

# Jenkins UI Gets a Makeover

**Stepping stones towards a new Jenkins UI**  
Jeremy Hartley & Félix Queiruga

**DEVOPS  
WORLD**  
by CloudBees



# What we'll talk about today

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# Agenda

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- State of Jenkins Today
- Existing UI & Blue Ocean
- UI Overhaul Philosophy
- Progress Update
- Case Studies
- Future Direction



# State of Jenkins Today

Where are we at today?

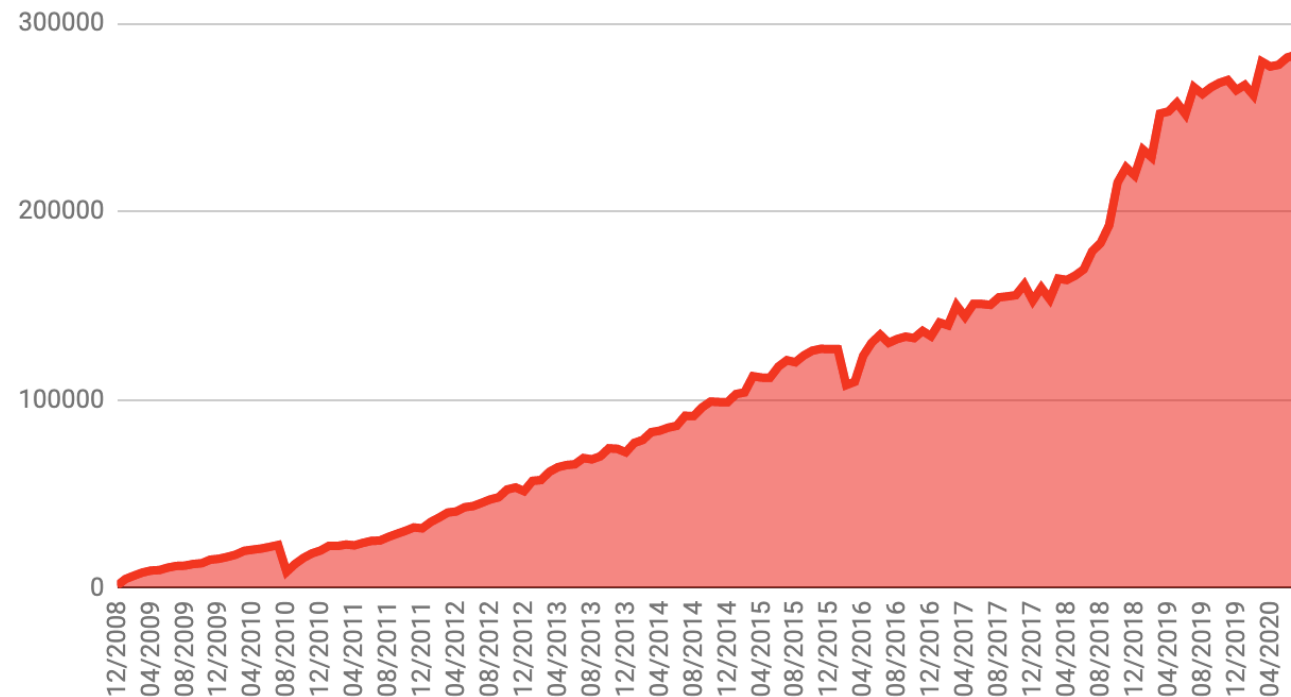


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# Jenkins has come a long way

- Started in 2004
- 283,113 Jenkins Masters online in July 2020

Growth of Jenkins Masters (2008 to 2020)

