

MATHEMATICS DEPARTMENT, UNIVERSITY OF MASSACHUSETTS DARTMOUTH  
**High Performance Scientific Computing**  
**MTHEAS 520 – Section 01 – Spring 2015**  
**Project submission instructions**

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You are required to submit all projects via the version control system Git. You will do so by “pushing” updates to a remote repository that I will set up.

In order to push, the major steps involved here are:

- 1 Set up an ssh (Secure SHell) public-private authentication key pair
- 2 Email me your *public* ssh key
- 3 Test your setup by cloning
- 4 Submit your project

## 1 SSH keypair generation

You will need to set up an ssh keypair. Instructions on how to do this from the terminal can be found at:

- <https://www.drupal.org/node/1070130>
- <https://wiki.joyent.com/wiki/display/jpc2/Manually+Generating+your+SSH+Key+in+Mac+OS+X> (Ignore the “Uploading an SSH Key” portion)

Note that you don’t need to do this if you’ve already generated an ssh keypair before. (Inspect your `~/.ssh/` folder to see if you already have one.)

After generating a keypair, you should have a *private* key (a file named something like `id_rsa`) and a *public* key (a file named something like `id_rsa.pub`).

## 2 Email your *public* key

Send me your *public* ssh key, e.g. the contents of a file name `id_rsa.pub`.

Do not send me your *private* key. (Do not ever share your private key.)

After receiving your public ssh key, I will reply with an IP address, a string of numbers with the format `XXX.XXX.XXX.XXX`. The following instructions make use of this number.

## 3 Test a repository by cloning

After receiving the IP address I send you, connect to the internet and use the following command in a terminal window:

```
$ git clone eas520git@XXX.XXX.XXX.XXX:testing
```

where `XXX.XXX.XXX.XXX` is the IP address I send you from Step 2. If this runs successfully, then you are all set.

## 4 Submit your project

Suppose your name is John Smith, and you want to submit the first project of the semester. You have your submission ready as a git repository on your local machine. From your local repository, use the command

```
$ git remote add submit eas520git@XXX.XXX.XXX.XXX:john-smith-project-1
```

This command references a remote server at a particular URL location (`eas520git@XXX.XXX.XXX.XXX`), with a particular repository name (`john-smith-project-1`). Instead of typing these very long names in the future, the alias `submit` is created to reference this remote repository. Now you can submit with the command

```
$ git push submit master
```

(Assuming you are submitting the `master` branch, which you almost certainly will be doing.) For future projects, you will of course want to change the project number (here, `project-1`). Also, you may choose any alias (rather than `submit`) that you prefer; the alias is only for convenient reference on your local machine.

## 5 Emergency Situations

If you run into last-minute problems for submitting your project, you may submit via the following alternative method. (Only if it's last-minute, and your problem is that you can't get the instructions above to work.)

Create an account on <http://www.bitbucket.org>. Create a private repository for your project, and push your submission to this repository. Use Bitbucket's web interface to invite me to join the repository (my username is `akilnarayan`).

Only use this method if it's moments before a submission deadline and for whatever reason you cannot push to the repository using the instructions in Step 4. You have plenty of time to take care of the items in Sections 1-3, so your only problem should be in the instructions in Step 4!