



Jenkins CI within the MANTID project

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Jenkins

- Open-source automation server
- Enables continuous integration and deployment
- Web Interface
- Master-slave model
- Hundreds of plugins to add additional functionality



Brief History of **MANTiD**

- Cross-platform data reduction & analysis framework for neutron data

~2008-2010

ISIS only
UK
SVN
Cruise Control

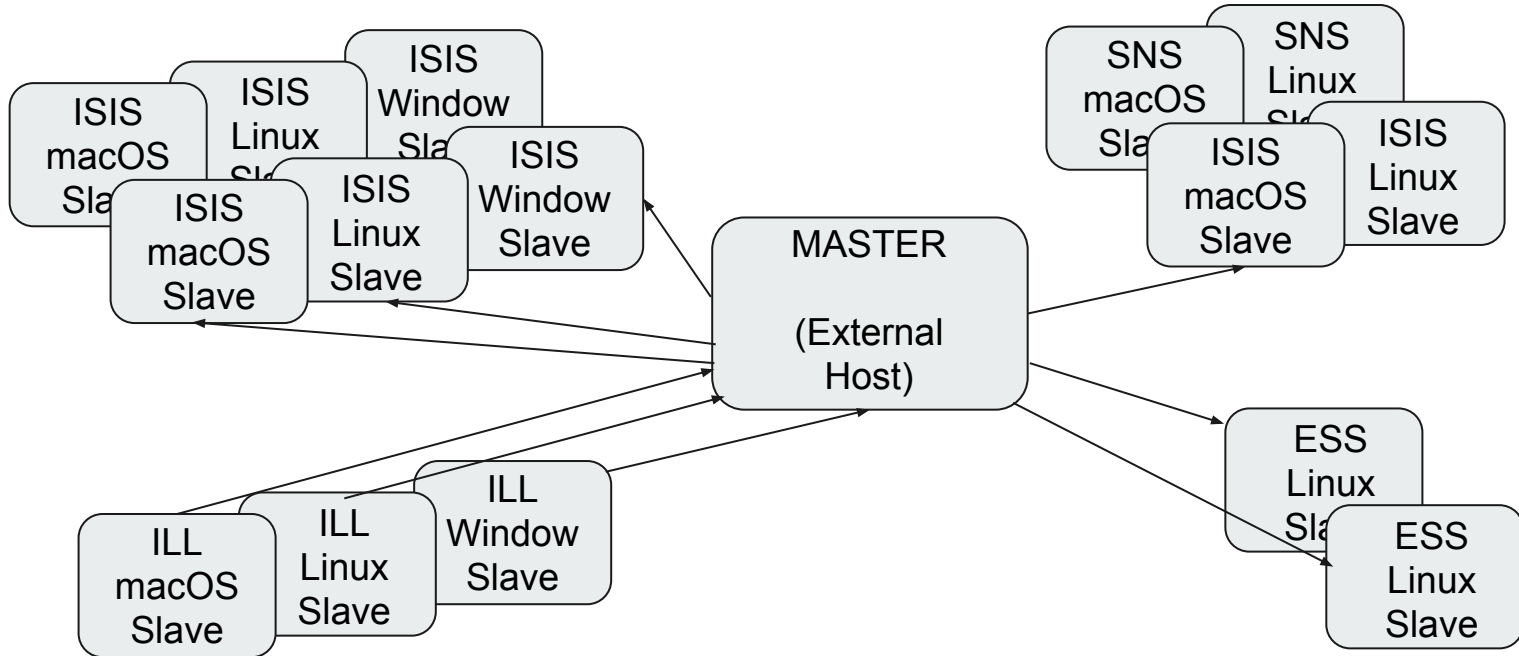
2010

ISIS/SNS
UK/USA
Git/GitHub - no
pull requests
Jenkins

2018

ISIS/SNS/ILL/ESS
UK/USA/France/Sweden
Git/GitHub Pull Requests
Jenkins
25+ developers

