

How I Learned to Stop Worrying and Love the Build

Ian Sillitoe (Darwin 627)

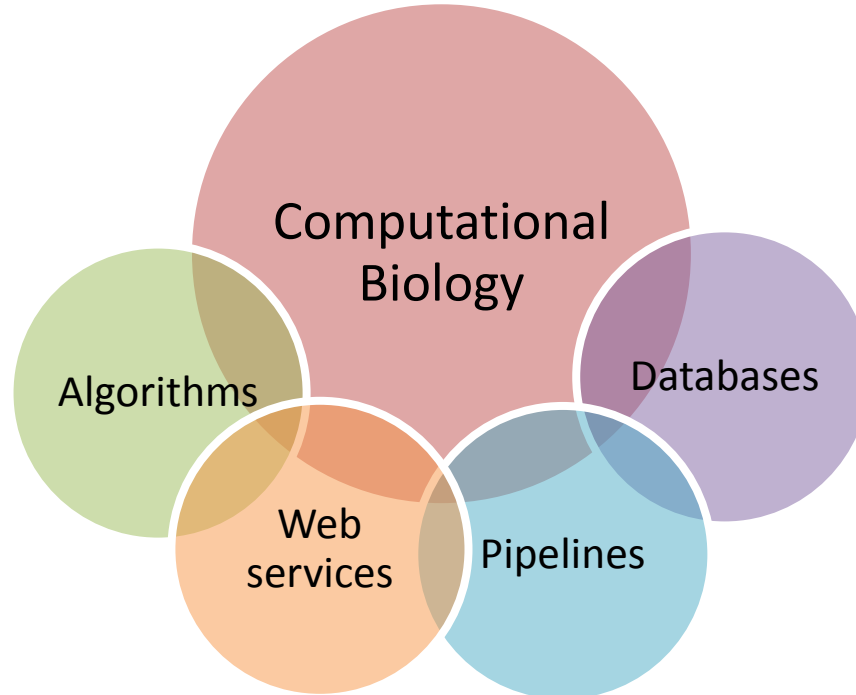
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Orengo Group

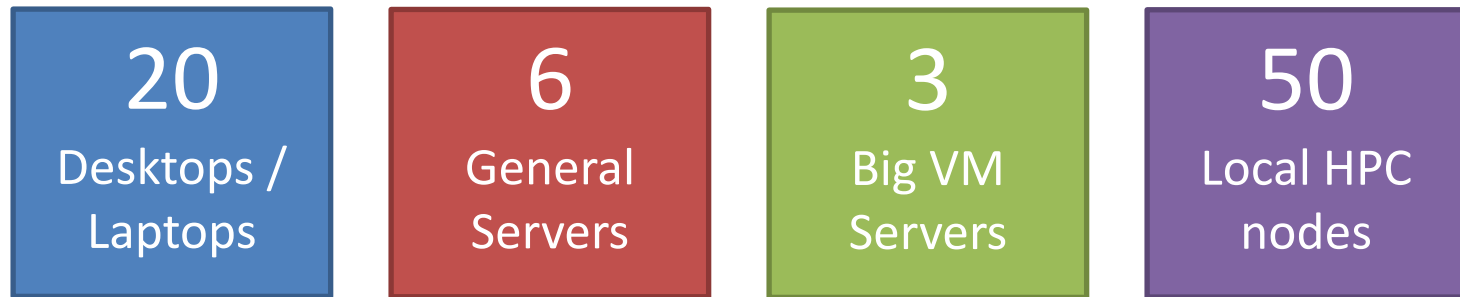


Orengo Group

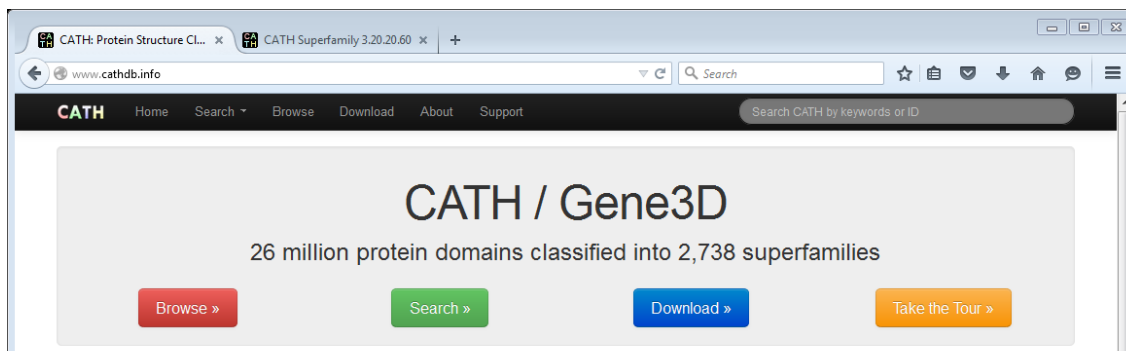
- Prof Christine Orengo
 - Room 627, Darwin
 - 6 Post docs, 6 PhD students



Linux Services



- Version Control SVN, Git
- Web Tools Apache, Varnish, FCGI, Solr, Tomcat
- Databases PostgreSQL, Oracle, MySQL
- Software Dev Perl, Python, Java, C++, Javascript
- Sys Dev VM, Puppet, CentOS, Ubuntu



What is CATH?

CATH is a classification of protein structures downloaded from the Protein Data Bank. We group protein domains into superfamilies when there is sufficient evidence they have diverged from a common ancestor.

- Search CATH by text, ID or keyword
- Browse CATH Hierarchy
- Search CATH by protein sequence (FASTA)
- CATH Release Notes
- Search CATH by PDB structure
- CATH Tutorials

Example pages

- PDB "2bog"
- Domain "1cukA01"
- Relatives of "1cukA01"
- Superfamily "HUPs"
- Functional Family
- FunFam Alignment
- Search for "enolase"
- Superfamily Comparison

Citing CATH

If you find this resource useful, please consider citing the reference that describes this work.

