

Introduction to *Sumatra*

Presented by

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Slides

Slideshare:
tiny.cc/smt-present
Source:
tiny.cc/smt-source

Resources on Sumatra

Website: neuralensemble.org/sumatra/
Getting started:
packages.python.org/Sumatra/
Repository:
bitbucket.org/apdavison/sumatra/
Mailinglist:
tiny.cc/smt-user
Maintainer: Andrew Davison



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Git Primer I

Initialization:

```
1 mkdir new_dir
2 cd new_dir
3 # new_dir is empty
4 ls -a
5 git init
6 # after initialization now has .git folder
7 ls -a
```

Git Primer II

Adding files and committing changes:

```
1  # write "hello world" in a file
2  echo "hello world" >> hello_world.txt
3  # stages the file
4  git add hello_world.txt
5  # commit (-a)ll staged changes with a (-m)essage
6  git commit -am 'added hello world'
7  # show the commit in the log
8  git log
```

Git Primer III

Going back to previous versions:

```
1  # first change the file
2  echo "goodbye world" >> hello_world.txt
3  # content has changed indeed
4  more hello_world.txt
5  # commit the changes
6  git commit hello_world.txt -m 'goodbye world'
7  # new commit appears in log
8  git log
9
10 # now use first 4 digits of commit ID shown in log
11 git checkout XXXX
12 # hello_world.txt was reverted to old version:
13 more hello_world.txt
14 # finally, go back to latest commit
15 git checkout master
```

Git Primer IV

Other helpful commands:

```
1  # show the status of all files
2  git status -s
```

Resources

- Software Carpentry
<http://swcarpentry.github.io/git-novice/>
- GitHub, Bitbucket
<https://github.com/>
<http://bitbucket.com/>
- git documentation
<http://git-scm.com/doc>

Sumatra Installation (Version 0.6.0)

Install globally (Ubuntu):

```
1  sudo apt-get install python-pip
2  sudo pip install django==1.6
3  sudo pip install sumatra
4  sudo apt-get install git
5  sudo pip install gitpython==0.3.7
```

... or install in a virtualenv:

```
1  virtualenv smt_0.6.0
2  source smt_0.6.0/bin/activate
3  pip install django==1.6
4  pip install sumatra
5  pip install gitpython==0.3.7
```

Sumatra Installation (Version 0.6.0) II

Manually test your setup:

```
1 mkdir smt_test/  
2 cd smt_test/  
3 git init  
4 smt init Test  
5 echo "print 'hello'" >> hello_world.py  
6 git add hello_world.py  
7 git commit -am 'test'  
8 smt run --main=hello_world.py  
9 smtweb
```

Setting up your first Sumatra project...

```
1 mkdir new_project/  
2 cd new_project/  
3 git init  
4 # configure for relative input paths and custom output  
5 smt init PROJECT_NAME --input=. --datapath=MyData/  
6 # show the configuration  
7 info
```


... and running the first tracked computation

```
1  echo "open('MyData/out1.dat','a').close()" > my_script.py
2  git add my_script.py
3  git commit -am 'added my_script'
4  echo "a = 1
5      b = 2" > params.py
6  # create some example input file
7  echo "123,456,789
8      987,654,321" > input1.dat
9  # input & parameter files need not be (shouldn't be?)
10 # under version control
11 smt run --main=my_script.py input1.dat params.py
12 # inspect new simulation record in the terminal...
13 smt list --long
14 # ... and the web interface
15 smtweb
```

Things Sumatra can't do

- track parallel computations
- is not easily transferable to other systems or even local directories
- misses some implementations (rerun when code has been changed, display code from web interface, ...)

Alternatives to Sumatra

- pypet
`https://pypet.readthedocs.org/en/latest/`
- Manual tracking of computations (file names, spreadsheets, ...)
- custom tools?

Have fun with Sumatra!

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