Continuous Integration and Testing with Branch Orgs

Branch Orgs!? Jenkins!? webpack!???? Namespace collisions!?

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About Us

- Mike
  - Has been with Bracket Labs almost 4 years
  - Bracket Labs developers apps for the Appexchange
  - Lead developer on our flagship app TaskRay
  - Moscone West W-715
- Nate
  - Has been with Salesforce almost 4 years
  - Has worked on ISV and Development Tools

    Ask me about the Apex Debugger

Taking a Step Back
What's Namespace?

- Namespaces allow managed packages (and Lightning) not to collide with other code
  - Are up to 15 letters & numbers
  - Globally unique
  - Only in one org

    Patch orgs are "special"
- You use your namespace on
  - Apex Classes: namespace.MyClass
  - Custom Objects & Fields: namespace__myObject__c
  - Global Describes, Javascript back and forth with the client and controller
  - HTML, CSS, and Javascript (RemoteActions, RemoteObjects, REST calls, multiple CSS Libraries)

The Problem

Only can use the namespace in one Org

- Can't do team development
  - Alice and Bob can't both code in the same org
- Can't test
  - Carol can't test Alice and Bob's code
- What do I check into source control

The Hacks

- Source Control Hooks
  - Add and remove namespace(s) on checkin/checkout
  - What are you testing?
  - What if you hooks have bugs
- Runtime checking for namespaces
  - Slow
  - Error prone
  - What if code/objects change
  - Have adapt your code

    Can't use [] for SOQL/SOSL

    Can't use namespace.Class

Where we have been

Managed packages have issues with swapping namespaces between orgs

- Development org namespace
- Integration org namespace
- Testing org namespace
- Packaging org namespace

What fixes where we have been!?

Branch Orgs!!!

- Create orgs directly from your packaging org (nice amount of licenses and limits!)
- These orgs all share the same namespace as the packaging org
- Work with Environment Hub

Branch org demo

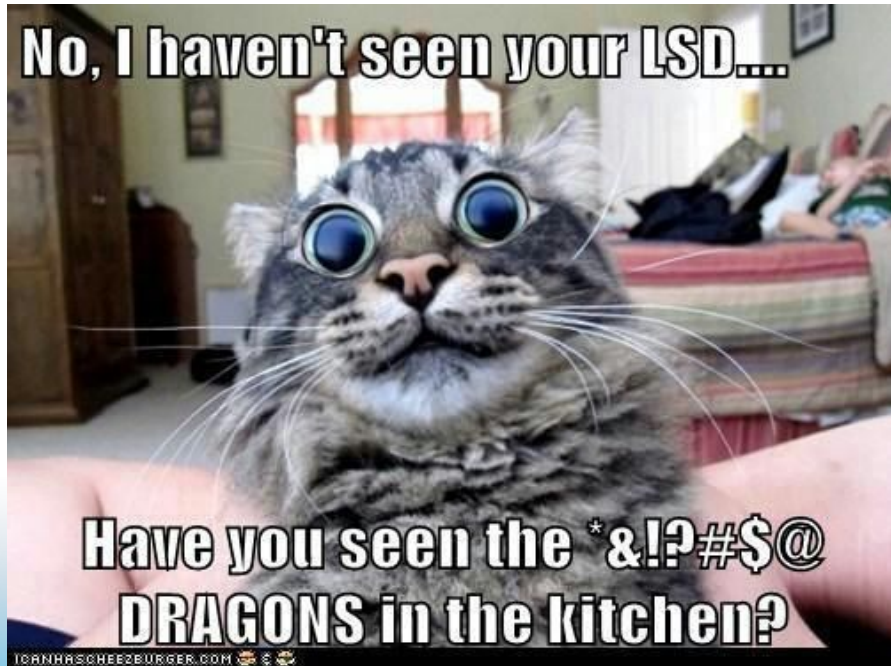# Spots where branch orgs really pay off

- Simplifying your build process, no more namespacing scripts
- Onboarding new developers
- Simplifying your code base between server side and client side

What challenges do we face next?

- Back in the day we were all iframed in separate Visualforce frames
- Lightning components will speed us up and let us share the same DOM
- Sharing the same DOM sometimes has complications

DOM sharing dragons:

- CSS Collisions
- Javascript collisions
- People doing stupid stuff

CSS Collisions

Our normal solutions

- Namespace your CSS and hope everyone else does the same
- Put yourself into an iframe intentionally (i.e. Lightning Locker)

Scary new solutions

- Inline styles injected via your javascript build
  - Powerful
  - Can be messy
  - Zero global namespacing issues
  - Browser performance??

```
/*style for all*/
a:hover{ color: #2a6496; }
/*style for some*/
a:hover{ color: #0070d2; }
```

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Javascript Collisions

Our normal solutions

- var $j = jQuery.noConflict();

- var iReallyHopeSomeOneDoesNotUseThisVariableNameOnTheWindow;

Scary new solutions

- Webpack!
  - Bundle all of your javascript together in one big module, then execute it!
  - All references to dependencies are contained within modules, not a single dom window

How do we tie all of this together?

Our build system!

- Git
- Jenkins
- NPM
- ANT

Front end build demo + Deployment

Availability for Branch Orgs

- Currently in pilot
- GA in Spring or Summer '16
  - Add support for @deprecated
  - More org copying options
  - …

1-1-1 Model

- Core part of Salesforce
  - Bracket Labs participates
- Do good
  - Raise money
  - Do pro-bono Salesforce work
- Auctioned off my beard
  - Raised over $3000 for MS
  - Don't trust the Internet

Questions