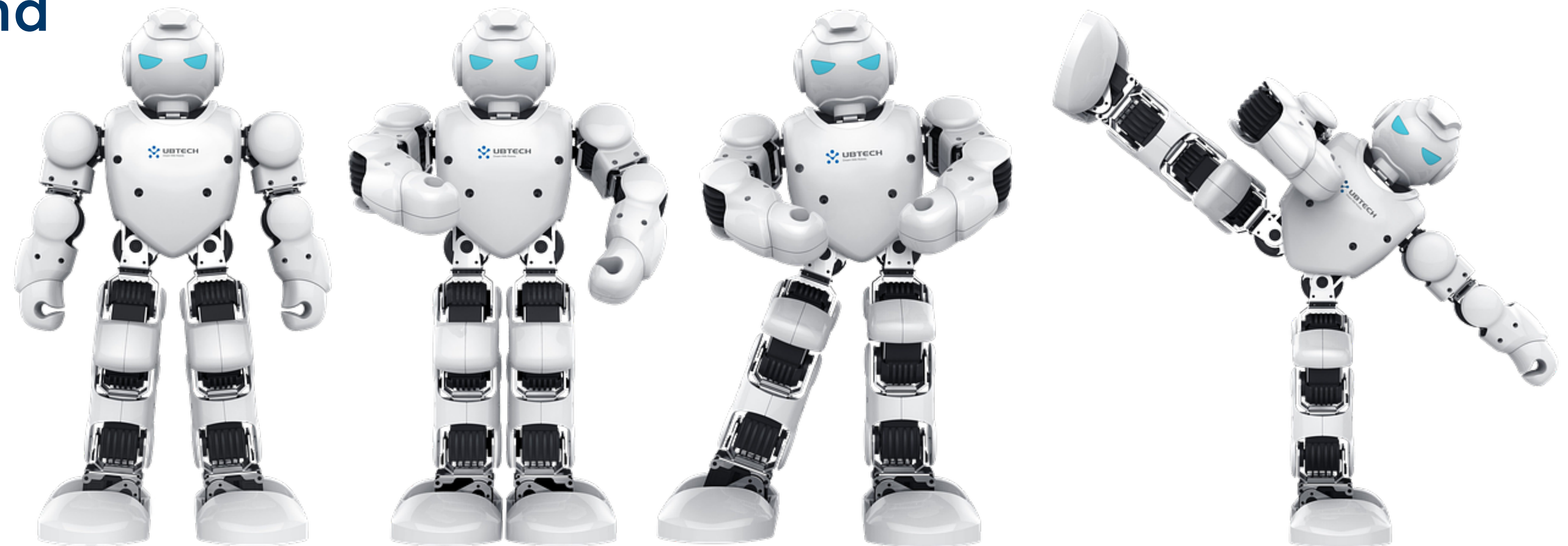


Make the Robots Do It!

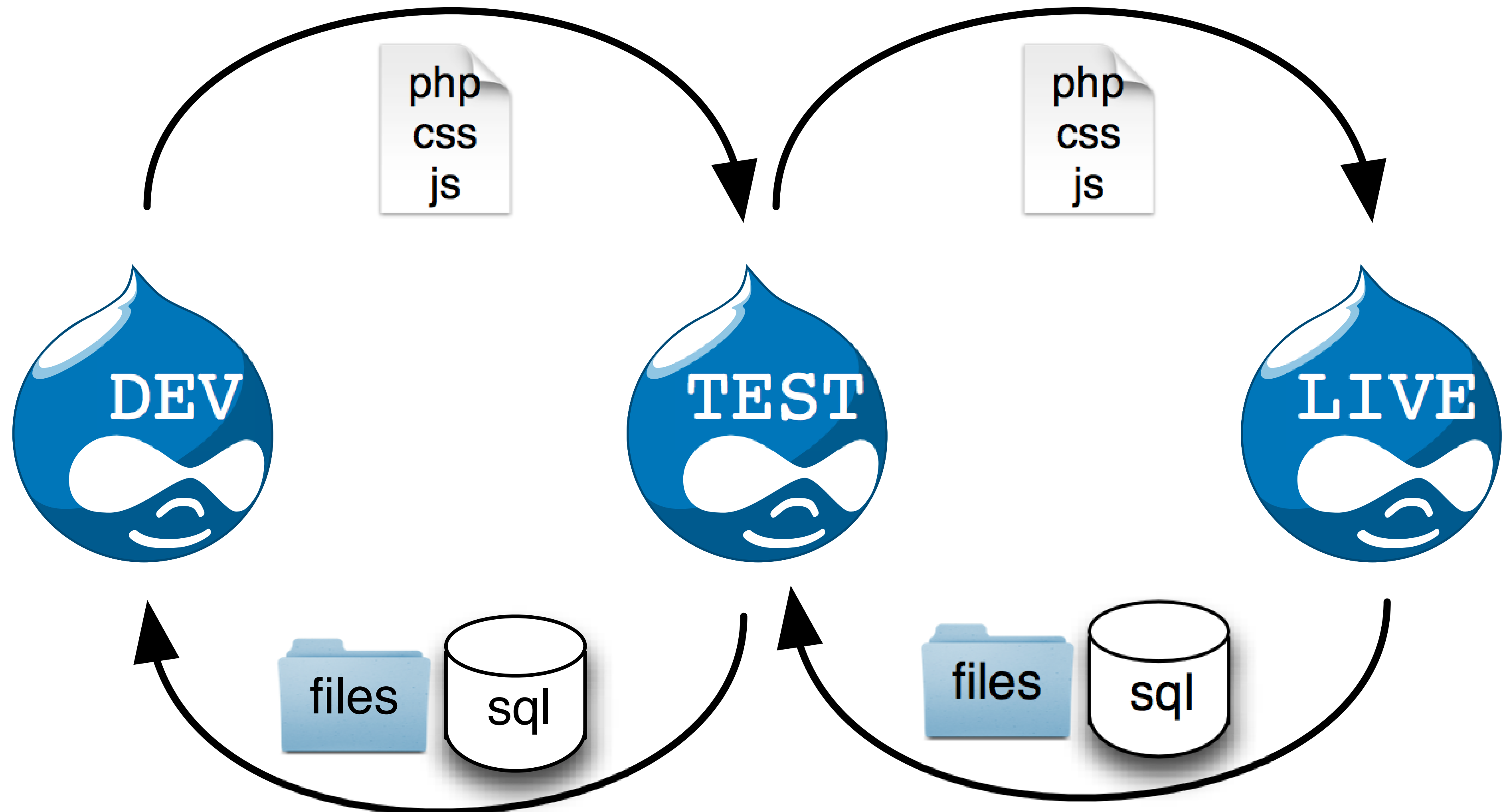
Practical Continuous Integration and Automated Testing

Shawn DeArmond
Mark Miller

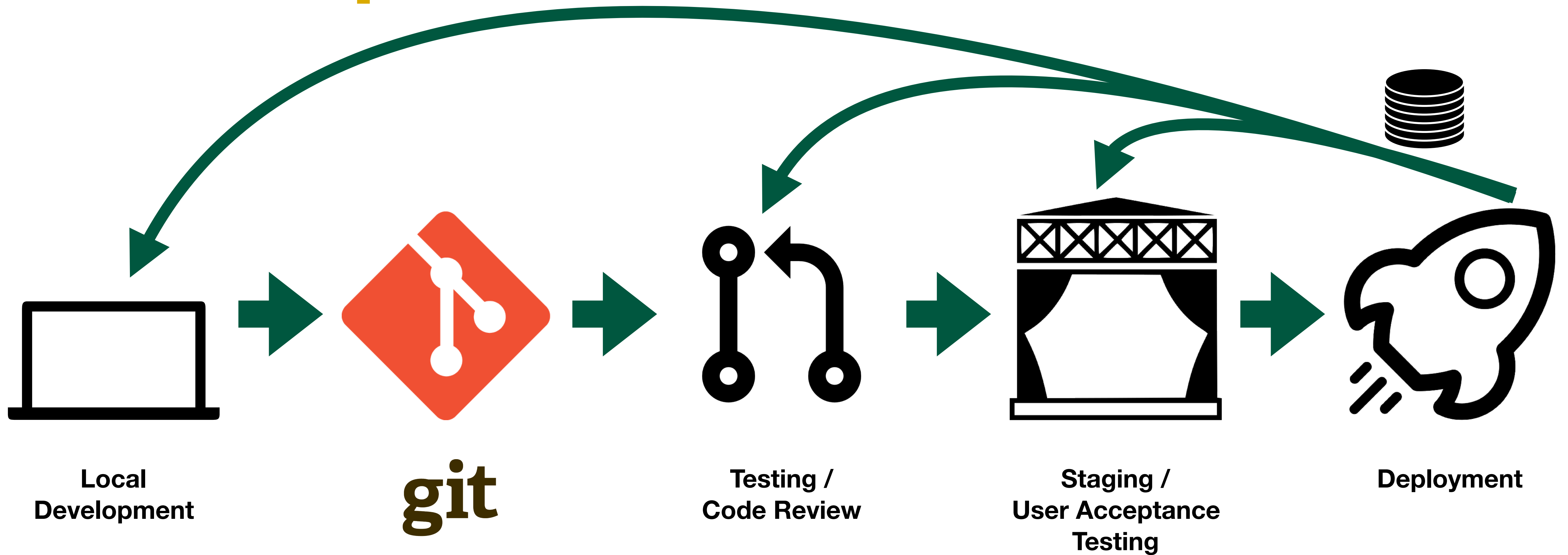


Development and Release Workflow

(old)



