



# Using Git, Gerrit, and Maloo Effectively

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# HPDD Development Infrastructure

Git	<a href="https://git.hpdd.intel.com/">https://git.hpdd.intel.com/</a>
JIRA	<a href="https://jira.hpdd.intel.com/">https://jira.hpdd.intel.com/</a>
Gerrit Change Review	<a href="https://review.whamcloud.com/">https://review.whamcloud.com/</a>
Build Server	<a href="https://build.hpdd.intel.com/">https://build.hpdd.intel.com/</a>
Maloo Test Repository	<a href="https://testing.hpdd.intel.com/">https://testing.hpdd.intel.com/</a>

Q & A

# Using HPDD development tools

## Gerrit tracks patches and reviews for all projects at HPDD

- Google OpenID going away in April
- Google users need a new OpenID provider (e.g. [launchpad.net](http://launchpad.net))
- Use Settings->Link Another Identity to add new identity to account
- Do this *before* Google stops working

## JIRA for issue tracking

- Gerrit now posts patch submission, landing automatically to JIRA

## Jenkins for automated build & test (Autotest)

- Three test results enforced posted to Gerrit: review-ldiskfs, review-dne-part-[12]
- One test result not yet enforced to Gerrit: review-zfs (until LU-5242 is fixed)

## Maloo tracks test results from Autotest

- Posts into Gerrit when tests are complete

# Managing Branches

- Keep patches for independent changes on separate branches
- A git "branch" is just a pointer to some series of commits
- Each commit or rebase moves pointer to new tip of the branch
- All of the old commits/branches stay in repository, unreferenced
- `git checkout branch` # check out specific branch
- `git branch {new_branch}` # create new, **keep current branch**
- `git checkout -b {new_branch}` # create new branch and checkout
- `git status` # show modified/staged/untracked

# Finding branches

- `git branch -lv` # show local branches
  - b\_client 986f760 LU-1842 ptrpc: clean up ptrpc\_client setup
  - b\_ost\_opc e3f8341 LU-1234 oss: rename OST\_\* RPC opcodes to OSS\_\*
  - b\_setstripe 3e407b7 LU-2523 tests: disable racer setstripe until fixed
  - b\_quiet 98b320e LU-2468 libcfs: quiet spurious debug message
  - b\_message ebdaeb5 LU-1123 mdt: CERROR() messages print device
  - master 98c5043 LU-6127 test: add new racer scripts to Makefile
- `git branch -alv`  
[as above, plus]
  - remotes/origin/HEAD -> origin/master
  - remotes/origin/b2\_1 e91f649 LU-3546 mdt: define mdt\_obd\_name()
  - remotes/origin/b2\_5 35046f3 LU-4958 lov: don't crash using FID [0:0:0]
  - remotes/origin/b2\_6 73ea776 New tag 2.6.0-RC2

# Searching in Git

- `git diff [-w]` # show current change (no whitespace)
- `git diff --cached` # show "git add" changes only
- `git grep -p {regex}` # show all files *in repository* with regular expression
- `git log [branch|path]` # show commits (branch/dir/file)
- `git log --grep {regex}` # search commit *messages* with regular expression
- `git log -G {regex}` # search commits *diffs* for specific regex
- `git log -S {string}` # search commits that add/remove specific string
- `git log -p` # print patch/diff with each log message
- `git show [-w] [commit]` # show specific commit (no whitespace)
- `git describe {commit}` # tagged name of commit (e.g. v2\_3\_61\_0-25-g406e943)

# Finding change history of code

- Shows history of commits that modified some line number

- `git blame lustre/obdclass/class_obd.c`

```
11330397 (nathan 2007-02-10 06:33:41 +0000 386)
8af4adf8 (rread 2003-12-19 19:45:29 +0000 387)
8af4adf8 (rread 2003-12-19 19:45:29 +0000 388)
f193250f (adilger 2002-06-03 22:36:53 +0000 389)
```