CATH: comprehensive structural and functional annotations for genome sequence
 Sililiotie I, Lewis, TE, Cuff AL, Das S, Ashford P, Dawson NL, Fumham N, Laskowski RA, Lee D, Lees J, Lehtinen J, et al.
 Nucleic Acids Res. 2015 Jan doi: 10.1093/nar/gku947

CATH News

Support
Jobs

Get Started

Documentation
Tutorials

Challenge

- Provide web application that is:
 - Efficient not CGI.pl
 - Robust no downtime, no bad links
 - Flexible encourage new features
 - Scalable deal with traffic, future proof
 - Maintainable > 1 developer

Efficient

- Use MVC web application (not CGI.pl)
 - (MVC = Model / View / Controller)
- e.g.
 - Perl **Catalyst**, Dancer, Mojolicious, ...
 - Python Django, CherryPy, ...
 - Ruby Rails, ...

Robust

- Continuous Integration (CI)
 - Everything gets put into group code repository
 - code, crontabs, tests, etc
 - All code has its own tests
 - Tests run automatically all the time
 - If tests PASS - shared code gets updated
 - If tests FAIL - we get an email
- e.g. Jenkins CI, Travis CI, ...

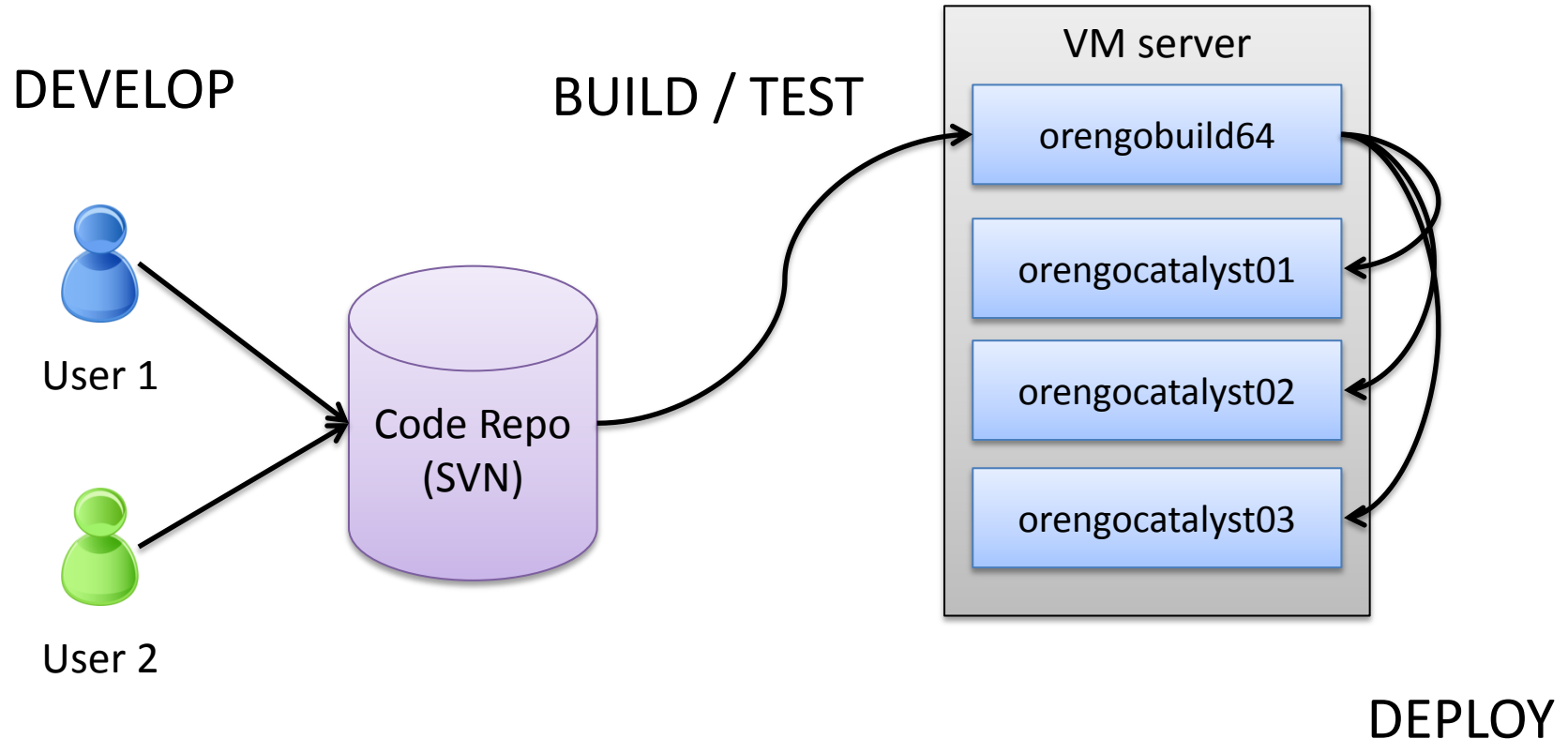
Flexible

- Lots of (good) tests gives you...
 - Confidence to make changes
 - Confidence to accept changes from others
- Continuous Integration lets you...
 - See your own changes in “beta” sites
- MVC web applications make it easy to...
 - Create powerful, interactive web pages

Scalable

- Move web code to Virtual Machine (VM)
 - SVN all common code in central repo
 - Puppet maintains machine requirements
 - Varnish web cache, load balance, failover

Develop, Build / Test, Deploy



Cache, Load Balance, MVC