Development and Release Workflow



SCRIPT



ALL THE THINGS

Local Development

LANDO



Docker



Compose



DOCKSAL

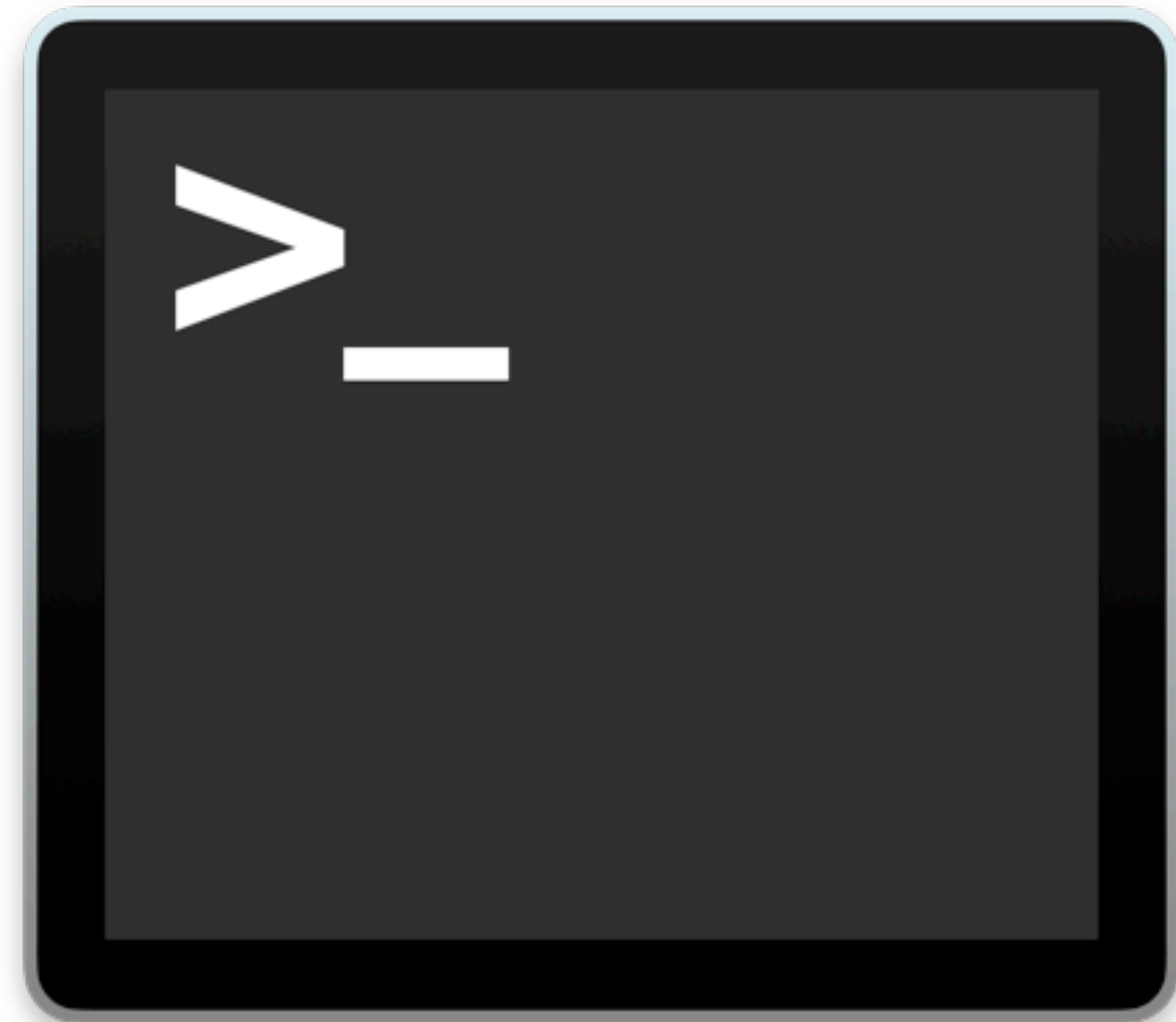


UCDAVIS

INFORMATION AND
EDUCATIONAL TECHNOLOGY

Local Development

- Initialize environment
- Refresh data from Live
- Run Automated Tests locally
- Use a good IDE with Git visualization
- Step-through debugging