- `git show [commit] # what was in commit`

- Show history of commits *before* a specific commit

- `git blame lustre/obdclass/class_obd.c {commit}~1`

# Committing changes

- Install Git commit hooks for patch verification
  - `ln -sf ../../build/commit-msg .git/hooks`
  - `ln -sf ../../build/prepare-commit-msg .git/hooks`
- Read the comments provided by `prepare-commit-msg` hook!
  - `git add [path ...]` # stage specified file(s) or dirs for commit
  - `git add [-u]` # stage all changes for commit
  - `git commit -av` # stage and commit all changes, show diff
  - `git commit -av --amend` # add current changes to previous commit
  - `git reset --hard {branch|HEAD~n}` # revert to branch or last *n* commits
  - `git cherry-pick {branch|commit}` # copy specific patch to current branch



# Committing partial changes

- `git commit -p` # add individual patch hunks

```
diff --git a/obd_support.h b/obd_support.h
```

```
@@ -482,6 +482,8 @@ int obd_alloc_fail(const void *ptr,  
#define OBD_FAIL_LFSCK_NO_AUTO          0x160b  
#define OBD_FAIL_LFSCK_NO_DOUBLESCAN  0x160c
```

```
+#define OBD_FAIL_FID_MAPPING           0x1500
```

```
+
```

```
/* Assign references to moved code to reduce code changes */
```

```
#define OBD_FAIL_PRECHECK(id)          CFS_FAIL_PRECHECK(id)
```

```
#define OBD_FAIL_CHECK(id)             CFS_FAIL_CHECK(id)
```

Stage this hunk [y,n,q,a,d,/,e,?]?

- `git citool` # GUI tool to add patch hunks

# Rebasing patches

- Patches should be kept up-to-date with master
- HPDD Checkpatch marks patches Verified: -1 that don't apply
- Multiple dependent patches in a single series

```
git rebase [-i] {master|b2_5} # edit/reorder patches
```

```
git add -u # add updated file(s) to commit
```


```
git rebase {--continue|--abort} # apply or discard changes
```

```
git rebase --skip # drop current patch entirely
```

```
git rebase --onto {branch} # rebase onto a new branch
```

# Rebasing a patch series

```
$ git rebase -i {master|HEAD~2} # rebase last two patches  
pick      a427873 LU-1798 ptlrpc: add procname.uid jobid  
fixup     52325a7 LU-1798 foo: few changes to previous patch  
reword    4b3e88c LU-1798 tests: don't set jobid if not changing
```



```
# Rebase 67af9ea..52325a7 onto 67af9ea
```

```
# Commands:
```

```
# p, pick = use commit
```

```
# r, reword = use commit, but edit the commit message
```

```
# e, edit = use commit, but stop for amending
```

```
# s, squash = use commit, but meld into previous commit
```

```
# f, fixup = like "squash", but discard this commit's log message
```

```
# x, exec = run command (the rest of the line) using shell
```

```
# These lines can be re-ordered; they are executed top to bottom.
```

# What to do when things go wrong

All old commits/branches remain in the repository

```
$ git reflog
```

```
fdd29dc HEAD@{0}: commit (amend): LU-2468 libcfs: quiet debug messages
```

```
da6cf33 HEAD@{1}: commit: LU-2468 libcfs: quiet debug messages
```

```
0b3e852 HEAD@{2}: checkout: moving from b_cleanup9 to b_cleanup7
```

```
5ea4d20 HEAD@{3}: rebase finished: returning to refs/heads/b_cleanup9
```

```
5ea4d20 HEAD@{4}: rebase: LU-1798 tests: don't set jobid if not changing
```

```
0b3e852 HEAD@{5}: checkout: moving from b_cleanup9 to 0b3e852a58^0
```

```
git rebase --abort
```

```
git fsck [--unreachable] [--lost+found]
```

