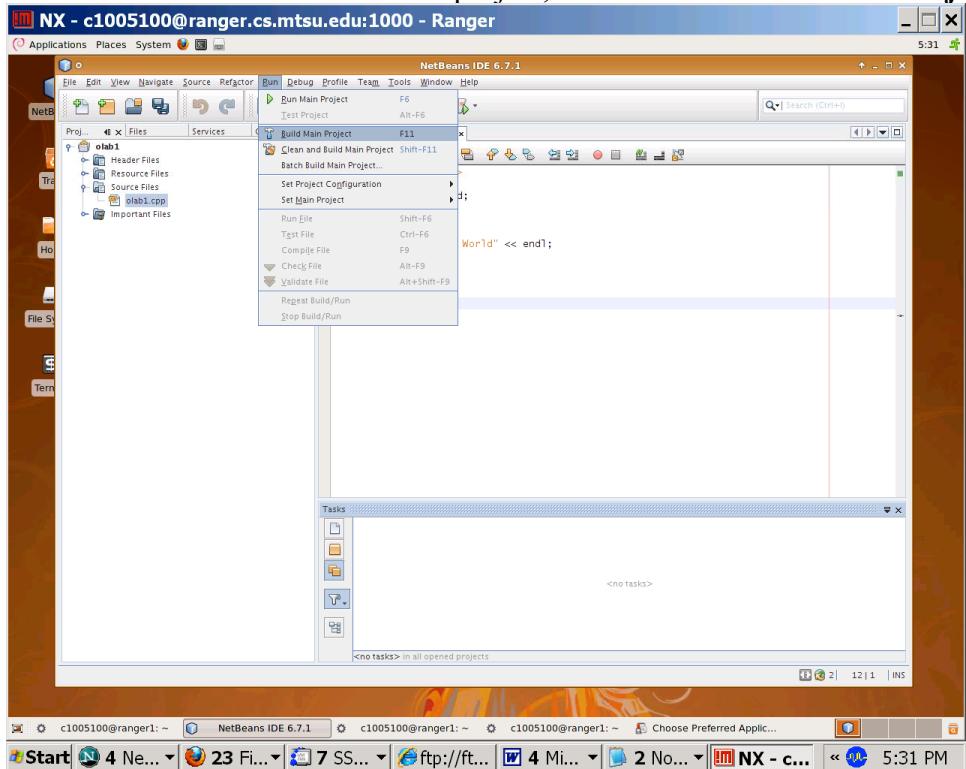
```
/* Name: enter you name here
Section: either 002 or 003
Acct#: c100xxxx
*/
#include <iostream>
using namespace std;
int main()
{
    cout << "Hello World" << endl;
    return 0;
```

}

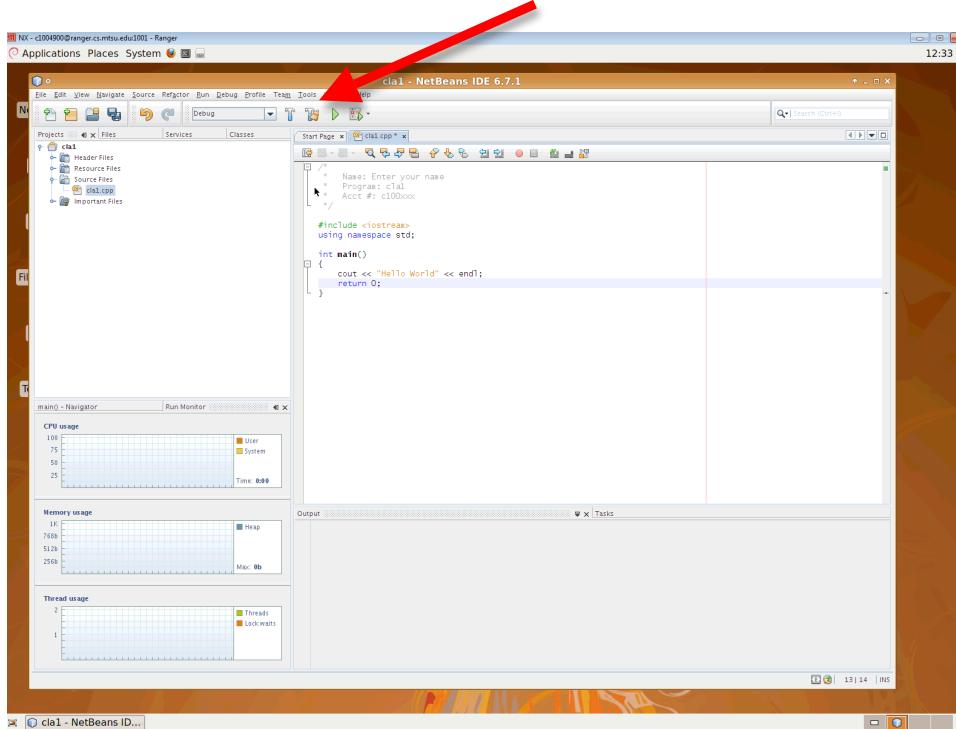
.....*NOTE*..... I don't know of anyway on this system to copy from a MS Windows system to the Netbeans editor window, i.e., cntrl-C and cntrl-V does not work.



