

Visual Regression Testing + Drupal

Nikhil Dubbaka - TechNikh

 @TechNikh

 TechNikh

 nik@TechNikh.com

About Me: Nikhil Dubbaka



@TechNikh



TechNikh



nik@TechNikh.com

Companies I Worked For



HARVARD
UNIVERSITY



 @TechNikh

 TechNikh

 nik@TechNikh.com

About this session

- Types of testing
- Why Visual testing?
- What to test?
- Manual vs Automated testing
- Drupal module for testing
- Demo
- Best practices / Tips

Types of Testing

- Unit testing
- Functional testing
- Load testing
- Usability testing
- Security testing

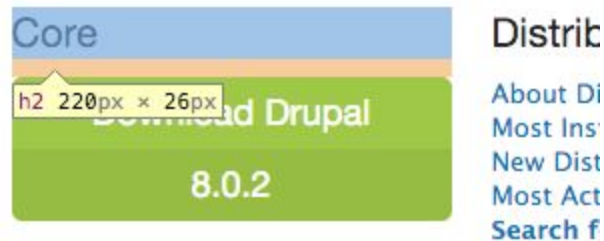
- Visual testing

Why Visual testing?

Download & Extend

Download & Extend Home **Drupal Core**

Download Drupal core files, and extend your s



Core

Download Drupal

8.0.2

Distrib

About Di
Most Ins
New Dist
Most Act
Search f

Other Releases



Elements Console Sources Network Tin

```
<div id="download">  
  <div class="core">  
    <h2>Core</h2>  
    <ul class="flat">...</ul>  
  </div>
```

```
media="all"  
h2, .h2 {  
  font-family: "Helvetica  
    Neue", Helvetica, Arial,  
  font-size: 1.538em;  
  font-weight: normal;  
  line-height: 1.35em;  
  margin: 0.9em 0 0.45em;  
  color: #097bc1;  
}
```

Download & Extend

Download & Extend Home **Drupal Core**

Download Drupal core files, and extend your



Core

Download Drupal

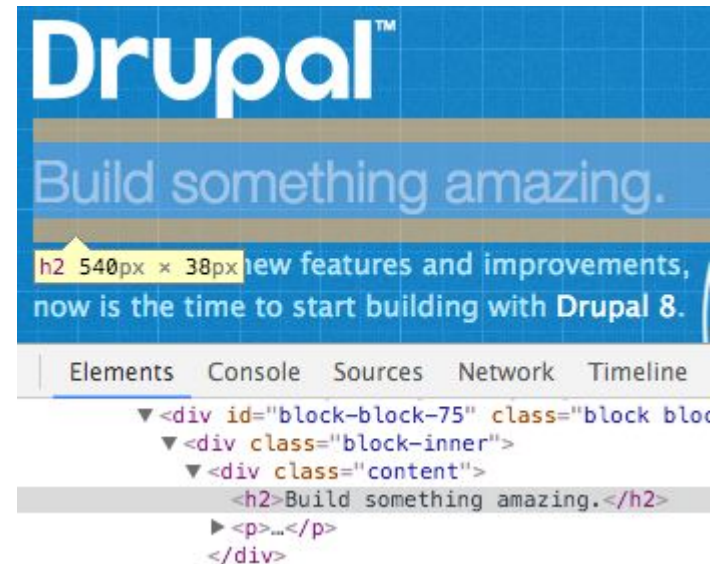
8.0.2

Distrib

About
Most Ir
New Di
Most A
Search

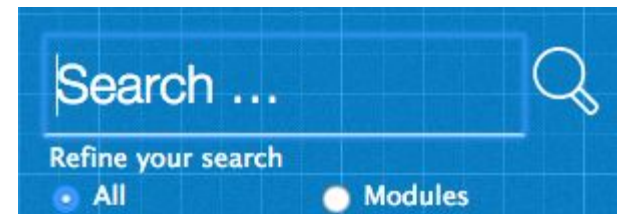
Other Releases

Why Visual testing? (contd....)



What to test?