# Extracting and sharing changes

- `git format-patch HEAD~n` # Export last *n* commits to patch
- `git am {patch ...}` # Import patch(es) to commit
- `git send-email HEAD~n` # Email last *n* commits
- Default values in `$HOME/.gitconfig` or `.git/config` in local repository

[user]

```
name = Andreas Dilger
```

```
email = andreas.dilger@intel.com
```

[sendemail]

```
smtpserver = shawmail.cg.shawcable.net
```

```
smtpserverport = 25
```

```
confirm = compose
```

# Commit message should describe patch well



- What problem/feature does this patch address?
- Usage/test that triggered problem, with error messages
- Commit that introduced problem
- Performance improvements resulting from patch
- How it is being fixed, clear description of tricky code
- Initial inspectors understand the patch more quickly
- Gatekeeper understands importance of the patch
- Anyone dealing with the patch later has some guidance

<https://wiki.hpdd.intel.com/display/PUB/Commit+Comments>

# Control Autotest with commit messages

Use the Test-Parameters: tag in a commit message:

- Test-Parameters: fortetestonly # limit testing for a trial patch
- ... testlist=sanity,sanity,sanity # add additional tests
- ... ostfilesystemtype=zfs # use a specific backing fstype
- ... clientbuildno=81 # old client new server interop
- ... serverbuildno=81 # new client old server interop
- ... mdtcount=8,ostcount=8 # change server config
- ... alwaysuploadlogs # upload all logs even on success

```
★ Commit Message Permalink    
LU-2049 tests: test LU-2049 as client  
  
Test-Parameters: fortetestonly alwaysuploadlogs \  
envdefinitions=SLOW=yes,ENABLE_QUOTA=yes \  
mdtfilesystemtype=ldiskfs mdsfilesystemtype=ldiskfs ostfilesystemtype=ldiskfs \  
ossdistro=el6 mdsdistro=el6 ossarch=x86_64 mdsarch=x86_64 \  
ossjob=lustre-master mdsjob=lustre-master ossbuildno=2826 mdsbuildno=2826 \  
mdtcount=1 ostcount=2 ostsizegb=3 \  
testlist=sanity,sanityn
```

# Using Gerrit

## Set up defaults to your liking

The screenshot shows the Gerrit web interface. At the top, there are navigation tabs: All, My (selected), Projects, People, Plugins, and Documentation. Below these are sub-tabs: Changes, Drafts, Draft Comments, Watched Changes, and Starred Changes. A search bar contains the text "Change #, SHA-1, tr:id or owner:email". The user's name "Andreas Dilger" is displayed with a dropdown arrow. A user profile dropdown menu is open, showing the user's name, email address "andreas.dilger@intel.com", and three links: "Settings" (circled in red), "Switch Account", and "Sign Out".

On the left side, there is a "Settings" section with a sidebar menu. The "Preferences" item in the sidebar is circled in red. The main settings area includes several options:

- Show Site Header
- Use Flash Clipboard Widget
- CC Me On Comments I Write
- Display Patch Sets In Reverse Order (deprecated: Old Change Screen)
- Display Person Name In Review Category
- Maximum Page Size: 50 rows per page
- Date/Time Format: 01-22 ; 2015-01-22 01:17
- Show Relative Dates in Changes Table
- Comment Visibility: Expand Most Recent
- Change View: Old Screen (circled in red)
- Diff View (New Change Screen): Side by Side

A "Save Changes" button is located at the bottom of the settings area.



