- Eclipse
  - Integrated Development Environment (IDE)

ec

- Version:
- can use the gcc compiler and gdb debugger
  - and Makefiles
- Requires a Java Runtime Environment

http://www.eclipse.org/downloads

• Eclipse IDE for C/C++ Linux Developers

http://www.eclipse.org/cdt/

# DANGER!

- Does Eclipse run on Windows?
   Yes
- Can I write C code on Windows?
   Yes, with the Cygwin suite installed
- Can I write C code on Windows for this class?
  - No

#### Workspace Launcher

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Templates for New C/C++ Project







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Note: bin is special and might get automatically created later in the semester!



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### Import Existing Project

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General | Existing Projects into Workspace

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CS300TreeLab (/home/chadd/CS300TreeLab)			Select All
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#### **Configure Preferences**





#### http://zeus.cs.pacificu.edu/chadd/cs300f18/CS300PrefsF17.xml



#### Autosave when Building







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## Create a new HelloWorld project

File  $\rightarrow$  New  $\rightarrow$  C/C++ Project

C Managed Build

Project Name: HelloWorldAgain

Executable  $\rightarrow$  Makefile Project  $\rightarrow$  Empty Project

Toolchains  $\rightarrow$  Linux GCC

Next, Next, Next, Finish

# Printing

- Windows | Preferences
- General | Appearance | Colors and Fonts
- C/C++ | Editor | C/C++ Editor Text Font

– Use Courier 10 Pitch, Size 8

This changes the font on the screen!
 You may want to change back after printing

• Print doubled sided!

# **Coding Standards**

- Download CodingStandardsProfile
  - CS300PrefsF17.xml
  - sets tabs, newlines, spacing
  - Does not fix everything!
- Window | Preferences | C/C++ | Code Style
   | Formatter | Import
- Open your .c file
  - Source | Format
  - Shift+Control+F

# Helpful Commands

- F3 while cursor on function call
  - go to that function
- Control-L
  - -go to line
- Control-A
  - select all
- Control-I
  - correct indentation

Be sure to look through the Source and Navigate menu!

## Other tips

- Window | Preferences
  - search for template to setup .c and .h file templates
    - you can add the file comment header automatically!
  - search for margin
    - set the print margin column to 75!
  - search for name style
    - to set naming conventions
  - search for code analysis
    - setup error/warnings in code style

## Setup file header comments

- Header comments
  - Window | Preferences | C/C++ | Code Style | Code Templates
- In the top, center box
  - Comments | Files
- Press Edit on the right.

•		Preferences	_ = ×
type filter text	Code Templ	ates	▼ ▼
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Code Templates		Author: \${user}	Export All
Formatter		Class: CS300	
Name Style		Assignment:	
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Core Build Toolchains		***************************************	
Debug			
Docker Container			
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Indexer			
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Meson	0	Cancel OK	
New C/C++ Project W		s	

\${file\_name} will fill in the file name automatically
\${user} \${date} are also useful variables

## September 16

### Profiling with Valgrind

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## September 13

 wget zeus.cs.pacificu.edu/chadd/cs300f19/ CS300\_Git\_Example.tar.gz

• tar zxf CS300\_Git\_Example.tar.gz

Open Eclipse and point your workspace at CS300\_Git\_Eclipse

Create an account on GitHub github.com

Set up SSH keys.

On your local linux machine:

ssh-keygen -t ed25519 -C "punetid@pacificu.edu"

Accept all defaults. Two files are created: ~/.ssh/id\_ed25519 your private key ~/.ssh/id\_ed25519.pub your public key Add key to GitHub

https://help.github.com/en/enterprise/2.15/user/articles/adding-a-new-ssh-key-toyour-github-account

Add keys to Eclipse:

https://wiki.eclipse.org/EGit/User\_Guide#Eclipse\_SSH\_Configuration

Windows | Preferences | ssh in search box SSH2 Add **Private** Key choose id\_ed25519

Create a private repository.

Find the git@gitlab.com:USER/REPOS.git name

### Create a private repository named cs300f19\_punetid

#### https://help.github.com/en/articles/create-a-repo

#### Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? Import a repository.

🕂 chaddcw <del>-</del>	/ cs300f19_punetid
Great repository r	names are short and memorable. Need inspiration? How about urban-chainsaw?
Description (optic	onal)
O E Public	
Anyone car	n see this repository. You choose who can commit.
Anyone car	n see this repository. You choose who can commit.
Anyone car     Private     You choose	n see this repository. You choose who can commit.
Anyone car     Anyone car     You choose	n see this repository. You choose who can commit. e who can see and commit to this repository.
Anyone car     Private     You choose	n see this repository. You choose who can commit.
Anyone car     Private     You choose Skip this step if ye	n see this repository. You choose who can commit. e who can see and commit to this repository. ou're importing an existing repository.
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<ul> <li>Anyone car</li> <li>Private You choose</li> <li>Skip this step if you</li> <li>Initialize this r This will let you i</li> <li>Add .gitignore: Note</li> </ul>	n see this repository. You choose who can commit. e who can see and commit to this repository. bu're importing an existing repository. repository with a README mmediately clone the repository to your computer. one  Add a license: None  i

### Success!

### Stop here.

### Note the SSH address given: git@github.com:chaddcw/cs300f19\_will4614.git

chaddc	w / cs300f19	9_will46′	4 Private				⊙ Watch -	0 ★ St	ar O	<b>%</b> Fork	0
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Quick	setup — if	you've (	done this	s kind of thing	g before						
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Get star	ted by creating	a new file o	or uploading	an existing file. W	/e recommend e	every repository	include a READ	ME, LICENSE	, and .gi	tignore.	
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or pı	ush an exist	ting rep	ository f	rom the comr	nand line						
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git push -u origin master

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#### Do this once per project

Note how the directory name is related to the directory from two slides ago

Git Setup – Once Per Computer At the command line:

git config --global user.name "chadd williams" git config --global user.email "will4614@pacificu.edu" Git Setup – Once per repository (should be once per semester).

At the command line, inside the project:

chadd@coffee:~/git/cs300-repository/CS300\_TestProject (master)>

git remote add origin git@github.com:chaddcw/cs300f19\_will4614.git

SSH Address from GitHub

Check to make sure it worked:

git remote -v

origin git@github.com:chaddcw/cs300f19\_will4614.git (fetch)

origin git@github.com:chaddcw/cs300f19 will4614.git (push)

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eclipse-workspace-CS300F19-empty - Eclipse IDE



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Select a rem	ote and the name the branch should have in the remote.	ľ
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Destination:		
Remote:	origin: git@github.com:chaddcw/cs300f19_will4614.git 👻	New Remote
Branch:	master	
Configur	e upstream for push and pull Illing: Merge	
Force ov	erwrite branch in remote if it exists and has diverged Show <u>adva</u>	inced push dialog
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## Success!

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📌 master	→ master [new branch]	
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## Local Destination

Configure the local storage location for cs300f19.



Destination		
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Initial branc <u>h</u> :	master	•
Clone subr	modules	
Configuration—		
Remote name:	origin	





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## Success!



## Pull Changes from Git

Valari	indLinkedListLab [cs300f19 master	1		
	New	•		
	Go Into			
	Open in New Window			
)	Show in Local Terminal	•		
	🗎 Сору	Ctrl+C		
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	Close Project			
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	Profiling Tools	•	R <u>e</u> mote	Þ
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