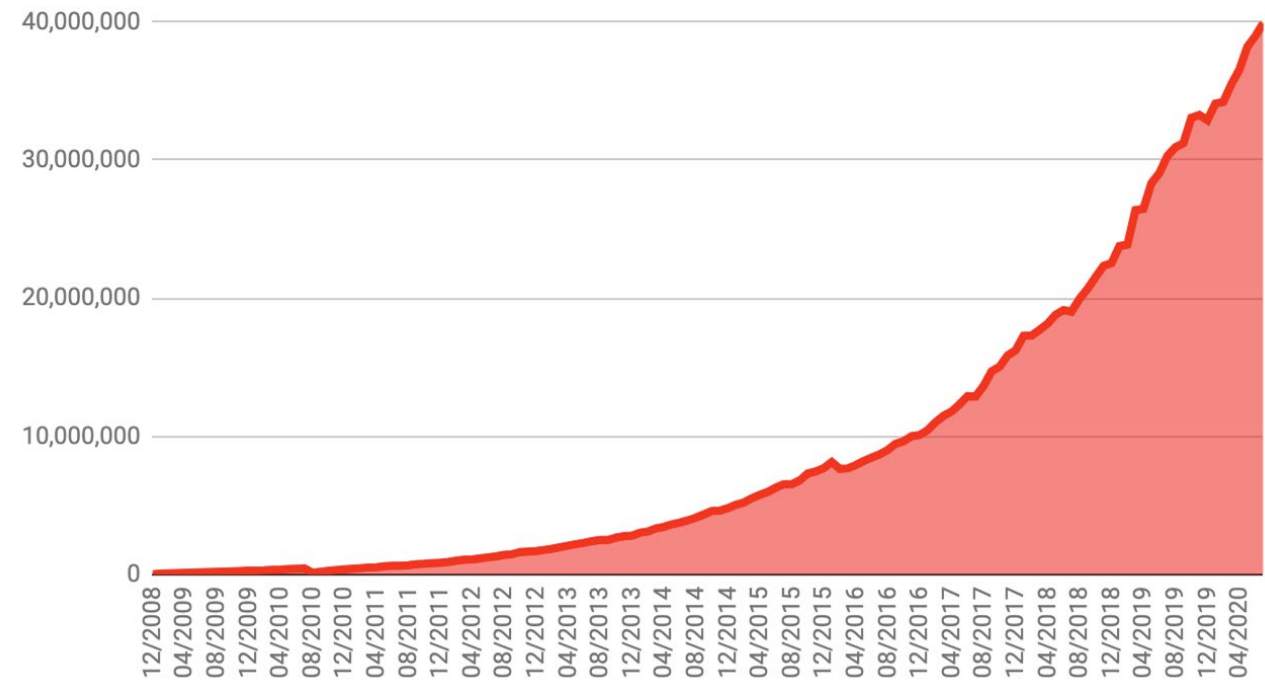


<https://stats.jenkins.io/>

# Exponential Growth of Jobs

- 40 million jobs in July 2020
- Almost 33% year over year growth in number of jobs.

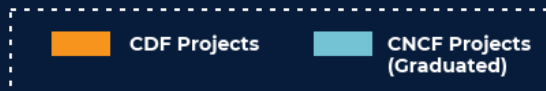
Growth of Jobs (2008 to 2020)



<https://stats.jenkins.io/>



# Developer Contributions by Project






# State of the UI



# The Jenkins UI lags behind

 **Jenkins**

2

[admin](#) | [log out](#)

Jenkins

New Item

People

Build History

Manage Jenkins

My Views

Lockable Resources

New View

Build Queue







No builds in the queue.

Build Executor Status

1 Idle


2 Idle


All


S	W	Name ↓	Last Success	Last Failure	Last Duration
		<a href="#">drag-n-drop test</a>	N/A	N/A	N/A
		<a href="#">Folder</a>	N/A	N/A	N/A
		<a href="#">simple-java-maven-app</a>	N/A	N/A	N/A

Icon: [S](#) [M](#) [L](#)

Legend

 [Atom feed for all](#)

 [Atom feed for failures](#)

 [Atom feed for just latest builds](#)

[add description](#)

[ENABLE AUTO REFRESH](#)