git



GitLab

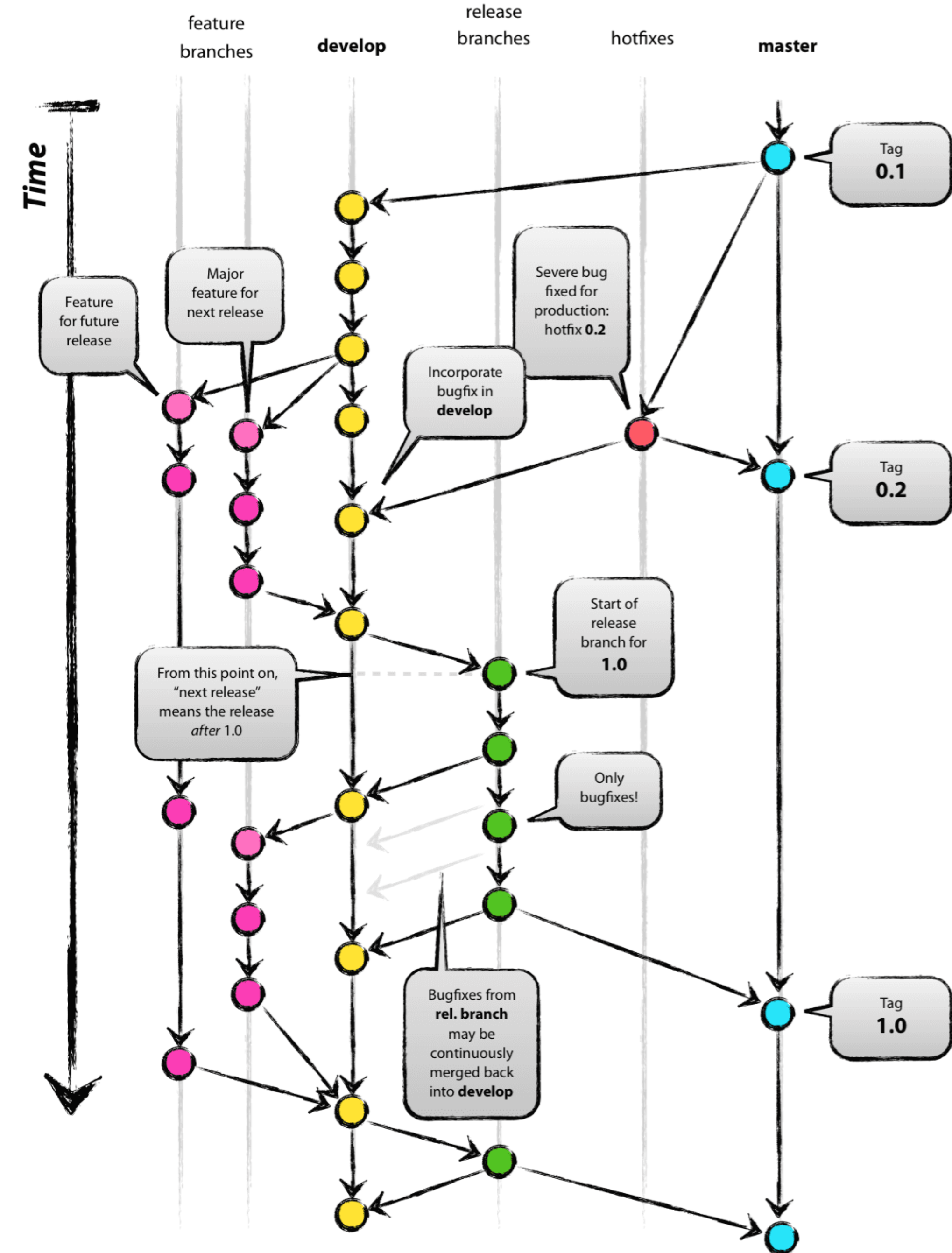


GitHub



Branching Strategy

- Protect master and dev
- Use SSH Keys
- Use Multi-factor Authentication



Pull Requests are a great time for Code Review

And Automated Testing

IET WebDev / SiteFarm / SiteFarm / Pull requests

SITEFARM-1843 fix to disable the ckeditor autosave plugin on quickedit

#742 **OPEN** SITEFARM-1843 → release-6.3.0 **Merge** Edit Decline Approve 1

Overview **Commits** Activity

Author: **Mark Miller**

Reviewers:

8 of 8 passed Stop watching Deploy to AWS

Comments (17)

Anthony Horn
Can you remind me of the exact situation that this is solving so I can properly test it?
Reply • Like • Delete • Create task • 2019-05-01

Mark Miller **AUTHOR**
<https://ucdavis.jira.com/browse/SITEFARM-1843>
Reply • Like • Delete • Create task • 2019-05-01

Anthony Horn
Is this for all roles? or just editor?
Reply • Like • Delete • Create task • 2019-05-01

Mark Miller **AUTHOR**
Any role that can use quickedit. Not sure what roles those are off hand. I assume at least editor.
Reply • Like • Delete • Create task • 2019-05-01

Anthony Horn
Also, this is failing on some layout classes not being found in the behat tests.
Reply • Like • Delete • Create task • 2019-05-01

Mark Miller **AUTHOR**
These test failures are that some old issue where probo is not pulling repos that will allow tests to pass.
Reply • Like • Delete • Create task • 2019-05-01

Anthony Horn
I still don't see any wysiwyg buttons.

Continuous Integration (CI)

The screenshot displays the CircleCI interface for the 'ucdavis' organization, specifically for the 'article26-backpack' project. The interface includes a top navigation bar with the organization name, a logo, and links for 'Updates' and 'Support'. A left sidebar contains navigation options: 'JOBS', 'WORKFLOWS', 'INSIGHTS', 'ADD PROJECTS', and 'TEAM'. The main content area shows a list of jobs under the 'Jobs » ucdavis » article26-backpack' path. The jobs are filtered by 'My branches' and 'All branches'. The job list includes columns for status (SUCCESS or FAILED), job name, commit message, build steps, execution time, and completion time. A 'My jobs' filter is active, showing a list of jobs with their respective details.

By project	My branches	All branches	My jobs	All jobs
> article26-backpack				
> uccsc2018				
> sfpan1				
> sfpan2				
✓ SUCCESS	master #2183	Merge pull request #218 from ucdavis/d8...	build_and_test build_deploy_and_test_ma...	28 days ago 06:49 ecf8d5a
✓ SUCCESS	d8615 #2182	Removed .es core.entity_view_mode.node...	build_and_test build_deploy_and_test_fea...	28 days ago 05:01 #218 62589aa
✓ SUCCESS	d8615 #2181	Updated Drupal to 8.6.15. Also updated ...	build_and_test build_deploy_and_test_fea...	28 days ago 06:12 #218 960c85e
✓ SUCCESS	master #2180	Merge pull request #217 from ucdavis/d8...	build_and_test build_deploy_and_test_ma...	1 month ago 08:21 ac64d16
! FAILED	master #2179	Merge pull request #217 from ucdavis/d8...	build_and_test build_deploy_and_test_ma...	1 month ago 01:30 ac64d16
✓ SUCCESS	d8613 #2178	d8613 Added more waits.	build_and_test build_deploy_and_test_fea...	2 months ago 04:46 #217 829e322
✓ SUCCESS	d8613 #2177	d8613 updated chromedriver to 2.46	build_and_test build_deploy_and_test_fea...	2 months ago 04:32 #217 462371e
✓ SUCCESS	d8613 #2176	d8613 Adding description field to file ...	build_and_test build_deploy_and_test_fea...	2 months ago 05:23 #217 ad8fbd5
✓ SUCCESS	d8613 #2175	Updated Drupal to 8.6.13.	build_and_test build_deploy_and_test_fea...	2 months ago 05:07 #217 6572bda
! FAILED	d8613 #2174	Updated Drupal to 8.6.13.	build_and_test build_deploy_and_test_fea...	2 months ago 00:11 #217 3be9986

Continuous Integration (CI)

Build Steps

SITEFARM-1843 fix to disable the ckeditor autosave plugin on quickedit

[Commit 1441c5](#) |
 [View pull request](#) |
 [View branch](#) |
 [View build permalink](#) |
 [Rebuild](#) |
 [Pin](#) |
 [Delete](#)

DISK SPACE: 887.5 MB · BUILT: May 15, 2019 5:24 PM



BitbucketDownloader task	▼
DURATION: 1 seconds 190 milliseconds	
AssetDownloader task	▼
DURATION: 277 milliseconds	
Import SSH Keys	▼
DURATION: 227 milliseconds	
Build Drupal	▼
DURATION: 2 minutes 38 seconds 412 milliseconds	
Run PHPUnit	▼
DURATION: 1 seconds 829 milliseconds	
Drupal site setup	▼
DURATION: 59 seconds 53 milliseconds	
Fix files directory permissions	▼
DURATION: 61 milliseconds	
Run Behat NoJS	▼
DURATION: 16 minutes 16 seconds 737 milliseconds	
Run Behat JS	▼
DURATION: 11 minutes 33 seconds 490 milliseconds	



Continuous Integration (CI)