Drupal.org



Welcome to Drupal.org


[Create new account](#) [Log in](#) [Request new password](#)

Username or email *

Password *

[Log in](#)

What to test? (contd....)

Drupal™ views 
[Log in](#) / [Register](#)

Found 6569 results containing the words: **views**

- Maintenance status
- Development status
- Module categories
- Core compatibility
- Status
- Sort by

Did you mean
[view](#)

Views

Posted by [merlinofchaos](#) on *October 28, 2015 at 9:20pm*

You need **Views** if You like the default front page **view**, but you find you want to sort it ... differently. You like the default taxonomy/term **view**, but you find you want to sort it differently; for ... **Views** can do a lot more than that, but those are some of the obvious uses of **Views**.
[Views for Drupal ...](#)

Module project

Search again

or filter by...

- All (435182)
- Forums & Issues (411296)
- Documentation (17085)
- Modules (6569)**
- Themes (193)
- Groups (39)

or search for...

- [IRC Nicks](#)
- [Users](#)

Manual/Automated Testing



Courtesy: <http://blog.gfader.com/2010/10/why-are-automated-tests-so-important.html>

Automated Testing

- Faster feedback
- Saves time
- Safety net for code changes
- Humans make mistakes

Drupal module for testing

Drupal + Selenium #Drulelenium

<https://www.drupal.org/project/drulelenium>

Download & Extend

[Download & Extend Home](#)

[Drupal Core](#)

[Distributions](#)

[Modules](#)

[Themes](#)

Drulelenium

[View](#)

[Version control](#)

[Automated Testing](#)

Posted by [TechNikh](#) on *July 15, 2012 at 3:39pm*

Visual/CSS regression testing

The sub module `drulelenium_visual_regression` helps in Automating Visual/CSS regression testing.



Drulenum.org

<http://drulenum.org/reports/drupal8/release/71>

<http://cgit.drupalcode.org/drupal/commit/?id=7a905d5>

 **webchick**
@webchick Following

Holy shazbot! @TechNikh has automated selenium/visual regression testing for #Drupal 8: drulenum.org/reports/drupal... drulenum.org

RETWEETS 8 LIKES 20




3:26 PM - 23 Feb 2016



 **Dries Buytaert**
@Dries Following

Drulenum looks promising! buff.ly/1STAtWH
Now trying to find a patch that introduces visual differences ... :)

RETWEETS 9 LIKES 11



10:53 AM - 24 Feb 2016



Drulenum Concept

- System takes screenshots of web pages, **before** you make changes.
- System takes another set of Image screenshots of web pages, **after** you make changes.
- System calculates the **difference** of image pixels that changed and generates an animated GIF to look at.

Baseline



This is my teaser title

MICAH GODBOLT
OCTOBER 31ST, 2014

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam.

New



THIS IS MY TEASER TITLE

MICAH GODBOLT
OCTOBER 31ST, 2014

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam.

Diff



THIS IS MY TEASER TITLE

MICAH GODBOLT
OCTOBER 31ST, 2014

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam.

Drulenum

The screenshot shows the 'Content' management page in Drulenum. At the top, there is a navigation bar with 'Back to site', 'Manage', 'Shortcuts', and the user 'techadmin'. Below this, the 'Content' section is highlighted with a star icon. There are three tabs: 'Content', 'Files', and 'Comments'. A breadcrumb trail shows 'Home » Administration'. A blue button labeled '+ Add content' is present. Below it, there are filters for 'Published status' and 'Type', both set to '- Any -', and a 'Title' search input field. A 'Filter' button is located below the filters. At the bottom, a table header is visible with columns: 'TITLE', 'CONTENT TYPE', 'STATUS', and 'OPERATIONS'. The message 'No content available.' is displayed below the table.



Features

SERVER CONFIGURATION

Server:

- Local server
- Remote Drulenum server
- Sauce labs server

Pick the server you want to use. You will f

LOCAL SERVER

Configuration for your local server.

Selenium host url

http://localhost:4444/wd/hub

Site URL to selenium host. Usually http

Browser

firefox

Pick a browser to test with.