Page generated: Tue Jul 21 13:22:56 UTC 2020 [REST API](#) Jenkins ver. 2.204

# Blue Ocean

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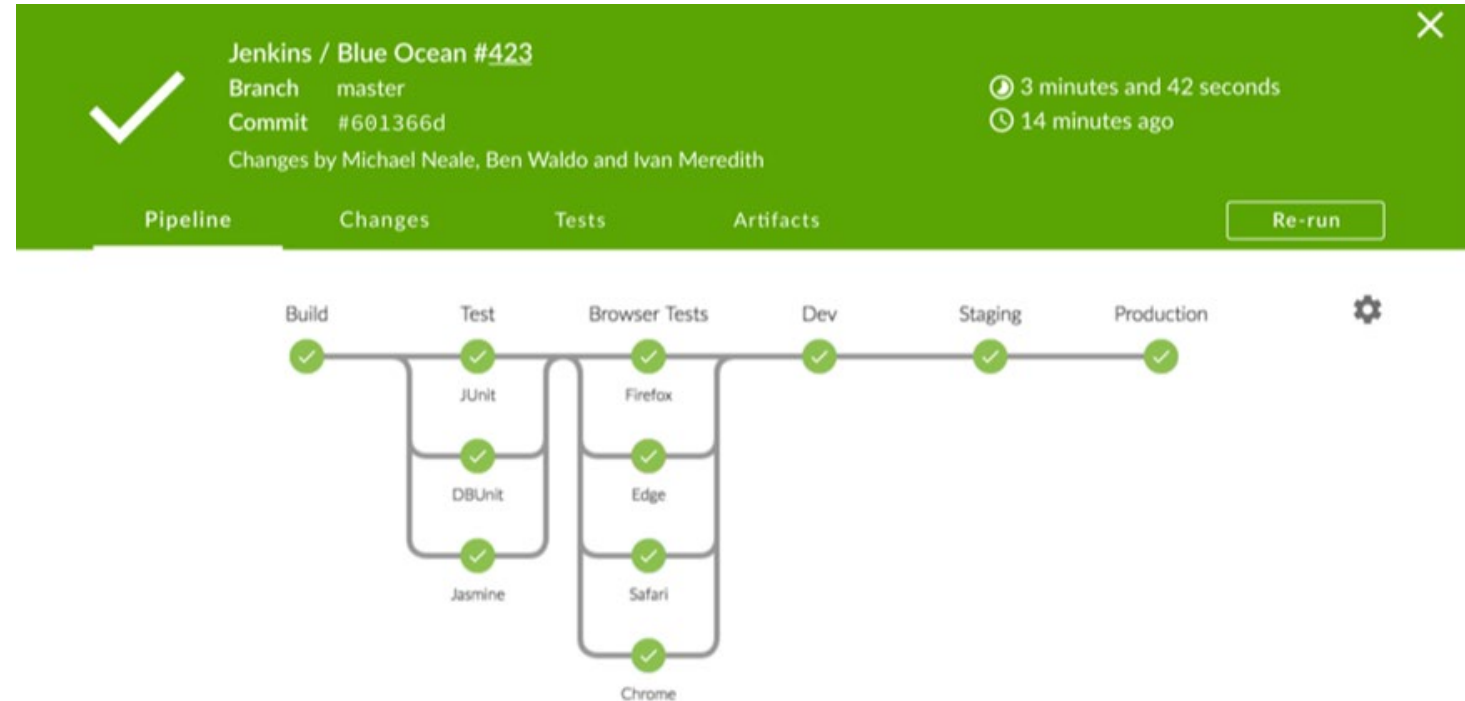
- Originally planned as new Jenkins UI
- Plugin integration was a key challenge





# Status of Blue Ocean

- The scope of Blue Ocean is now pipelines
- Major development has now stopped
- Critical defects and security issues continue to be addressed



# UI Overhaul Philosophy

Vision, Key Learnings and Planning





# Finding a way forward

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- Need to break the UI deadlock
- Learn from past mistakes
- Make it easier for community to contribute to UI



# A gradualist approach

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- No appetite for boiling the ocean
- Community involvement before writing code
- Deliver results iteratively in weekly and LTS releases