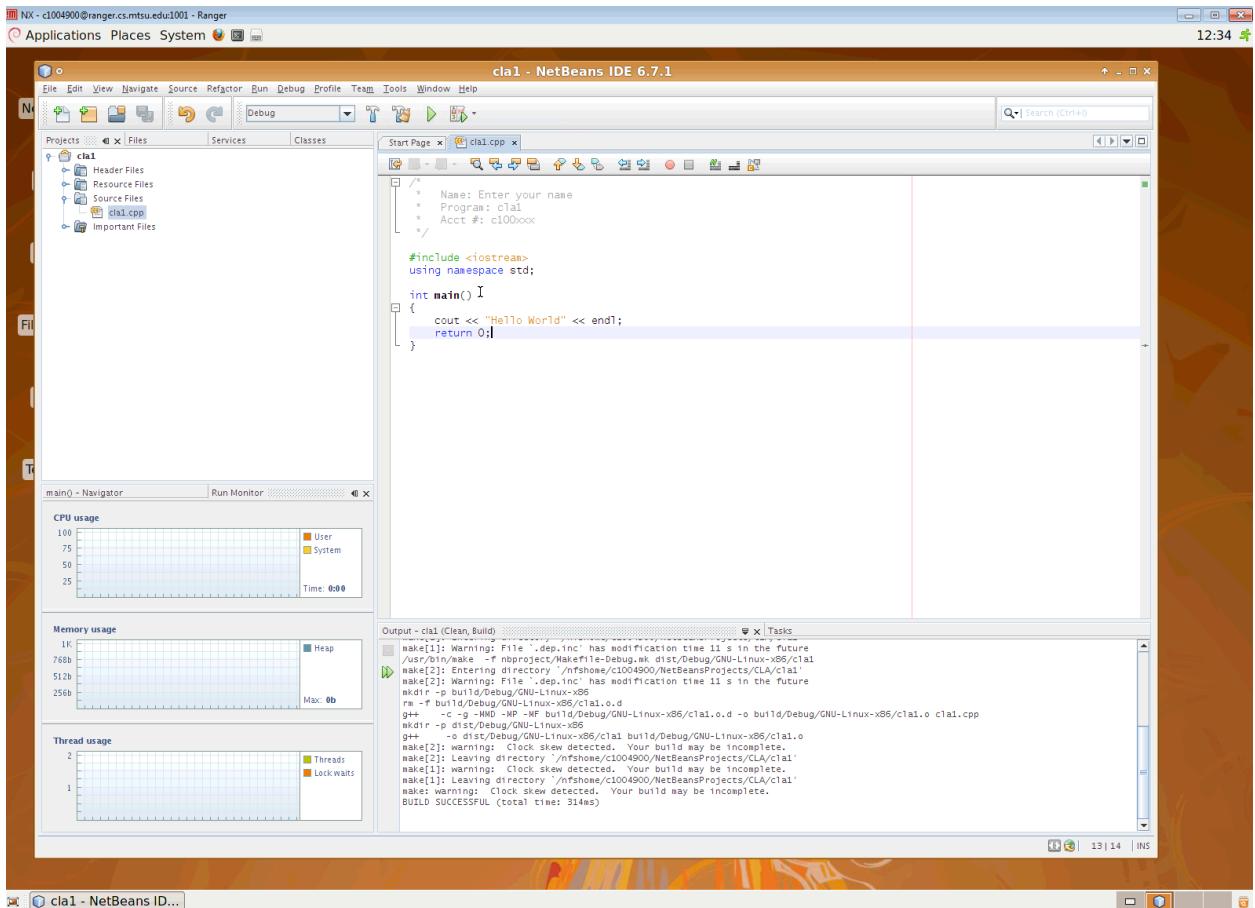
13. To generate the executable file from the project, click **Run -> Build Main Project**.



