

*Coding for Development and Social Change, Oct 2014*

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# Tools

What you need to get started

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# Your Toolset

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- ❖ Terminal window
- ❖ Text editor (Sublime Text)
- ❖ Version control (Git)
- ❖ Repository (Github)
- ❖ Language (Ruby)
- ❖ Framework (Rails)
- ❖ Website host (Heroku)

(Not this weekend: an Integrated Development Environment)

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# Terminal Window

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- ❖ Mac:
  - ❖ applications > utilities > terminal
- ❖ Windows:
  - ❖ Taskbar Start Button > Command Prompt
- ❖ Linux:
  - ❖ applications > accessories > terminal



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# Terminal: basic commands

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- ❖ **pwd**: print current directory name
- ❖ **cd xxx**: change to directory xxx
- ❖ **cd ~**: go to your 'home' directory
- ❖ **ls**: list files in directory
- ❖ **ls -al**: list \*all\* files in directory (including hidden ones)
- ❖ **mkdir xxx**: create a directory called xxx

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# Terminal: create a work directory

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- ❖ Ruby coders often put their code into a folder called “workspace”

**cd ~**

**mkdir workspace**

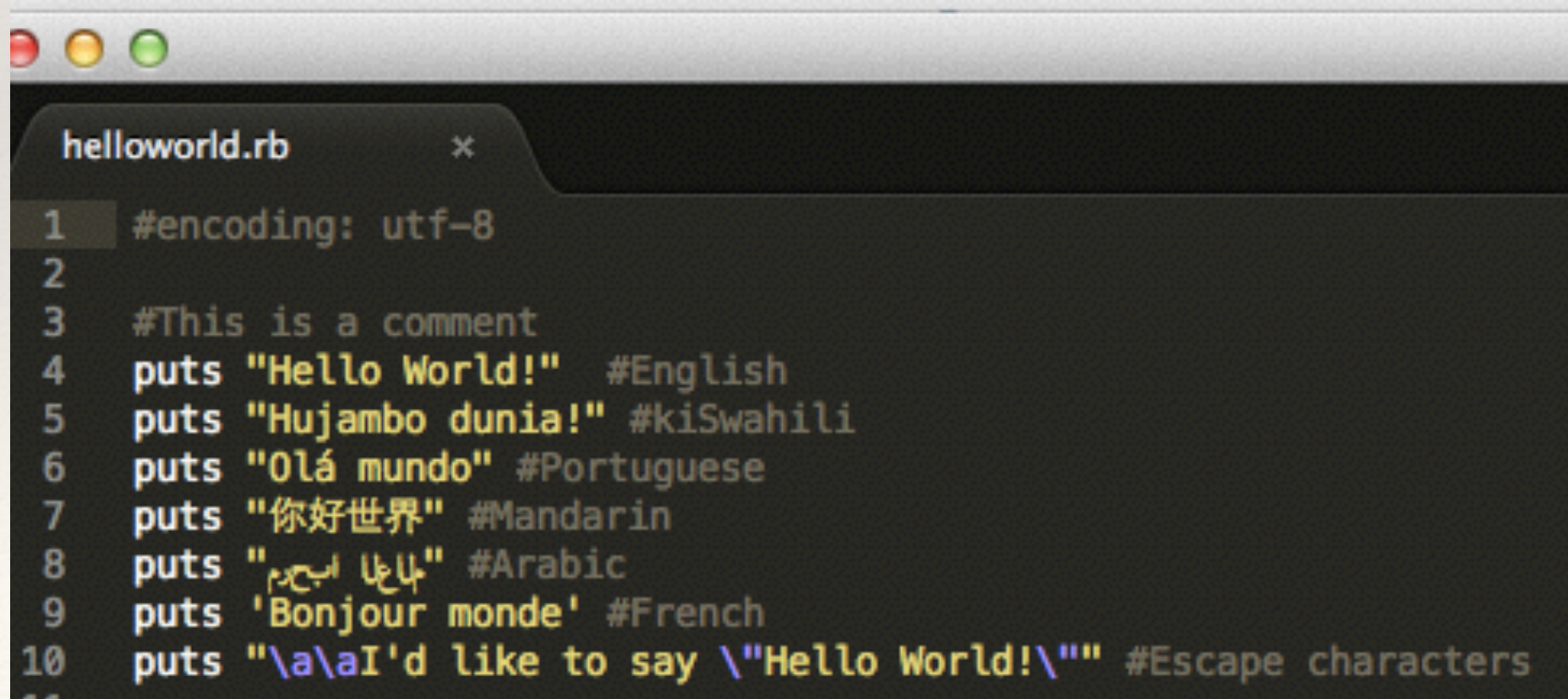
- ❖ It doesn't matter where you put your code, but make sure you can find it again!
- ❖ e.g. I work in Python and Php on a Mac, so all my files are in /Users/sara/Sites

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# Text Editor

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- ❖ You need a text editor that highlights your code
- ❖ We're using SublimeText in these lectures:
- ❖ <http://www.sublimetext.com>



```
helloworld.rb *  
1 #encoding: utf-8  
2  
3 #This is a comment  
4 puts "Hello World!" #English  
5 puts "Hujambo dunia!" #kiSwahili  
6 puts "Olá mundo" #Portuguese  
7 puts "你好世界" #Mandarin  
8 puts "مرحبا بالعالم" #Arabic  
9 puts 'Bonjour monde' #French  
10 puts "\a\aI'd like to say \"Hello World!\"" #Escape characters
```



