Installing ROOT

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This is a simple guide on how to easily install the latest version of ROOT on most *NIX based operating systems. Open a terminal and execute the folowing commands for the appropriate operating system.

First it's important to install a few pre-requisites.

For Mac OS X:

```
$ xcode-select --install
```

For Debian based systems (Ubuntu):

```
$ sudo apt-get install git dpkg-dev make g++ gcc binutils libx11-dev
$ sudo apt-get install libxpm-dev libxft-dev libxext-dev
```

For Red Hat based systems (Fedora, Centos):

```
$ sudo yum install git make gcc-c++ gcc binutils libX11-devel
$ sudo yum install libXpm-devel libXft-devel libXext-devel
```

The following steps will work on all systems. Next we will move to the directory where we will install ROOT:

```
$ cd /usr/local/
```

To download the ROOT files run the following command:

```
$ sudo git clone https://github.com/root-mirror/root.git
```

Next we will change the ownership of the folder root with:

```
$ sudo chown -R "username" root
```

Replace "username" with your username. If you don't know your username on your computer use the "who" command, your username will be in the first collum.
Now enter the root folder to start building the code:

```
$ cd root && ./configure --all && make -j 4
```

If there are problems building the code in thise way try:

```
$ make clean && ./configure --minimal && make
```

Once it is done building run the command.

```
$ source bin/thisroot.sh
```

Now you should be able to run root with from your terminal with the command "root". In order for root to work after closing terminals or after shutdowns you must add root to your path.
For Mac OS X based systems running bash:

```
$ cd
$ nano .bash_profile
```

For linux systems running bash:

```
$ cd
$ nano .bashrc
```

Add the following lines to the end of the file that is open in the nano text editor.

```
#Include Path For CERN ROOT
export ROOTSYS=/usr/local/root
export PATH=$ROOTSYS/bin:$PATH
export LD_LIBRARY_PATH=$ROOTSYS/lib:$PYTHONDIR/lib:$LD_LIBRARY_PATH
export PYTHONPATH=$ROOTSYS/lib:$PYTHONPATH
```

Then close nano with control+x and save by typing y and then enter. Now root should open in any terminal you run even after a reboot.

On older systems or if you encounter errors during the configure setup it is sometimes helpful to install an earlier version of root. To get an earlier version:

```
$ cd /usr/local/root
$ git checkout -b v5-34-00-patches
```

Then the steps can be followed from the configuration and make steps from above.