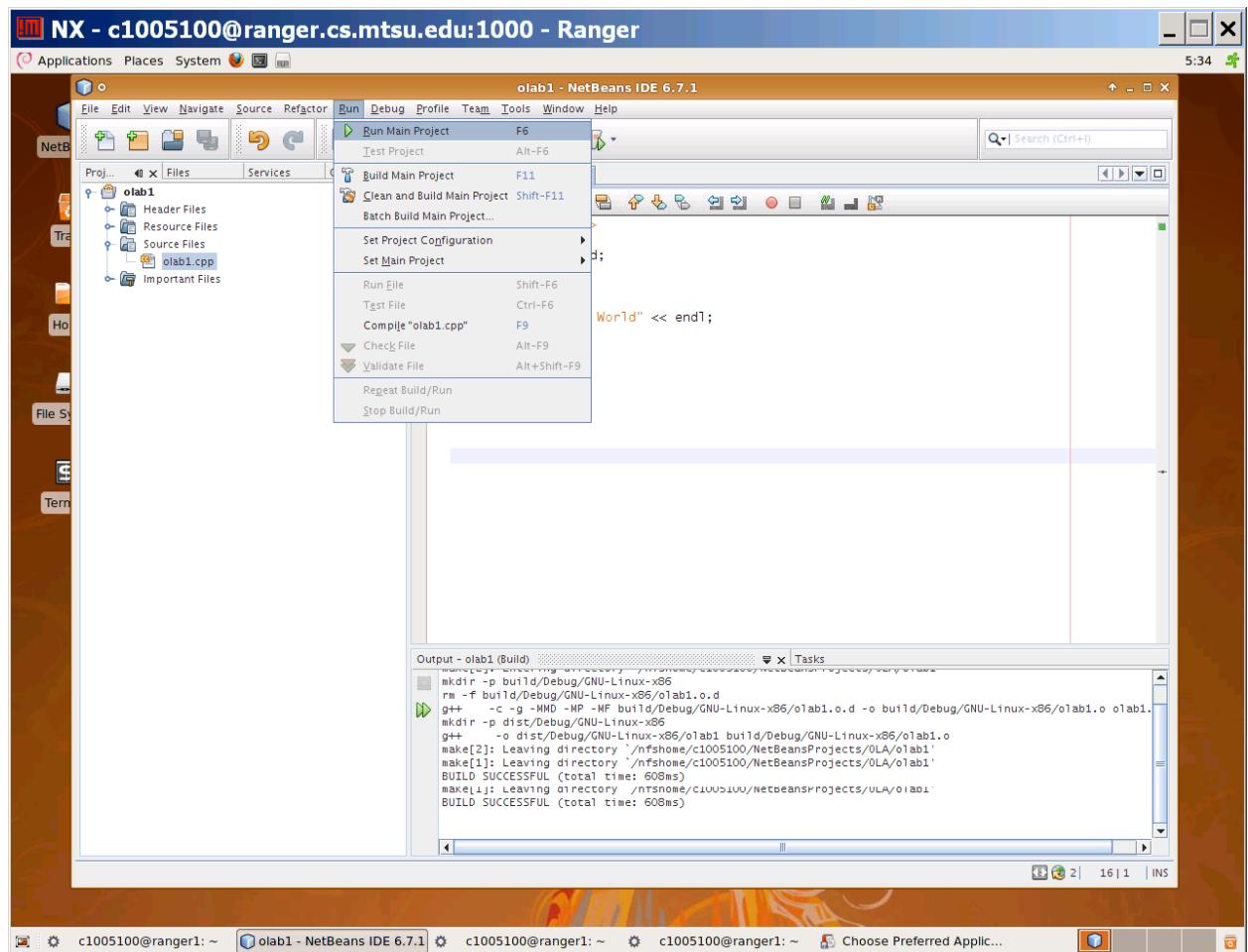
ALTERNATIVELY you can click on the build icon...see next screen shot....