# Gerrit patch status

<b>HPDD Checkpatch</b> Patch Set 2: Looks good to me.	01-19 21:51
<b>Jenkins</b> Patch Set 2: Build Started ...	01-19 22:24
<b>Jenkins</b> Patch Set 2: Verified+1 Build Successful ...	01-19 22:39
<b>Autotest</b> Patch Set 2: Shadow Autotest started enforced review-ldiskfs session.	01-19 22:46
<b>Autotest</b> Patch Set 2: Shadow Autotest started optional review-zfs session.	01-19 22:46
<b>Autotest</b> Patch Set 2: Shadow Autotest started enforced review-dne-part-1 session.	01-19 22:46
<b>Autotest</b> Patch Set 2: Shadow Autotest started enforced review-dne-part-2 session.	01-19 22:46
<b>Maloo</b> Patch Set 2:  Tests received by maloo, run on CentOS release 6.5/x86_64: ( <a href="https://testing.hpdd.intel.com/test_sessions/2ff28340-a093-11e4-87d1-5254006e85c2">https://testing.hpdd.intel.com/test_sessions/2ff28340-a093-11e4-87d1-5254006e85c2</a> ). Ran 6 tests. No failures.	01-20 03:01
<b>Maloo</b> Patch Set 2:  Tests received by maloo, run on CentOS release 6.5/x86_64: ( <a href="https://testing.hpdd.intel.com/test_sessions/c6e8f00a-a0bf-11e4-8464-5254006e85c2">https://testing.hpdd.intel.com/test_sessions/c6e8f00a-a0bf-11e4-8464-5254006e85c2</a> ). Ran 7 tests. No failures.	01-20 08:22
<b>Maloo</b> Patch Set 2: Verified-1  Tests received by maloo, run on CentOS release 6.5/x86_64: ( <a href="https://testing.hpdd.intel.com/test_sessions/d3fd1614-a0dc-11e4-92c3-5254006e85c2">https://testing.hpdd.intel.com/test_sessions/d3fd1614-a0dc-11e4-92c3-5254006e85c2</a> ). Ran 17 tests. 1 tests failed: sanity-lfsck.	01-20 12:04
<b>Maloo</b> Patch Set 2:  Tests received by maloo, run on CentOS release 6.5/x86_64: ( <a href="https://testing.hpdd.intel.com/test_sessions/512d800c-a0f0-11e4-87d1-5254006e85c2">https://testing.hpdd.intel.com/test_sessions/512d800c-a0f0-11e4-87d1-5254006e85c2</a> ). Ran 18 tests. No failures in this session, but a previous session failed for this commit.	01-20 14:11

# Gerrit Searching

Searching is possible, but not very easy to use

- `message:LU-2250 is:merged # patches landed for LU-2250`
- `branch:master Verified>=1 -Verified<=-1 CodeReview>=1 -CodeReview<=-1`
- `reviewer:self -owner:self label:Code-Review=0,user=self label:Verified`

Search shortcut/keyword for Firefox

Name:	<input type="text" value="Patch Review"/>
Location:	<input type="text" value="http://review.whamcloud.com/#q,%s,n,v"/>
Tags:	<input type="text" value="Separate tags with commas"/>
Keyword:	<input type="text" value="review"/>

`review 12345`


`# open change #12345`

`review message:LU-2250`

`# search commit messages for LU-2250`


# (Re)basing a patch on an existing change

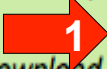

- `git fetch http:... && git checkout FETCH_HEAD` # get patch tree (#1, #2, #3)


**Patch Set 8** 7dd14e9976d35dd33a70d5b20bada6b57620f7ae 

*Author* [Alex Zhuravlev](#) <alexey.zhuravlev@intel.com> Feb 15, 2013 5:19 PM

*Committer* [Alex Zhuravlev](#) <alexey.zhuravlev@intel.com> Feb 21, 2013 11:31 PM

*Parent(s)* 406e94326c2c5427902890792443759c3a244a1f LU-2591 lov: race between ptilrpc\_rcv and umount/umount thread 

  [Anonymous HTTP](#)

*Download* [checkout](#) | [pull](#) | [cherry-pick](#) | [patch](#) | `git fetch http://review.whamcloud.com/p/fs/lustre-release refs/changes/44/5444/8 && git checkout FETCH_HEAD` 