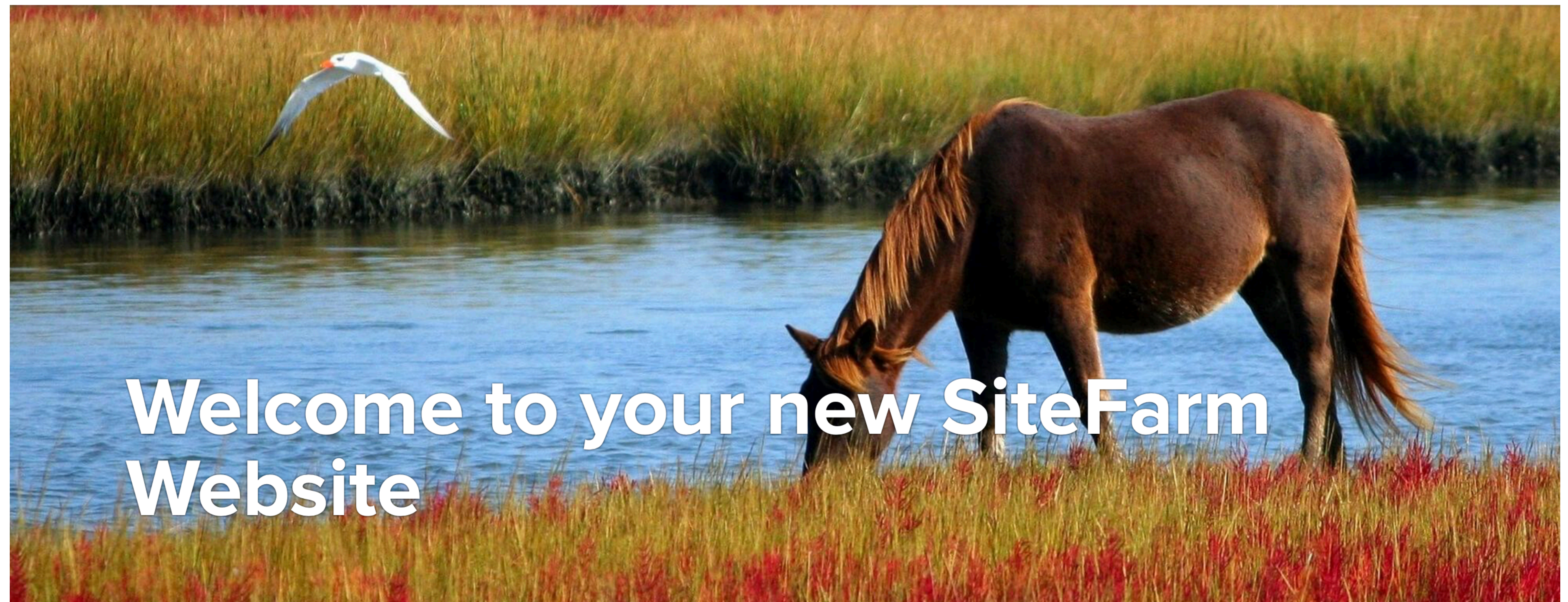
UCDAVIS



Testing SiteFarm on Probo

Quick Links >

- HOME
- NEWS
- BLOG
- EVENTS
- PEOPLE
- GALLERIES



Welcome to your new SiteFarm Website

UCDAVIS

INFORMATION AND
EDUCATIONAL TECHNOLOGY



Upcoming Events



Continuous Integration (CI)

```
image: proboci/ubuntu-14.04-lamp:php-7.1
assets:
  - probossh.tar.gz
phpIniOptions:
  upload_max_filesize: 64M
  post_max_size: 64M
  memory_limit: 512M
steps:
  - name: Import SSH Keys
    plugin: Script
    script:
      - mkdir $HOME/.ssh
      - tar -C $HOME/.ssh -zxvf $ASSET_DIR/probossh.tar.gz
      - chmod 600 $HOME/.ssh/id_rsa*
      - ssh-keyscan -H bitbucket.org >> $HOME/.ssh/known_hosts
      - ls -al $HOME/.ssh
  - name: Build Drupal
    plugin: Script
    script:
      - composer self-update ; composer global update
      - composer global require hirak/prestissimo
      - composer global require "drush/drush:^8.1.13"
      - drush version
      - which drush
      - echo $PATH
      - cd /src
      - composer install --ansi
      - if [ $(git ls-remote --heads git@bitbucket.org:ietwebdev/sitefarm.git $BRANCH_NAME | wc -l) = 1 ]; then BRANCH="$BRANCH_NAME"; else BRANCH=8dev; fi
      - composer require "ucdavis/sitefarm:dev-$BRANCH" --ansi
      - if [ $(git ls-remote --heads git@bitbucket.org:ietwebdev/sitefarm-theme-one.git $BRANCH_NAME | wc -l) = 1 ]; then BRANCH="$BRANCH_NAME"; else BRANCH=8dev; fi
      - composer require "ucdavis/sitefarm_one:dev-$BRANCH" --ansi
  - name: Run PHPUnit
    plugin: Script
    script:
      - cd $SRC_DIR/docroot/profiles/sitefarm
      - $SRC_DIR/vendor/bin/phpunit --colors="always"
  - name: Drupal site setup
    plugin: Drupal
    drupalVersion: 8
    subDirectory: docroot
    runInstall: true
    profileName: sitefarm
    installArgs: '--site-name="Testing Acquia SiteFarm on Probo" --account-pass=probo --account-mail=wdtest@ucdavis.edu'
    settingsAppend: '$settings["file_private_path"] = "/var/www/html/sites/default/private-files";'
```

UCDAVIS

INFORMATION AND
EDUCATIONAL TECHNOLOGY

Automated Testing

Robots are SUPER good at this!



Unit Tests

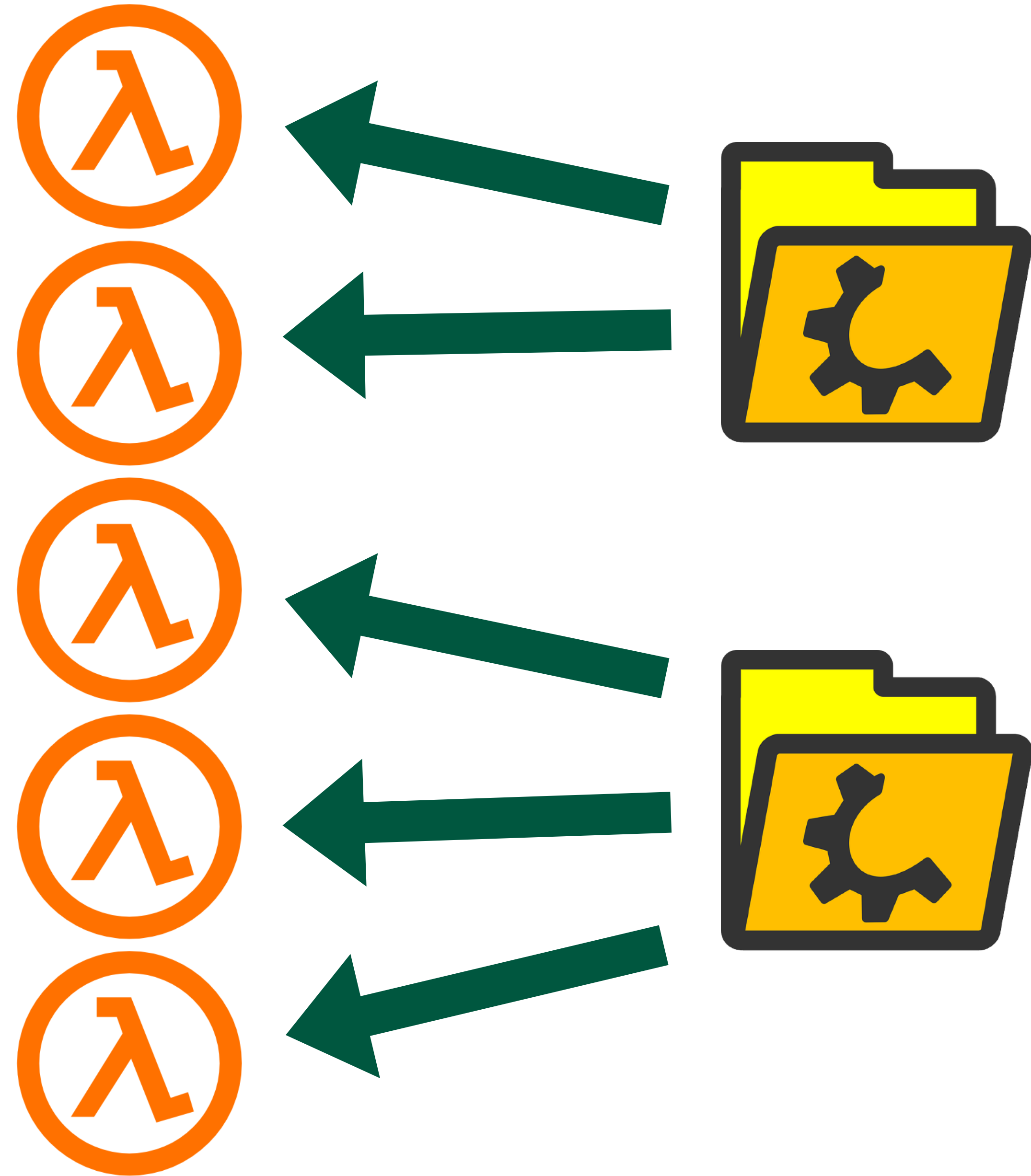
- Tests a specific function in isolation
- Crazy fast to run
- Specific to a Code Language

PHP: PHPUnit

JavaScript: Jest (and a million others: Mocha, Ava, etc...)