# Jenkins UX SIG

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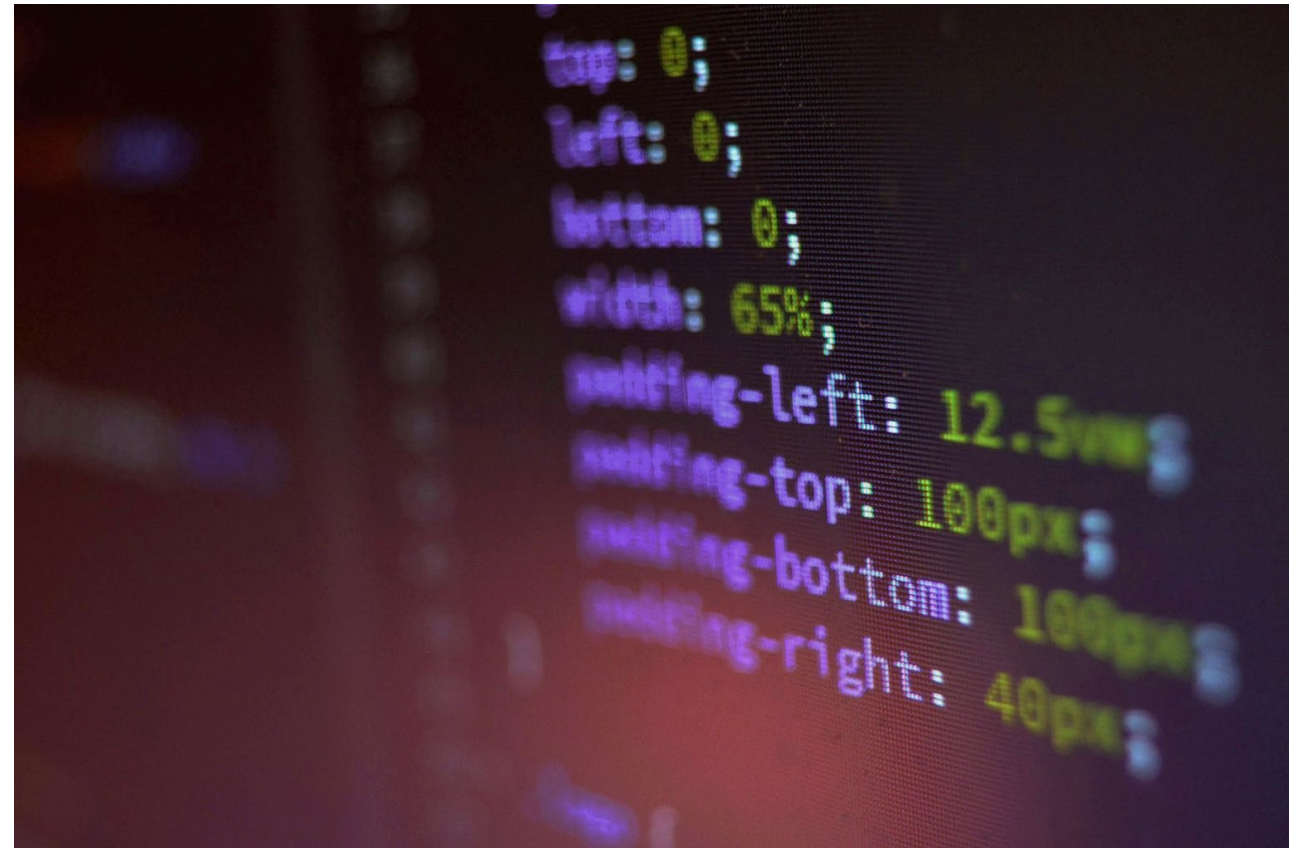
- Created User Experience SIG
  - First meeting late last year
- About 10 regular members
  - Meet every 2nd Wednesday
- Open to everybody - Come join us!
  - <https://www.jenkins.io/sigs/ux/>



# CSS-inspired Overhaul

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- The UI overhaul initially largely CSS-based
- UX/behavior largely left alone in favor of modernizing UI
- Opportunistic refactoring



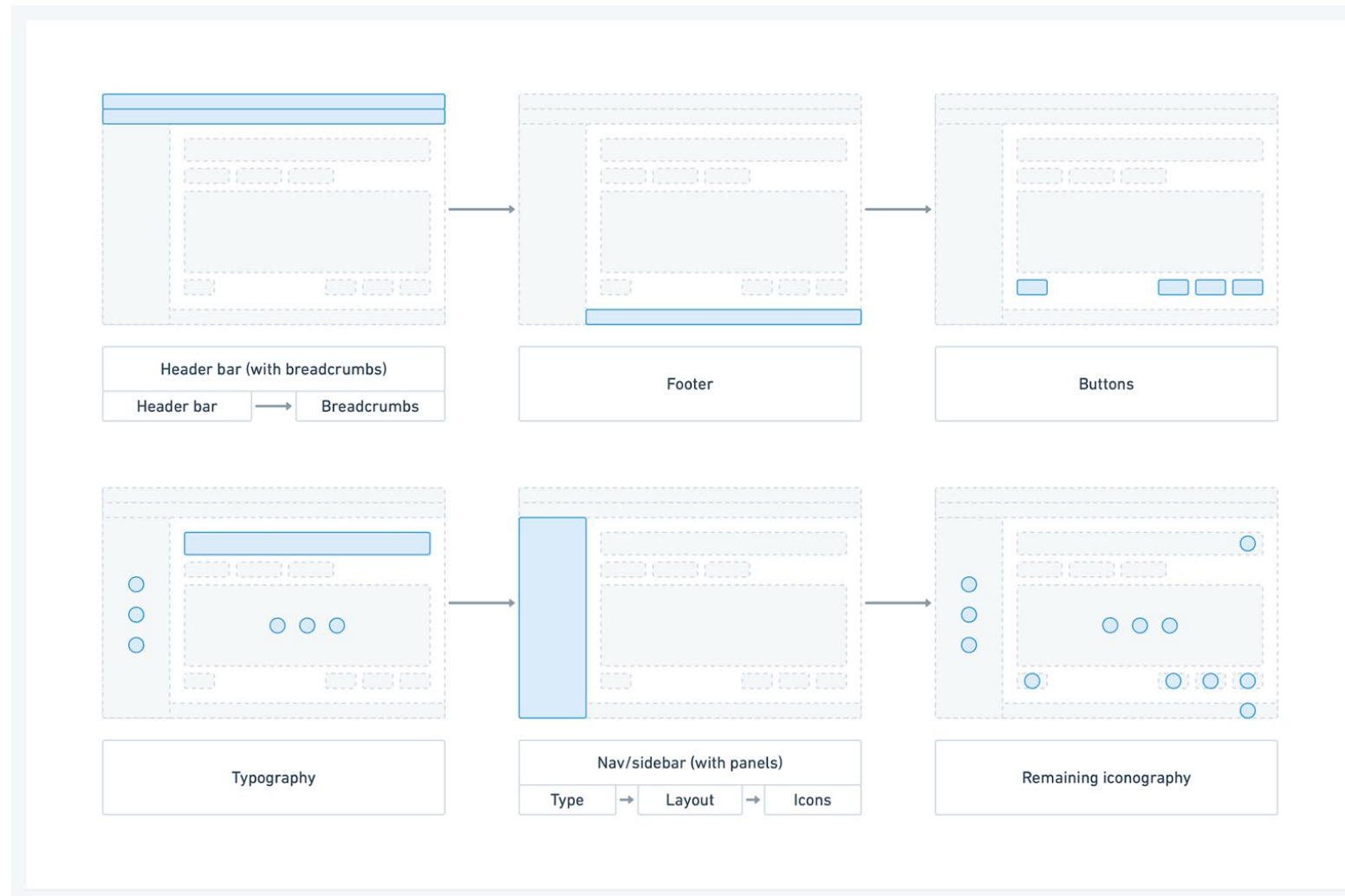


# Progress Update

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# Delivered Work

- New Header Design and Breadcrumbs
- Updated Page Footer
- Updated Buttons & Hyperlinks
- Improved Typography
- Updated Sidebar & Panels
- Tabs & Tables





# Home Page Before

 **Jenkins**

2


[?](#)


[admin](#)


[log out](#)


Jenkins


[ENABLE AUTO REFRESH](#)


 New Item


 People

 Build History

 Manage Jenkins

 My Views

 Lockable Resources

 New View

Build Queue









No builds in the queue.

Build Executor Status

1 Idle  
2 Idle


All


+


S	W	Name ↓	Last Success	Last Failure	Last Duration	
		<a href="#">drag-n-drop test</a>	N/A	N/A	N/A	
		<a href="#">Folder</a>	N/A	N/A	N/A	
		<a href="#">simple-java-maven-app</a>	N/A	N/A	N/A	

Icon: [S](#) [M](#) [L](#)

Legend


 [Atom feed for all](#)

 [Atom feed for failures](#)

 [Atom feed for just latest builds](#)


[add description](#)


# Home Page After


 **Jenkins**

search

?

 4

 admin

 log out

Jenkins

New Item

People

Build History

Manage Jenkins

Support

Failure Cause Management

My Views

UI Samples

Lockable Resources

New View

Build Queue

No builds in the queue.

Build Executor Status

1 idle

All

Calendar

My tab

No jobs

+

S

W


Name ↓


Last Success

Last Failure

Last Duration

# Issues







drag-n-drop test


N/A

1 mo 7 days - #4

2,2 sec

 -






Folder


N/A

N/A

N/A

-






simple-java-maven-app

28 days - #1


14 days - #4


1 min 28 sec


 -

Icon: S M L

Legend


 Atom feed for all

 Atom feed for failures

 Atom feed for just latest builds



# Plugin Management Before

 **Jenkins**

2

admin | log out

Jenkins > Plugin Manager

Back to Dashboard

Manage Jenkins

Update Center

Filter:

Updates

Available

Installed

Advanced

Install ↓

Update Center [Jenkins]

	Name	Version
<input type="checkbox"/>	<div>Check to install the plugin Click this heading to sort by category</div> <div>Warning: This plugin version may not be safe to use. