16 - Working Remotely & Closing Git Branches

CS 2043: Unix Tools and Scripting, Spring 2016 [1]

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Cornell University

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Some Logistics

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  - Please fill them out, *especially* for the TAs. Feedback helps us all develop, as well as gives you the opportunity to have an impact on future students.

Working Remotely

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    - In most scenarios, you get charged by the number of cores / resources you are using.

Using **ssh**

Secure Shell

ssh [opts] <username@remote.host

- **username** is the username on the *remote* host.
- **remote.host** is the url of the server you want to log into.
  - IP Address: **128.253.141.42**
  - Symbolic name: **csug11.csuglab.cornell.edu**
- Use **-l** to specify username (no need for **@** anymore).
- **-p <port>**: connect to a specific port (may be necessary depending on the server).
- Can forward graphical *programs* (NOT the entire screen):
  - Enable **X11** forwarding with **-X**.
  - Enable "trusted" **X11** forwarding with **-Y** (actually less secure, only use if needed).

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  - The party: `/courses/cs2043/zzz_COLOR_PARTY`

Transferring Files

Secure Copy

`scp [flags] <from> <to>`

- It's exactly like `cp`, only you are transferring over the web.

- Transfer *from* the `client` *to* the `remote` host.

- Transfer *from* the `remote` host *to* the `client`.

- Copy directories just like before using the `-r` flag.

- Must specify `user` on the `remote`.

- `Remote` syntax:
  `user@host.name:/path/to/file/or/folder`
  - You need the `:` to start the `path`.

- If you don't have permission...you can't get it!

- More modern systems let you `TAB` complete across the `remote` directories :)

- Transfer from `remote` to local computer:

scp by Example

- Transfer from **remote** to local computer:

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>>> scp sjm324@blargh.ru:/absolute/path/colorize.sh ~/Desktop/
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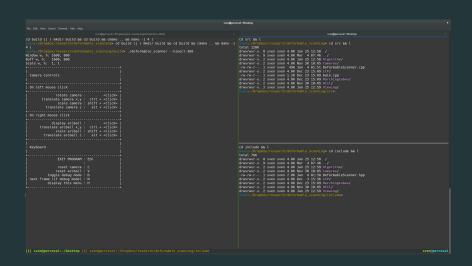   - Split your terminal into multiple *panes*.

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- Extremely convenient if you want to be able to work effectively with `ssh`.
- Unfortunately, not available to you on `csug` (for good reason).

What does it Look Like?

Suggestion: **tmux**

Terminal Multiplexer

tmux

- Vanilla (no options) starts a new multiplexed instance.
- Can split into *panes* horizontally and vertically.
- Can **detach** (sort of put in background, but it is still running).
- Can re-**attach**.
- Can open new windows, sessions, panes, and more.
- tmux list-{buffers,clients,commands,keys,panes,sessions,windows}
- **ctrl+D** to close current *in-focus* pane / window.

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- Others exist, such as `terminator` and `screen`.

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- Save your layouts with `teamocil`!
    - `gem install teamocil`
    - Visit their page for how to set things up:
      http://www.teamocil.com/
- First run `tmux`, then launch `teamocil <name>`.

Closing a Git Branch

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```
# http://stackoverflow.com/a/10243236/3814202
# create a "tag"
>>> git tag archive/<branchname> <branchname>
#     e.g.: archive/lec13_csv lec13_csv
# by default, they do not get pushed online. but we can:
>>> git push origin archive/<branchname>
#             e.g.: archive/lec13_csv
# now delete the branch locally, and on the remote
>>> git branch -d <branchname> # note: is lower case!!!
>>> git checkout master
>>> git push origin --delete <branchname>
```

[1] B. Abrahao, H. Abu-Libdeh, N. Savva, D. Slater, and others over the years.
Previous cornell cs 2043 course slides.