Case Study

AWS Lambda serverless

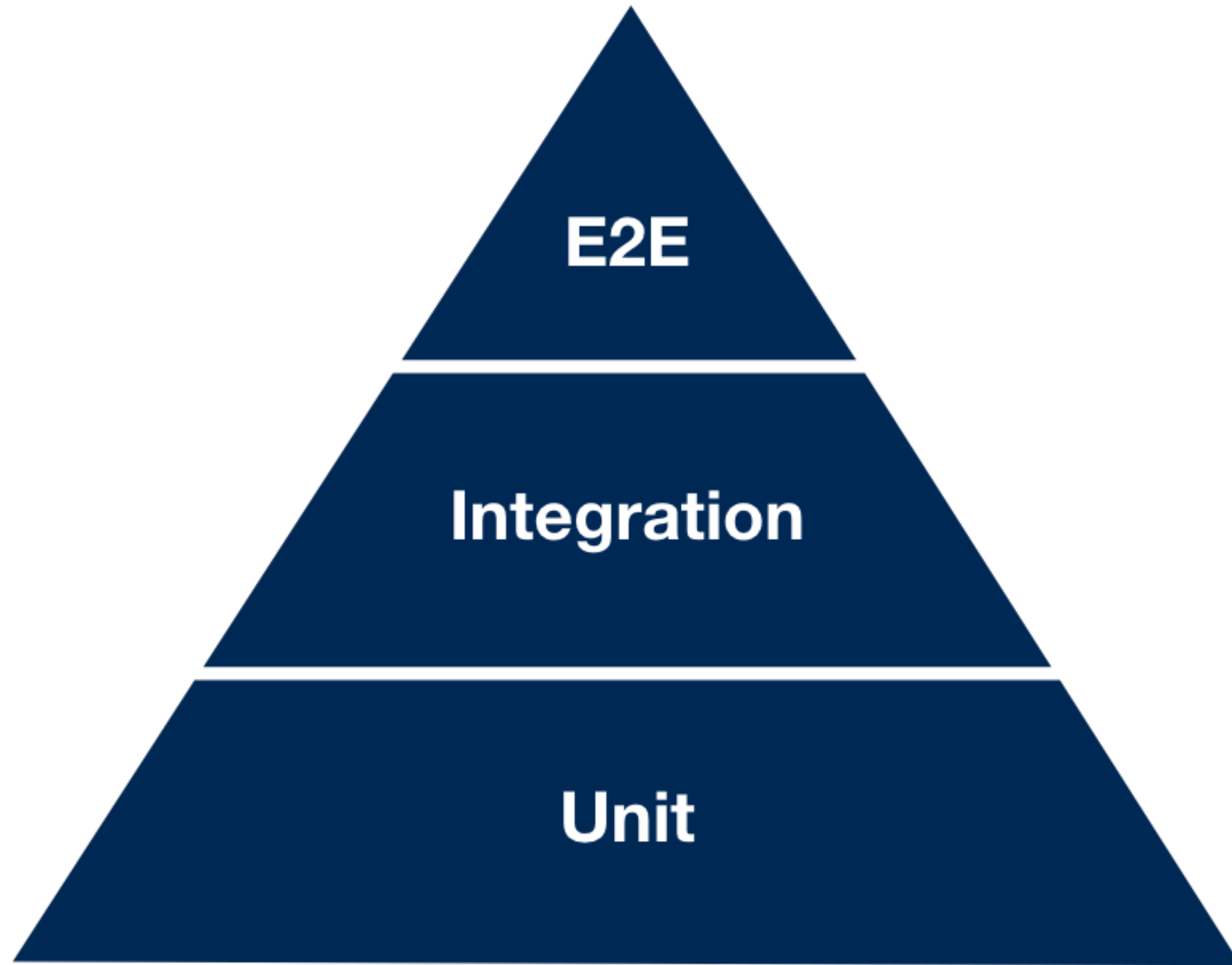


Integration Tests

- Checks that different parts work together
- Slower than Unit but quicker than an E2E



Test Pyramid



Real Life Drupal



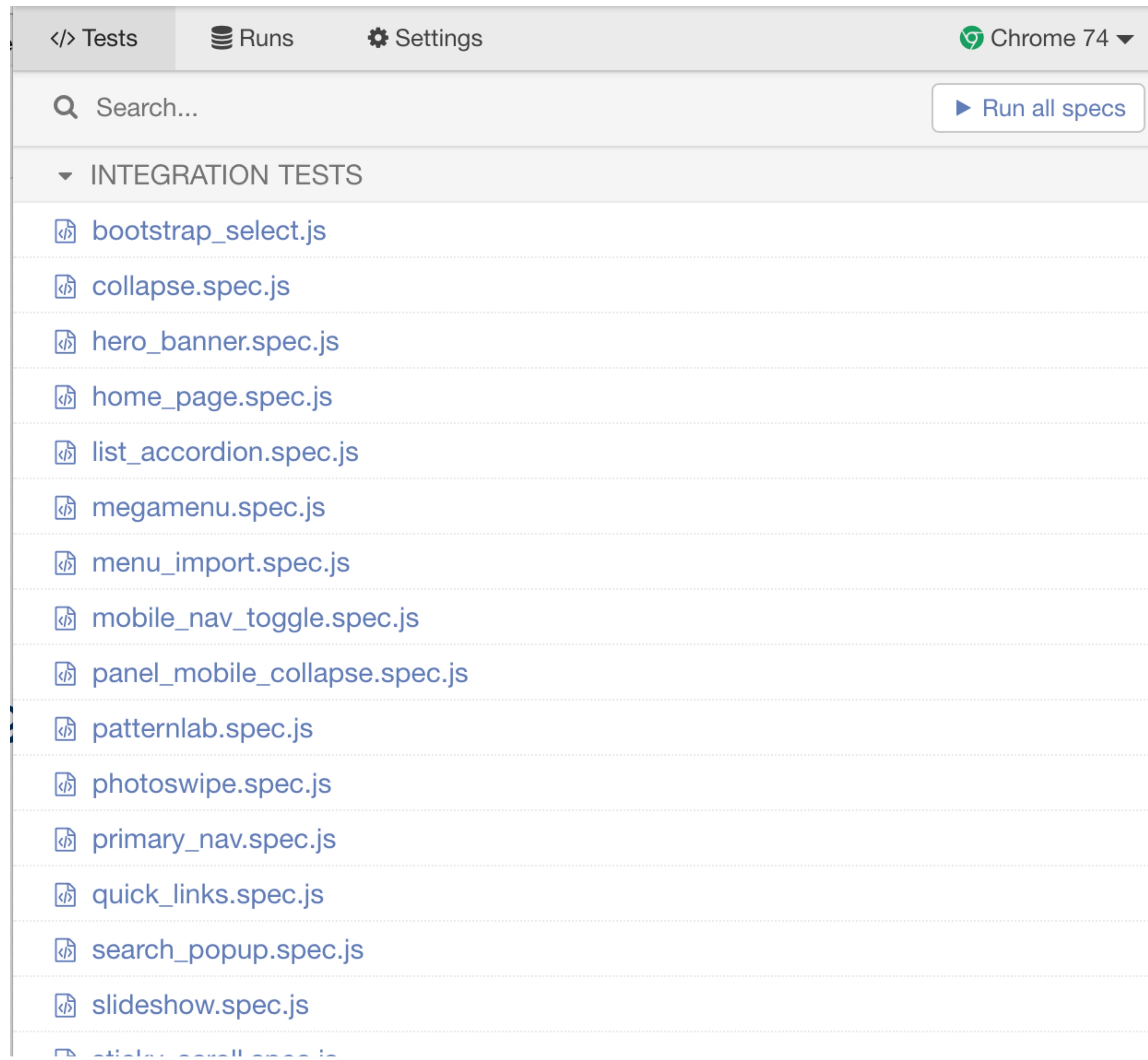
E2E Tests (end-to-end)

- Runs the entire project like a real person
- Behat, Nightwatch, TestCafe, Cypress, etc...