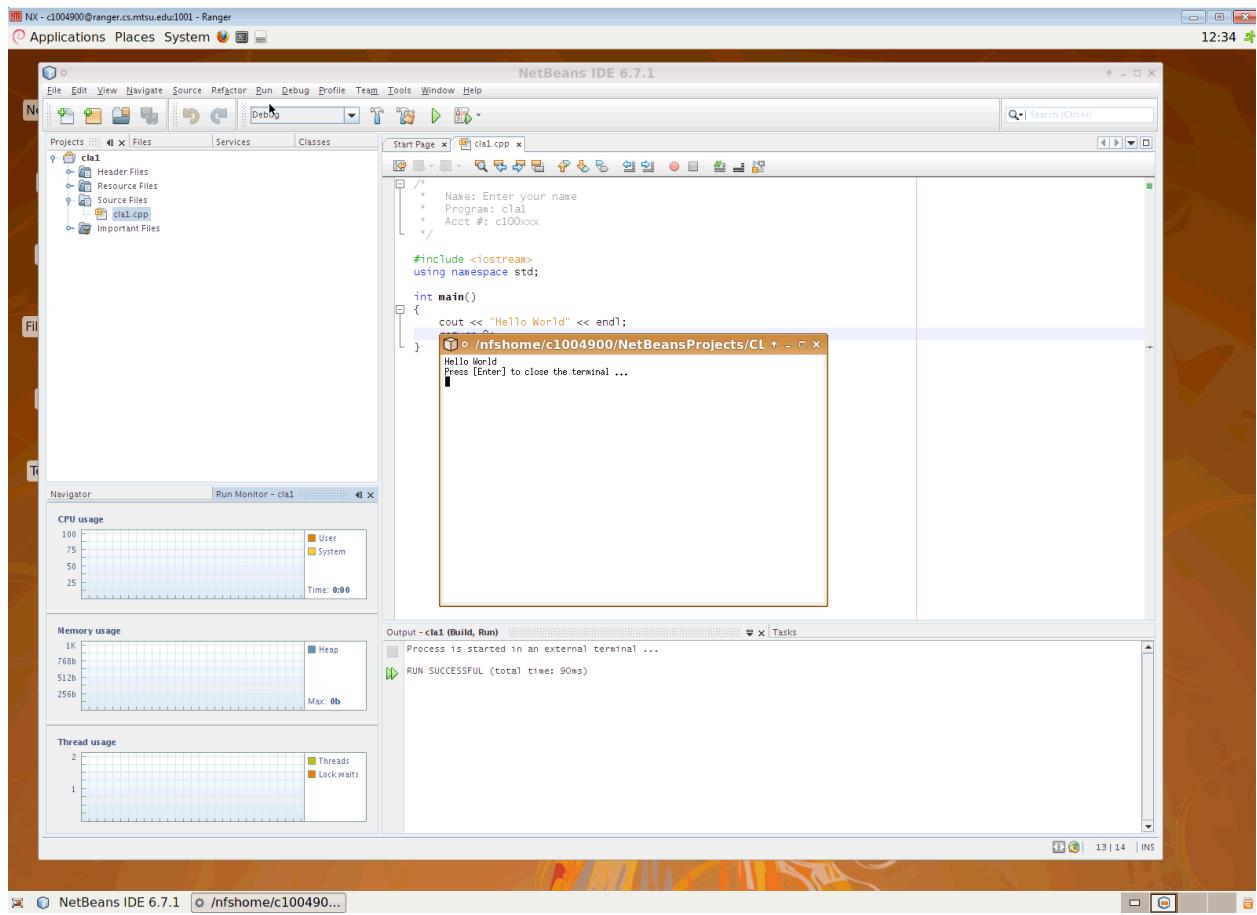
14. The output of the build is shown in the window below. If there is a compile error, double click the error in the output window and the source code that “causes” the problem will be highlighted.