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# Integrated Development Environments

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- ❖ **Ruby:** RubyMine (free to students)
  - ❖ <https://www.jetbrains.com/ruby/download>
- ❖ **Python:** Idle (free)
  - ❖ comes with Python
- ❖ **Php:** PhpStorm (free to students)
  - ❖ <https://www.jetbrains.com/phpstorm/>
- ❖ **Android Java:** Eclipse plus ADT plugin (free)
  - ❖ <http://developer.android.com/sdk/installing/installing-adt.html>

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# Git and Github

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## ❖ Git

- ❖ Version Control System (VCS)
- ❖ Logs changes to files
- ❖ Can “roll back” to a previous version of a file or project

## ❖ Github

- ❖ Remote repository
- ❖ Online versions of your project
- ❖ Share code with other people
- ❖ Log changes to files (what, who, when)



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# Git/Github: getting started

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- ❖ Get a github account
  - ❖ <https://github.com/>
- ❖ Install git
  - ❖ <http://git-scm.com/downloads>
  - ❖ \*not\* the GUI version (although that could be useful to you later)

<http://git-scm.com/book/en/Getting-Started-Installing-Git>

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# Github - getting your course notes

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❖ In the terminal window:

❖ cd to the directory that you want your notes in, then type:

**git clone https://github.com/bodacea/codingfordevhackathons**

❖ You should see a new directory appear, containing the files from the repo

❖ Tip: if you want to put this into a differently-named directory, type:

**git clone https://github.com/bodacea/codingfordevhackathons new-dir-name**

❖ If the online course notes change, you can get the new files from the terminal window:

❖ cd into the new directory, then type:

**git pull**

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# Github – some repos to check out

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- ❖ Human development:

- ❖ **UNOCHA**: <https://github.com/OCHA-DAP>
- ❖ **UNHCR**: <https://github.com/unhcr>
- ❖ **US State Dept Humanitarian Info Unit**: <https://github.com/state-hiu>
- ❖ **Humanitarian OSM**: <https://github.com/hotosm>
- ❖ **Ushahidi** <https://github.com/ushahidi>
- ❖ **Sahana** <https://github.com/sahana>
- ❖ **OpenStreetMap website** <https://github.com/openstreetmap/openstreetmap-website>

- ❖ Ruby/Rails:

- ❖ **Ruby on Rails** <https://github.com/rails>
- ❖ **RailsApps** <https://github.com/RailsApps/rails-composer>



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# Git – starting a repo

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- ❖ Using the terminal window:
  - ❖ cd into the directory that you want to add to github
  - ❖ if you haven't got a directory yet, make one.
  - ❖ Add a file called “readme.txt”
  - ❖ in the terminal window, type:

**git init**

**git add .**

**git commit -m “first commit”**

**git status**

See <https://help.github.com/articles/create-a-repo/>

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# Github - adding a repo

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- ❖ Go to any github page, e.g. <https://github.com/bodacea>
  - ❖ click the “+” at the RHS top of the page
  - ❖ select “new repository”
  - ❖ choose a name for your repo
  - ❖ click “create repository”

- ❖ Back to the terminal window:

**git remote add origin your-repo-address**

- ❖ where your-repo-address is on your new github page, e.g. <https://github.com/bodacea/codingfordevhackathons.git>

**git push -u origin master**

- ❖ Go look at your new online repo, e.g. <https://github.com/bodacea/codingfordevhackathons>

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# Github: updating your repo

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- ❖ Edit your files, add new ones, delete others etc.
- ❖ Then from the terminal window, type

**git add . -A**

**git commit -m “your message here”**

**git push**

- ❖ This moves a copy of your local files up to github



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# Installing Ruby and Rails

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- ❖ Use the RailsInstaller package:
  - ❖ <http://railsinstaller.org/en>
- ❖ If you're using Mac OS 10.9 (Mavericks):
  - ❖ Follow the RailsGirls instructions: <http://guides.railsgirls.com/install/#setup-for-os-x>
- ❖ Then install the library needed by heroku:  
**gem install bundler**

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# Adding Ruby Gems

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- ❖ Gems are “libraries” of reusable code.
- ❖ To add a gem, type “gem install <gemname>” in the terminal window... whilst you’re connected to the Internet.
- ❖ Add these:
  - ❖ foundation-rails
  - ❖ gibbon
  - ❖ google\_drive
  - ❖ simple\_form
  - ❖ better\_errors

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# Installing Heroku

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- ❖ Get a Heroku account (free):
  - ❖ Important: use the **\*same\*** email as your github account!
  - ❖ <https://signup.heroku.com/dc>
- ❖ Download the Heroku tool belt
  - ❖ <https://devcenter.heroku.com/articles/getting-started-with-ruby#set-up>
- ❖ In the terminal window, try  
**heroku login**
- ❖ We'll do more with heroku later

<https://devcenter.heroku.com/start>



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# Well-known Ruby/Rails sites:

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- \* AirBNB
- \* Slideshare
- \* Hulu
- \* Github
- \* Groupon
- \* Bloomberg
- \* IndieGoGo
- \* Square
- \* Twitter (started on Rails; had to change languages to scale)