- Time travel
- Debug natively in Chrome
- Mock API call
- Automatic waits and reloads



Tests 46 24.92

- ▶ Bootstrap Select multi select dropdown ...
- ▶ Collapse Accordion ...
- ▶ Hero Banner ...
- ▼ Home Page
 - ✓ Site Name
 - ▼ BEFORE EACH
 - 📌 VISIT /patterns/04-pages-00-homepage/04-page...
 - ▼ TEST
 - 1 GET .header__site-name
 - 2 - ASSERT expected <h1.header__site-name> to have text SiteFarm
- ▶ Collapse Accordion ...
- ▶ MegaMenu ...
- ▶ Menu Import ...
- ▶ Mobile Nav Toggle ...
- ▶ Panel Mobile Collapse ...
- ▶ Pattern Lab ...
- ▶ Photoswipe ...
- ▶ Primary Navigation ...
- ▶ Quick Links ...
- ▶ Search Popup ...

http://localhost:8080/patterns/04-pages-00-homepage/04-pages-00-homepage.rendered.html 1000 x 660 (83%)

UC DAVIS

SiteFarm
Websites Grown Here

Quick Links >

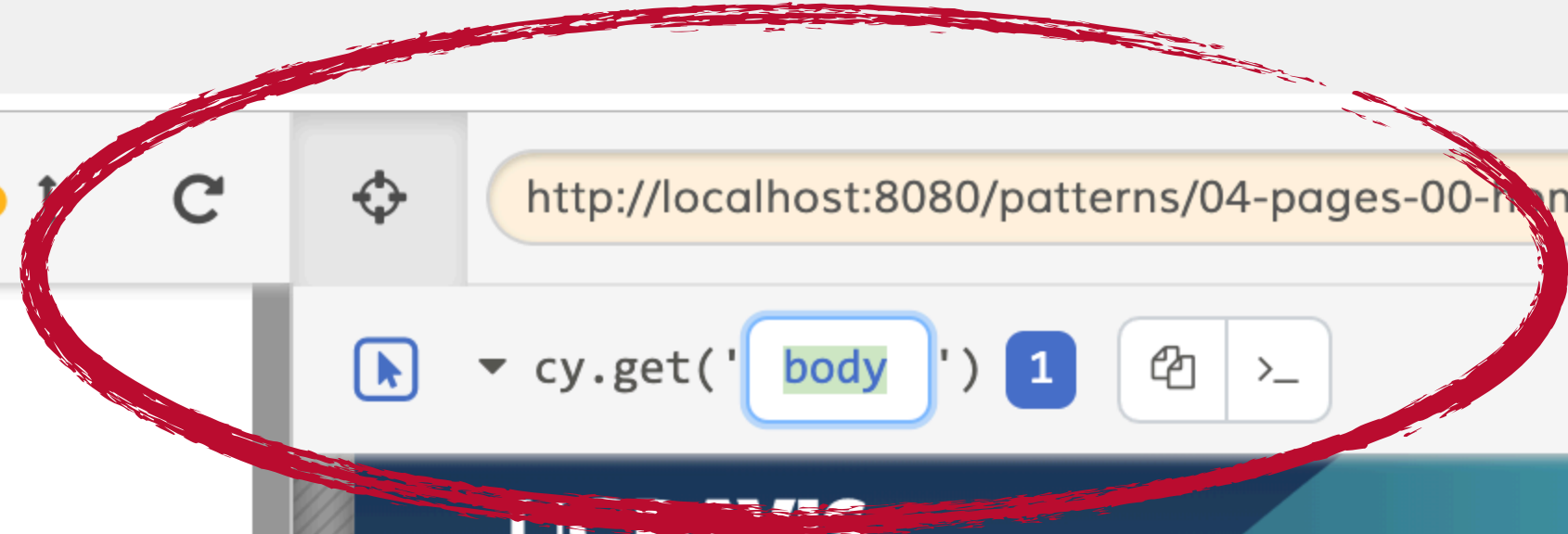
ABOUT US > ADMISSIONS ACADEMICS RESEARCH CAMPUS LIFE NEWS

IT'S RIGHT HERE AND NOW
This site is a Pattern Library of all the components and styles for a UC Davis website with approved branding.

Play Video Get the Code

DOM Snapshot (pinned)

- ▶ Bootstrap Select multi select dropdown ...
- ▶ Collapse Accordion ...
- ▶ Hero Banner ...
- ▼ Home Page
 - ✓ Site Name
 - ▼ BEFORE EACH
 - 📌 VISIT /patterns/04-pages-00-homepage/04-page...
 - ▼ TEST
 - 1 GET .header__site-name
 - 2 - **ASSERT** expected <h1.header__site-name> to have text SiteFarm
- ▶ Collapse Accordion ...
- ▶ MegaMenu ...
- ▶ Menu Import ...
- ▶ Mobile Nav Toggle ...
- ▶ Panel Mobile Collapse ...
- ▶ Pattern Lab ...
- ▶ Photoswipe ...
- ▶ Primary Navigation ...
- ▶ Quick Links ...
- ▶ Search Popup ...



cy.get('body') 1

UC DAVIS

SiteFARM

.header__slogan m

Websites Grown Here

Quick Links

ABOUT US > ADMISSIONS ACADEMICS RESEARCH CAMPUS LIFE NEWS

IT'S RIGHT HERE AND NOW

This site is a Pattern Library of all the components and styles for a UC Davis website with approved branding.

Play Video Get the Code

DOM Snapshot (pinned)

Tests ✓ 46 ✗ -- 24.92

- Bootstrap Select multi select dropdown ...
- Collapse Accordion ...
- Hero Banner ...
- Home Page
 - ✓ Site Name
 - BEFORE EACH
 - VISIT /patterns/04-pages-00-homepage/04-page...
 - TEST
 - 1 GET .header__site-name
 - 2 - ASSERT expected <h1.header__site-name> to have text SiteFarm

http://localhost:8080/patterns/04-pages-00-homepage/04-pages-00-homepage.rendered.html 1000 x 660 (34%)

cy.get('body') 1

121.5 x 66
Color #002855
Font 15px proxima-nova, ...
Padding 0px 15px
Contrast Aa 14.64

DOM Snapshot (pinned)

```

<body class="front">
  <div class="page l-header--fixed">
    <header class="l-header header" role="banner">
      <div class="header__bar">...</div>
      <div class="header__branding">...</div>
      <div class="l-navbar navbar menu--closed">
        <div class="l-container--navigation off-canvas off-canvas--left">
          <div class="off-canvas__container">
            <div class="l-search-popup">...</div>
            <nav id="primary-nav" class="primary-nav primary-nav--superfish" aria-label="Main Menu">
              <ul class="menu sf-js-enabled sf-arrows" style="touch-action: pan-y;">
                <li>...</li>
                <li>
                  <a href="#">Admissions</a>
                </li>
              </ul>
            </nav>
          </div>
        </div>
      </div>
    </header>
  </div>

```

Styles Computed Event Listeners >>

Filter :hov .cls +

```

element.style {
}

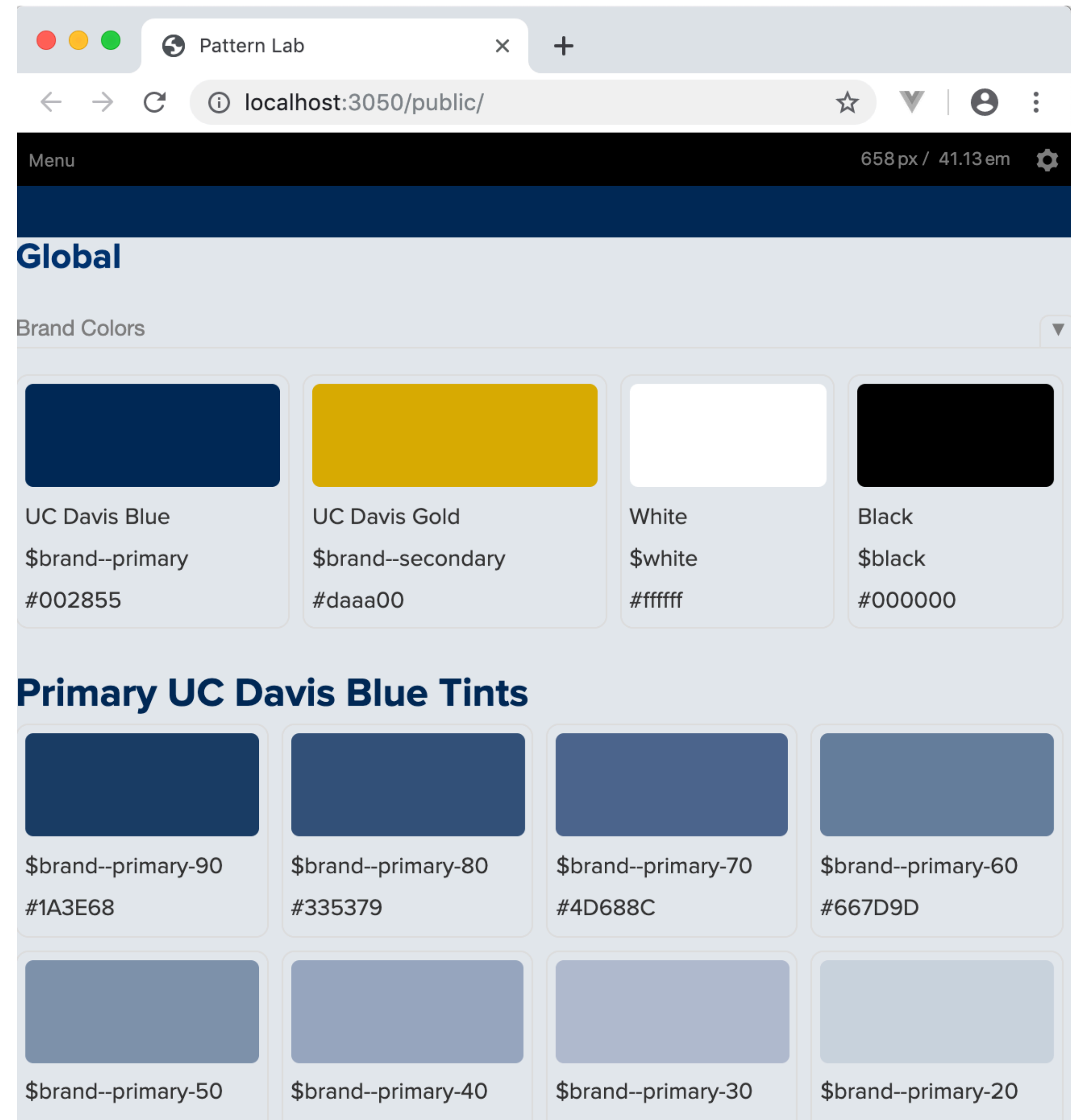
.runner.selector-
playground .selector,
.runner.selector-playground .selector-input,
.runner.selector-playground .info .spacer {
  font-family: Consolas, Monaco, "Andale Mono",
    monospace;
}

.runner.selector-
playground .selector {
  font-size: 1em;
  -webkit-box-align: center;
  -ms-flex-align: center;
  align-items: center;
}

```

Case Study

Pattern Lab



one > 1. ~/repos/sitefarm/patternlab/one (bash)

```
~/repos/sitefarm/patternlab/one on dev*
$
```

Terminal tabs: ...drupal-pdb (bash) #1, ~/test-app (bash) #2, ...ernlab/one (bash) #3, ...atternlab/one (bash) #4

scripts > serve:ci

Visual Regression Tests

- Tests the visual differences



Oops!!!
Looks like this
image is missing

BackstopJS

Compares reference
screenshots with new



BackstopJS

Visual regression testing for web apps.

REFERENCE

TEST

DIFF

SCRUBBER

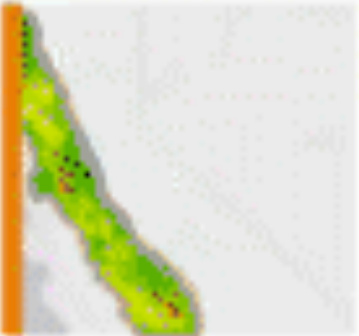
Latest Sites Launched



Continuing and Professional Education
May 06, 2019



Foundation & Corporate Engagement
April 30, 2019



UC Davis Groundwater Tools
April 29, 2019

[Full List](#)

Case Study

Client customized sub-themes

all

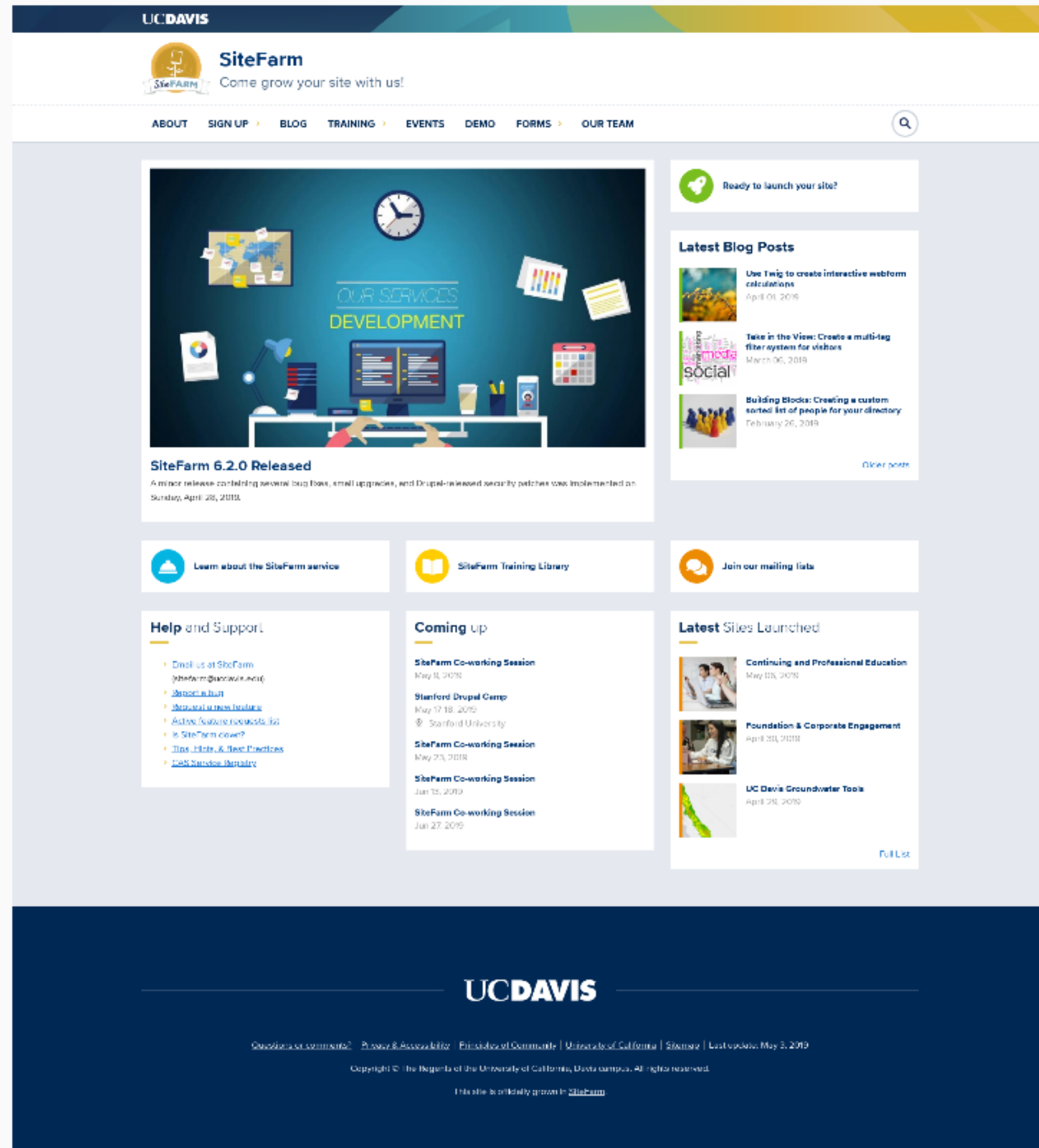
58 passed

2 failed

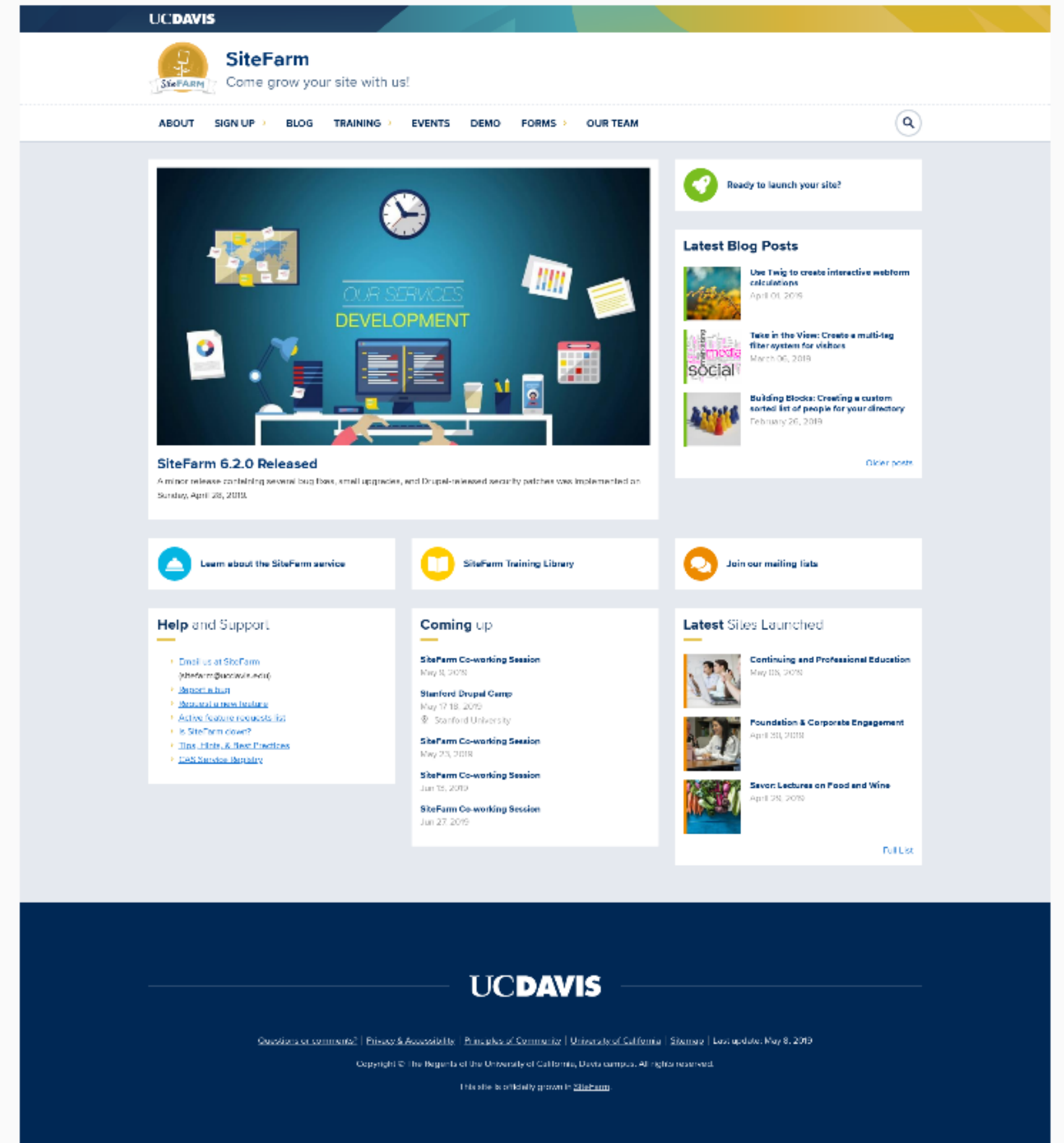
Filter tests with search...

filename: testgroup_SiteFarm_Front_0_document_2_desktop.png

REFERENCE



TEST



filename: testgroup SiteFarm Blog 0 document 0 phone.png

Staging Server

Enter the sites you wish to deploy to your staging environment:

Clean copies of the selected websites will be deployed to the non-production environment. If these websites exist in the non-production environment, only these websites will be overwritten. [Learn more.](#)

Choose environment to deploy:

Environment:

Choose sites to deploy:



Stage all users

Allow all users, including those that do not have access to these sites in the current environment to access the staging environment. Any existing user accounts in the staging environment will be updated.

Wipe target environment

Overwrite the code, database and files in the staging environment. All the existing websites in the non-production environment will be deleted and replaced by the above selected websites.

Send a status email for each site

Enable this option to receive a status email with the success or failure of each site as it is staged.

The time to complete the site copies will vary based on the number of sites being copied and their size.

UCDAVIS

INFORMATION AND
EDUCATIONAL TECHNOLOGY

Staging Server

Anita Drupal Sandbox Workflows Team Settings

Multidev Dev **Test** Live Support

Visit Test Site Site Admin Public Connection Info Clear Caches

- Deploys**
- Code
- Status
- Database / Files
- Errors
- Domains
- HTTPS
- Backups
- Security
- New Relic New!

4 commits are ready to deploy from the *Development* environment

- Run update.php after pulling code
- Clear caches after pulling code
- Pull files and the database from the Live environment?

Deploy Log Message:

Deploy Code from Development to Test Environment

Update to Drupal 8.2.7. For more information, see 5b81157500

Deploy to Production

Site update

Start update

Status

Start time

- Immediately
- At a specific time

Time:

Enter a date in [strptime](#) format. For example: Thu May 16 23:28:54 2019

Site update action

Select from the options below to update the sites in this Site Factory.

Choose a path to deploy... ▾

Currently deployed: tags/build-6.2.1

- Code only
Sets the version control system (VCS) code path for all websites at the same time. Use this option if your code to be deployed has no update hooks, and doesn't require a cache clear or registry rebuild.
- Code and databases
For each website in sequence, sets the VCS path, runs database updates, and then clears all of the website's caches. Use this option for most updates.

db-update hook arguments:

If required, enter one or more arguments to pass through to a configured db-update hook. [Learn more](#).

[Visit the Acquia Help Center to learn more about site update actions.](#)

- Select this check box to confirm that you want to update your public-facing **production** environment.

Update

Deploy to Production

PANTHEON DOCUMENTATION SUPPORT CONTACT SALES Anita

Anita Drupal **Sandbox** Team Settings

Multidev Dev Test **Live** Support

Visit Live Site Site Admin Public Connection Info Clear Caches

Deploys

- Code
- Status
- Database / Files
- Errors
- Domains / HTTPS
- Backups
- Security
- New Relic **New!**

2 commits are ready to deploy from the Test environment

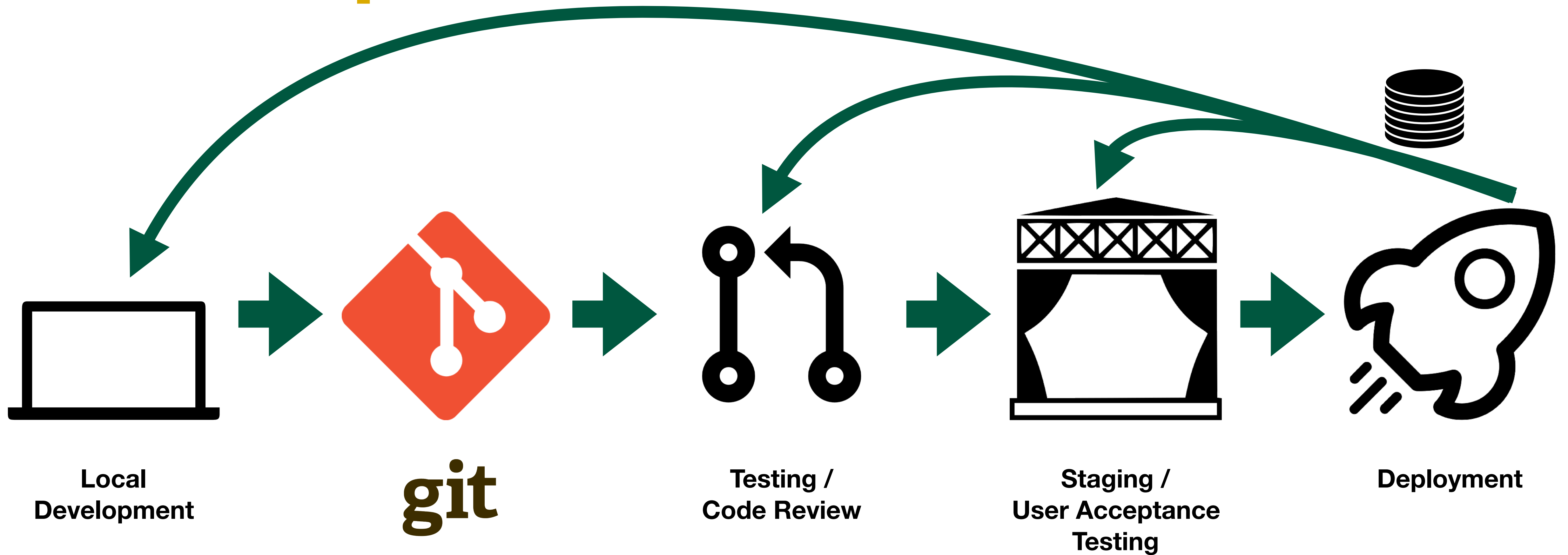
- Run update.php after pulling code
- Clear caches after pulling code

Deploy Log Message:

Deploy Code from Test to Live Environment

- Configure environment indicators for Pantheon** f5da83f531
Anita Pantheon authored 3 minutes ago
- Install environment_indicator 8.x-3.0-beta1** 7ef97fe429
Anita Pantheon authored 4 minutes ago

Development and Release Workflow



Questions?

Shawn DeArmond
sgdearmond@ucdavis.edu

Mark Miller
mrkmiller@ucdavis.edu

