

WELCOME TO CIS 241

SYSTEM-LEVEL PROGRAMMING AND UTILITIES

WHAT'S THIS CLASS ABOUT?

- Working in Linux (1st half)
- C Programming Language (2nd half)

SYLLABUS

<https://github.com/cis241-f19/class-material/blob/master/syllabus.pdf>

- Need to create a github account to view it
- Check your email for an invite

CIS LABS

- We are in EOS
- Everyone should have an account -- try logging in
- Want to work here? -- Get a keycard
- More info: <https://github.com/cis241-f19/class-material/blob/master/eos-info.pdf>

DON'T WANT TO HERE -> REMOTE ACCESS

SSH - SECURE SHELL (CH17)

- What's a shell?
- What shell am I using? `echo $0`
 - `$0` is expanded into command being run
- SSH is a way of securely connecting to a remote shell
- Try it!

SSH (CONT.)

- Annoying to enter password everytime!
- Setting up ssh keys
 1. Check for existing
`ls -al ~/.ssh`
 2. Generate new keys
`ssh-keygen -> generates public and PRIVATE keys`
 3. Add public key (id_rsa.pub by default) to remote server in the file
`~/.ssh/authorized_keys`
`ssh-copy-id -i "username@hostname"`

HAVING ISSUES WITH SSH-KEYS? -- COMMON PROBLEMS

- Windows users will need to use something other than command prompt
 - git-bash (bash shell that comes with git for windows)
 - Ubuntu terminal - you can get this from the Windows app store
- Errors about the authorized keys file:
 - Not existing: make the file with
`touch ~/.ssh/authorized_keys`
 - Wrong permissions:
`chmod 600 ~/.ssh/authorized_keys`

HAVING ISSUES WITH SSH-KEYS? (CONT.)

- If for some reason you can use `ssh` and `ssh-keygen` but don't have `ssh-copy-id`
 - Move `id_rsa.pub` to remote machine:

```
scp ~/.ssh/id_rsa.pub username@hostname:~
```
 - SSH into remote machine and add public key to `authorized_keys`:

```
ssh username@hostname
```



```
cat id_rsa.pub >> .ssh/authorized_keys
```