15. To execute the program, select **Run -> Run Main Program** or alternatively you can click on the execute icon.



16. The program execution/output is shown below.



The screenshot shows the NetBeans IDE 6.7.1 interface. The top menu bar includes File, Edit, View, Navigate, Source, Refactor, Run, Debug, Profile, Team, Tools, Window, and Help. The title bar indicates the session is "NX - c1004900@ranger.cs.mtsu.edu1001 - Ranger". The status bar at the bottom right shows the time as "12:34".

The main workspace contains several panes:

- Projects** pane: Shows a project named "cls1" with files "Header Files", "Resource Files", "Source Files", and "cls1.cpp".
- Start Page** pane: Displays the source code for "cls1.cpp". The code includes a prompt for the user to enter their name and a "Hello World" message.
- Output** pane: Shows the terminal output where the program has run successfully, displaying "Hello World" and a prompt to press Enter.
- Run Monitor** pane: Provides real-time monitoring of CPU usage, memory usage, and thread usage.

**17. Where are the sources files of a project located in Linux?**

- a. Launch a terminal window in NXclient.
- b. By default all NetBeans project are saved in the folder “**NetbeansProjects**”.
- c. Enter that folder by typing “**cd NetbeansProjects**”. You will find a folder for each project. The name of that folder is the same as the project name.
- d. Enter the project folder and you can find all source files of that project.

**18. For the CLOSED LAB, you need to electronically submit the *Hello World* prorgam that you created above in NetBeans. To do this use the Linux command *handin*. You must be on *ranger* for this command to work. Assuming you are currently in the project directory, type:**

**\$ handin cla1A clab1.cpp**

Examples: if you do a an 'ls' and see the file: xyz.cc then handin cla1A xyz.cc would hand in that file. If you know the file is located in the folder abc, ie., if you do a 'ls abc' and you see the file xyz.cc listed, then **handin cla1A abc/xyz.cc** would hand in the file xyz.cc

- Because this is the first time you are using the **handin** command, you will get a message of the form:

```
NOTE: Please enter your course account's password when prompted.  
(Use your instructor-supplied course account password.)  
Authentication realm: <svn://svn.cs.mtsu.edu:3690> 076fc91e-5327-  
0410-80b2-9ad2079b72ac  
Password for 'c0155913':
```

Enter your course account password (the same one you used to log on to ranger) as indicated. (Don't be alarmed that nothing seems to be being entered; your password will **not** be shown on the screen as you type it, not even as a row of asterisks. It is going in, however!) This will be the only time you will need to provide this information for **handin**; the information is stored for future uses. If successful, this **handin** command will deposit a copy of the specified files in an electronic repository.

- READ the output from the handin command. In particular if there are errors reported, then your file was not turned in correctly. You will need to correct the problem and 'handin' the file again.
- You may handin an assignment as many times as you desire. Be aware however that deadlines still apply.

**19. For the 'handin' command, if you just type 'handin', it will give you a list of assignments that you may submit and dates for any assignments that you have already submitted. So, in this case, if you enter 'handin', you should see the assignment submitted in step 19.**