Path to the Image Magick binary

/opt/local/bin

The complete path of the ImageMagick convert"

Sauce Labs

Configuration for taking screenshots

SauceLabs Username

nd49

Your Saucelabs account username.

SauceLabs Access Key

Your Saucelabs account access key.

Browsers

Configuration for taking screenshots

OS

Mac 10.9

Pick an operating system for the de

Browser

chrome

Pick a browser.

Version

40

Browsers

- Linux
- Mac 10.10
- Mac 10.11
- Mac 10.8
- Mac 10.9
- Windows 10
- Windows 2003
- Windows 2008
- Windows 2012
- Windows 2012 R2

Mac 10.9

Pick an opera

Browser

- chrome
- firefox
- ipad
- iphone
- safari

OS

- Mac 10.10
- 31
- 32
- 33
- 34
- 35
- 36
- 37
- 38
- 39
- 40
- 41
- 42
- 43
- 44
- 45
- 46
- 47
- beta
- dev

Features

▼ GitHub Configuration

GitHub details for comparing images.

GitHub Username

Your GitHub account username.

GitHub Password

Your GitHub account password.
Password is stored in plain text in the

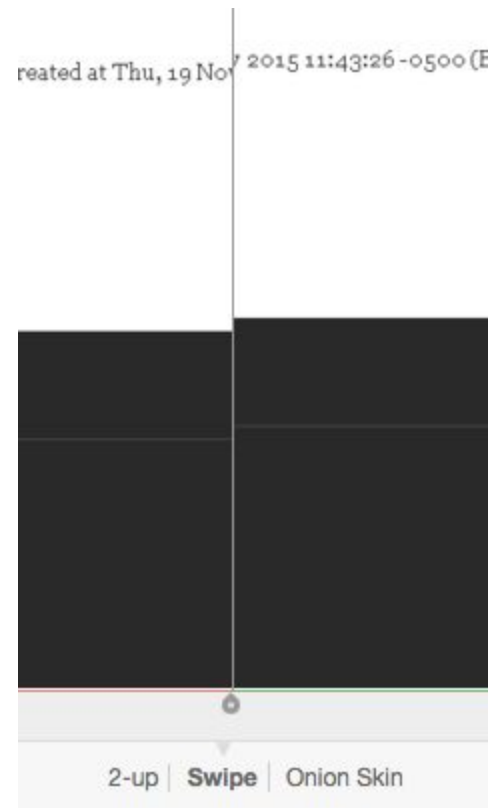
GitHub Email

Your GitHub account email id.

GitHub Repository

Your GitHub repository name.

Sample GitHub Image Diff



Plugins

▼ Plugins

Add plugins by clicking the buttons below.

Click button

Verify Text

Fill textbox

Verify Element Position & Dimensions

Hover over

Remote Selenium Test

Selenium Test

Take screenshot

Verify Attribute

Verify Text Not Present

Name	Description
⊕ Click button	<p>▼ Plugin attributes</p> <p>Element Locator <input type="text" value="#subspace-dropdown"/></p> <p>The Locator of the element you want to click. C</p>
⊕ Take screenshot	<p>▼ Plugin attributes</p> <p>Element Locator <input type="text" value=".responsive-panels-re"/></p> <p>The Locator of the element you want to take sc</p>
⊕ Hover over	<p>▼ Plugin attributes</p> <p>Element Locator <input type="text" value="li.dropdown-submenu"/></p> <p>The Locator of the element you want to hover.</p>