Jenkins Setup

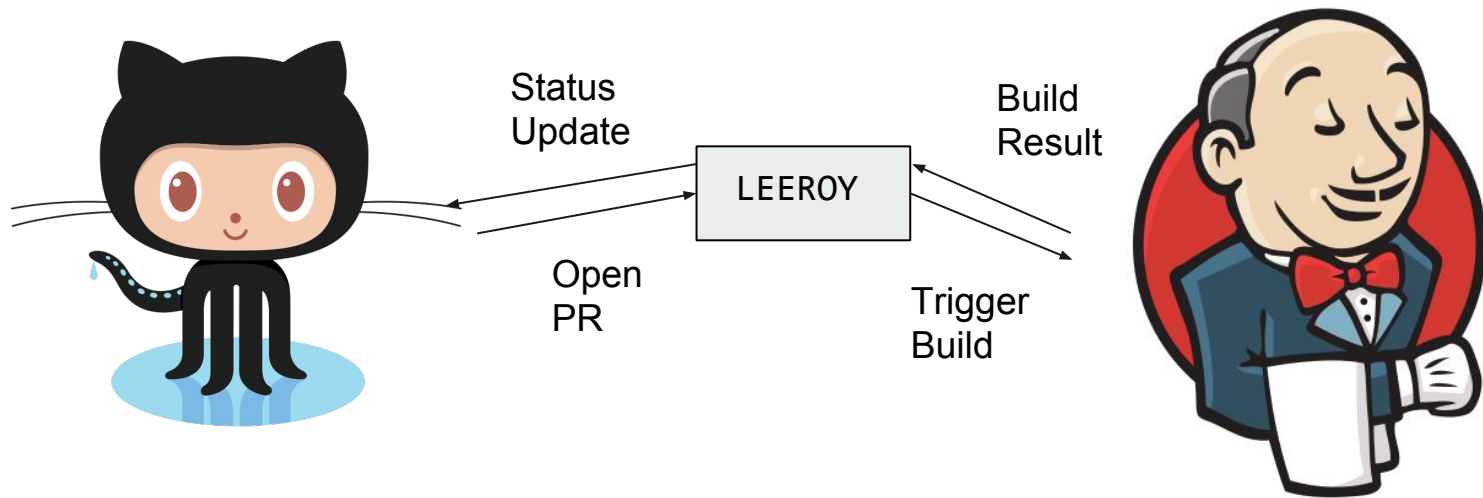




Workflows

- Pull-request-based workflow
- 3 releases per year
- Nightly development builds based off master
- Supporting
 - Red Hat 7
 - Ubuntu LTS
 - macOS
 - Windows

Pull Requests





Nightly and Release Pipelines

- Jobs configured using downstream job features
- Pipeline view useful for visualizing these connections

- Delete View
- Project Relationship
- Check File Fingerprint
- View Fullscreen
- Manage Jenkins
- My Views
- Job Priorities
- Restart Safely
- Credentials
- Wall Display
- New View

Build Queue (1)

master_performancetests2

Build Executor Status

- master**
 - 1 Idle
 - 2 release_nightly_deploy #194
- ess-ubuntu-builder-1** (offline)
- ess-ubuntu-performancetests** (offline)
- isis-mantid-mac-pro**
 - 1 Idle
- isis-mantidlnx02** (offline)
- isis-mantidlnx1**
 - 1 Idle
- isis-mantidlnx3**
 - 1 Idle
- isis-mantidweb**
 - 1 Idle
- isis-ndw1170**

#150

2018-03-07 02:43:09 (6 hours ago)

Commits: 0 Trigger Details: SCM Total Duration: 230 min 59 sec

```

    graph LR
      A[release_clean-rhel7] --> B[release_systemtests-rhel7]
      A --> C[release_doctests-rhel7]
      A --> D[release_doxygen]
      B --> E[isis_task_copy_release_nightly_rpm]
      B --> F[ornl_task_copy_release_nightly_rpm]
      C --> F
      D --> G[release_nightly_deploy]
  
```

release_clean-rhel7 (6 hours ago, 48 min 3 sec)

release_systemtests-rhel7 (5 hours ago, 182 min 46 sec)

release_doctests-rhel7 (5 hours ago, 30 min 44 sec)

release_doxygen (4 hours ago, 9 min 17 sec)

isis_task_copy_release_nightly_rpm (2 hours ago, 1 sec)

ornl_task_copy_release_nightly_rpm (2 hours ago, 9 sec)

release_nightly_deploy (4 hours ago)

Windows 7

#129

2018-03-07 01:59:08 (6 hours ago)

Commits: 0 Trigger Details: SCM Total Duration: 352 min 41 sec

```

    graph LR
      A[release_clean-win7] --> B[release_viruscheck]
      B --> C[release_systemtests-win7]
      C --> D[release_nightly_deploy]
  
```

release_clean-win7 (6 hours ago, 118 min 39 sec)

release_viruscheck (4 hours ago, 14 min 27 sec)

release_systemtests-win7 (4 hours ago, 219 min 35 sec)

release_nightly_deploy (4 hours ago)

Ubuntu 16.04

#57

2018-03-07 02:04:08 (6 hours ago)

Commits: 57 Trigger Details: SCM Total Duration: 94 min 9 sec

```

    graph LR
      A[release_clean-ubuntu-16.04] --> B[release_systemtests-ubuntu-16.04]
      B --> C[isis_task_copy_release_nightly_deb]
      B --> D[release_nightly_deploy]
      C --> D
  
```

release_clean-ubuntu-16.04 (6 hours ago, 17 min 55 sec)

release_systemtests-ubuntu-16.04 (5 hours ago, 71 min 19 sec)

isis_task_copy_release_nightly_deb (5 hours ago, 4 min 54 sec)

release_nightly_deploy (4 hours ago)

Ubuntu 14.04



Future Directions

- Stop using Leeroy in favour of “GitHub Pull Request Builder” plugin
- Move job configurations to use “newer” Jenkinsfile pipeline-as-code features