- `git checkout -b b_alex_patch` # named branch for other patch
- `git checkout -b b_my_patch` # named branch for my patch
- `git cherry-pick {my patch}` # apply new patch on top
- `git log` # check commit hash unchanged (#4)
- `git push ... HEAD:refs/for/master` # push new patch to Gerrit

**DO NOT** rebase branch to latest master before submitting!

- Original developer should rebase or land their patch first

# Reviewing overall test results in Maloo

Maloo permanently holds all test results for all patches

Test logs are kept as long as possible (months)

<https://testing.hpdd.intel.com/>

The screenshot shows the Maloo web interface. At the top, there is a navigation bar with tabs for 'sessions', 'results', 'reports & stats', and 'queues'. Below this, the 'Test sessions' section is visible, featuring a filter interface with dropdown menus for 'user', 'branch(es)', and 'group', and an 'Apply Filter' button. Below the filter is a table of test sessions with columns for Host, Group, User, Branches, Builds, Run at (UTC), Imported at (UTC), Sets passed, and Links. The table contains six rows of data, each representing a test session on a different host.

Host	Group	User	Branches	Builds	Run at (UTC)	Imported at (UTC)	Sets passed	Links
⊕ shadow-54vm2	review-ldiskfs	Shadow Autotest2	master	29868	2015-01-22 07:25:47	2015-01-22 10:03:23	⊕ 6/6	<a href="#">gerrit:13492</a> , <a href="#">jira:INTL-155</a>
⊕ shadow-53vm6	review-ldiskfs	Ned Bass	master	29866	2015-01-22 06:45:37	2015-01-22 09:22:04	⊕ 6/6	<a href="#">gerrit:13112</a> , <a href="#">jira:LU-5549</a>
⊕ onyx-41vm6	review-ldiskfs	Onyx Autotest	master	29865	2015-01-22 05:12:14	2015-01-22 10:18:18	⊕ 6/6	<a href="#">gerrit:13491</a> , <a href="#">jira:DDN-63</a>
⊕ shadow-11vm9	review-dne-part-1	Andreas Dilger	master	29863	2015-01-22 01:25:26	2015-01-22 08:48:01	⊕ 7/7	<a href="#">gerrit:11258</a> , <a href="#">jira:LU-5420</a>
⊕ shadow-10vm10	review-dne-part-2	Andreas Dilger	master	29863	2015-01-22 01:25:20	2015-01-22 07:56:12	⊕ 13/13	<a href="#">gerrit:11258</a> , <a href="#">jira:LU-5420</a>
⊕ shadow-51vm6	review-ldiskfs	Andreas Dilger	master	29863	2015-01-22 01:22:58	2015-01-22 03:57:49	⊕ 6/6	<a href="#">gerrit:11258</a> , <a href="#">jira:LU-5420</a>

# Reviewing a test failure in Maloo

Please link test failures to bugs

**Error:** '(7) unexpected status'

**Failure Rate:** 53.00% of last 100 executions [all branches]

**Client 2 (shadow-7vm9)**

- [dmesg](#) [Download|Show|Preview 10]
- [debug\\_log](#) [Download|Show|Preview 10]

**MDS 3, MDS 4, MDS 2 (shadow-7vm8)**

- [debug\\_log](#) [Download|Show|Preview 10]
- [dmesg](#) [Download|Show|Preview 10]

**MDS 1 (shadow-7vm12)**

- [debug\\_log](#) [Download|Show|Preview 10]
- [dmesg](#) [Download|Show|Preview 10]

**Client 1 (shadow-7vm10)**

- [dmesg](#) [Download|Show|Preview 10]
- [debug\\_log](#) [Download|Show|Preview 10]
- [test\\_log](#) [Download|Show|Preview 100]

```
= /usr/lib64/lustre/tests/test-framework.sh:4679:error_noexit()
= /usr/lib64/lustre/tests/test-framework.sh:4710:error()
= /usr/lib64/lustre/tests/sanity-lfscck.sh:502:test_4()
= /usr/lib64/lustre/tests/test-framework.sh:4972:run_one()
= /usr/lib64/lustre/tests/test-framework.sh:5009:run_one_logged()
= /usr/lib64/lustre/tests/test-framework.sh:4859:run_test()
= /usr/lib64/lustre/tests/sanity-lfscck.sh:525:main()
Dumping lctl log to /logdir/test_logs/2015-01-20/lustre-reviews-el6-x86_64--review-dne-part-2--2_9_1_29821__-70124987883140-064657/sanity-lfscck.test_4.*.1421750399.log
CMD: shadow-7vm10.shadow.whamcloud.com,shadow-7vm11,shadow-7vm12,shadow-7vm8,shadow-7vm9 /usr/sbin/lctl dk > /logdir/test_logs/2015-01-20/lustre-reviews-el6-x86_64--review-dne-part-2--2_9_1_29821__-70124987883140-064657/sanity-lfscck.test_4.dmesg.\$(hostname -s).142
```

**OST 8, OST 6, OST 7, OST 4, OST 5, OST 3, OST 2, OST 1 (shadow-7vm11)**

- [dmesg](#) [Download|Show|Preview 10]
- [debug\\_log](#) [Download|Show|Preview 10]

**Bugs**

No bugs

[Associate bug...](#) [Raise bug...](#)

# Searching in Maloo

sessions results reports & stats queues

search  
upload

Search

Search in: [Test sets | **Sub tests**]

Sub tests...

...in sessions like...

...with nodes like...

Test set script

Sub test script

Status

Bugs

Test host

Test group

User

Run on

Run within

OS

Distribution

Architecture

File system type

Lustre branch

Network

# Search results in Maloo

## Search

Search in: [Test sets | Sub tests]

### Sub tests...

Test set script:

Sub test script:

Status:

Bugs:

### ...in sessions like...

Test host:

Test group:

User:

Run on:

Run within:

### ...with nodes like...

OS:

Distribution:

Architecture:

File system type:

Lustre branch:

Network:

[Download these results in CSV format](#)

Name	Status	Run at	Duration	Return code	Error	Test log	Bugs
test_133g	TIMEOUT	2015-01-21 13:51:38 UTC	3600	-1	test failed to respond and timed out	<a href="#">Preview 10</a>	
test_133g	TIMEOUT	2015-01-20 23:28:26 UTC	3600	-1	test failed to respond and timed out	<a href="#">Preview 10</a>	
test_133g	TIMEOUT	2015-01-20 15:43:50 UTC	3600	-1	test failed to respond and timed out	<a href="#">Preview 10</a>	
test_133g	TIMEOUT	2015-01-20 13:48:29 UTC	3600	-1	test failed to respond and timed out	<a href="#">Preview 10</a>	
test_133g	TIMEOUT	2015-01-20 06:50:45 UTC	3600	-1	test failed to respond and timed out	<a href="#">Preview 10</a>	
test_133g	TIMEOUT	2015-01-20 03:22:14 UTC	3600	-1	test failed to respond and timed out	<a href="#">Preview 10</a>	
test_133g	TIMEOUT	2015-01-19 23:39:06 UTC	3600	-1	test failed to respond and timed out	<a href="#">Preview 10</a>	
test_133g	TIMEOUT	2015-01-19 20:24:51 UTC	3600	-1	test failed to respond and timed out	<a href="#">Preview 10</a>	
test_133g	TIMEOUT	2015-01-19 01:56:18 UTC	3600	-1	test failed to respond and timed out	<a href="#">Preview 10</a>	
test_133g	TIMEOUT	2015-01-18 21:58:24 UTC	3600	-1	test failed to respond and timed out	<a href="#">Preview 10</a>	
test_133g	TIMEOUT	2015-01-17 09:03:05 UTC	3600	-1	test failed to respond and timed out	<a href="#">Preview 10</a>	LU-5242
test_133g	TIMEOUT	2015-01-17 03:42:04 UTC	3600	-1	test failed to respond and timed out	<a href="#">Preview 10</a>	LU-5242
test_133g	TIMEOUT	2015-01-16 23:21:51 UTC	3600	-1	test failed to respond and timed out	<a href="#">Preview 10</a>	LU-5242

# Can limit search incrementally

## Search

Search in: [Test sets | **Sub tests**]

Sub tests...	...in sessions like...	...with nodes like...
Test set script: <input type="text" value="sanity"/>	Test host: <input type="text"/>	OS: <input type="text"/>
Sub test script: <input type="text" value="test_133g"/>	Test group: <input type="text"/>	Distribution: <input type="text"/>
Status: <input type="text" value="TIMEOUT"/>	User: <input type="text"/>	Architecture: <input type="text"/>
Bugs: <input type="text" value="e.g. 526, TT-7, LU-23"/>	Run on: <input type="text"/>	File system type: <input type="text" value="ldisks"/>
	Run within: <input type="text" value="1 week"/>	Lustre branch: <input type="text"/>
		Network: <input type="text"/>

[\[Download these results in CSV format\]](#)

Name	Status	Run at	Duration	Return code	Error	Test log



# Monitoring Test Progress

sessions results reports & stats **queues** Andreas Dilger | settings | logout | 

import queue  
**test queue**

## Test Queue

Queue for system:

Queue last updated at 2015-01-22 12:06:35 (1 minute ago).

← Previous 1 2 3 Next →

Job	Distros	Build No	Review ID	Suite	Test	Restarts	Timeout	Information
reviews	el6-x86_64/el6-x86_64/diskfs/diskfs/2.9.1	29866	<a href="#">gerrit:13112</a>	sanity-hsm	test_30b	1	2015-01-22 13:06:33 UTC	Test in progress on shadow-25vm9 - shadow-25vm9,shadow-25vm6,...
reviews	el6-x86_64/el6-x86_64/zfs/zfs/2.5.1	29868	<a href="#">gerrit:13492</a>	conf-sanity	test_49a	0	2015-01-22 13:06:27 UTC	Test in progress on shadow-25vm5 - shadow-25vm5,shadow-25vm2,...
reviews	el6-x86_64/el6-x86_64/diskfs/diskfs/2.8.1	29868	<a href="#">gerrit:13492</a>	sanity	test_42e	0	2015-01-22 13:04:30 UTC	Test in progress on shadow-24vm10 - shadow-24vm10,shadow-24vm...
reviews	el6-x86_64/el6-x86_64/diskfs/diskfs/2.9.1	29868	<a href="#">gerrit:13492</a>	sanity-hsm	test_500	0	2015-01-22 13:06:22 UTC	Test in progress on shadow-23vm9 - shadow-23vm9,shadow-23vm5,...
reviews	el6-x86_64/el6-x86_64/zfs/zfs/2.5.1	29870	<a href="#">gerrit:13493</a>	conf-sanity	test_50b	0	2015-01-22 13:06:30 UTC	Test in progress on shadow-52vm2 - shadow-52vm2,shadow-52vm1,...

# Keep patches moving forward

## Developers are responsible for their own patches

- Update patches based on inspections
- Keep inspections and testing moving forward

## Provide inspection feedback for others in a timely manner

## After inspection, help move patch to next state

- Two or more inspectors on the patch?
- Tests have passed or triaged and retested as needed?
- Gatekeeper landing requested if patch is ready

## Good inspections avoid more effort finding defects later

- Chance to find and fix latent bugs, cleanup code

# Autotest failures affect everyone

- Need to triage all test failures before resubmitting
  - Patch may otherwise be adding new intermittent bugs
- *Associate* or *Raise* bugs in Maloo for all test failures
- Search for and triage similar failures via Maloo, JIRA
  - Can be done more efficiently in batches
- Data needed to prioritize bugs causing the most failures
  - This speeds up fixing the most frequent failures
  - This in turn speeds up every other patch landing