Features - Import/Export tests

Drulenum

Settings

Visual Regression

Tests

List

Run tests

Add

Import

Storage

Enabled

Search

- All -

- All -

Sort by

Order

Enabled, name

Up

Apply

Reset

Operations

Edit

Disable

Delete

Clone

Export

Edit

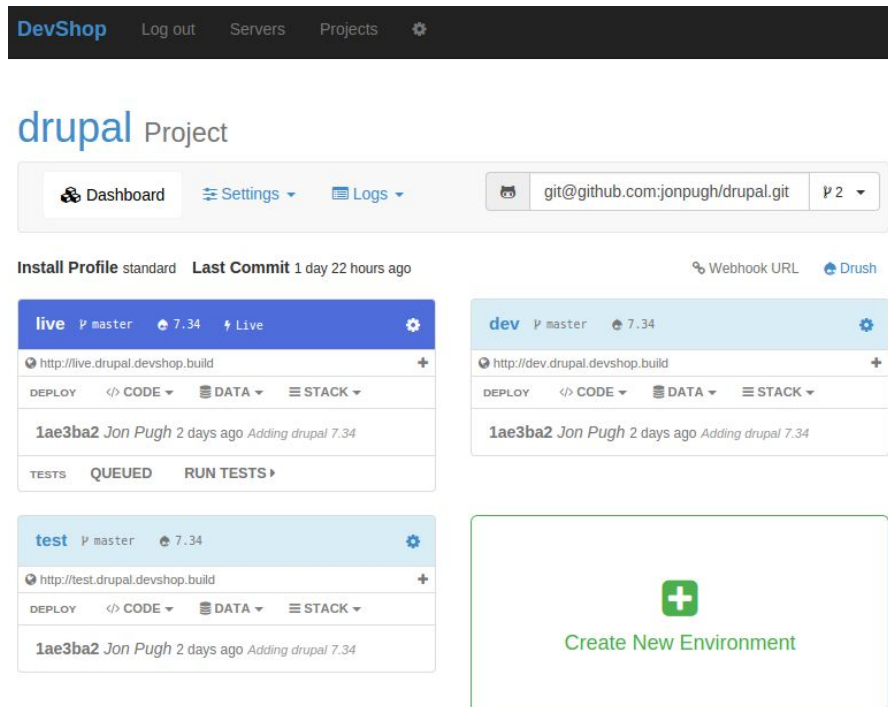
Drush integration

```
[NDubbaka-mbp:drulenum hhdtemp12$ sudo drush|grep vr-  
[Password:  
  vr-create (vrc)          Create release and generate snapshots.  
  vr-diff (vrd)           Generate comparison report for 2 releases.  
  vr-update (vru)         Generate new snapshots for a release.  
NDubbaka-mbp:drulenum hhdtemp12$ █
```

Aegir & DevShop integration

https://www.drupal.org/project/hosting_drulenum

https://www.drupal.org/project/provision_drulenum



The screenshot shows the DevShop interface for a Drupal project. The top navigation bar includes 'DevShop', 'Log out', 'Servers', and 'Projects'. The main header displays 'drupal Project' and navigation options like 'Dashboard', 'Settings', and 'Logs'. A repository link 'git@github.com:jonpugh/drupal.git' is shown. Below, the 'Install Profile' is set to 'standard' and the 'Last Commit' is from '1 day 22 hours ago'. Three environments are listed: 'live', 'dev', and 'test', each with a 'DEPLOY' button and a commit history entry: '1ae3ba2 Jon Pugh 2 days ago Adding drupal 7.34'. A 'Create New Environment' button is visible at the bottom.



Other tools

github.com/BBC-News/wraith

github.com/Huddle/PhantomCSS



Key points

- The top income tax rate will be reduced to 45% from April next year
- The stamp duty rate on properties worth more than 22m via companies will be raised to 15%
- Labour leader Ed Miliband says millions of people will be paying more, while millions pay less
- 500,000 people will be drawn into the 40% higher rate tax band from 2013-14
- The point at which people start paying income tax will be raised to 28,000 from next April



Best practices / Tips

- Start simple
- Don't aim for 100% test coverage
- Core/Critical functionality
 - Top pages
- Anonymous / Authenticated
- Consider the time the tests take to run
- Reduce false positives
 - Threshold - percentage difference
 - Find tests that fail without code changes
 - Selectively ignore dynamic parts of the page
- Monitor periodically

Questions?



@TechNikh



TechNikh



nik@TechNikh.com

<https://drupal.org/project/drulenum>

 @TechNikh

 TechNikh

 nik@TechNikh.com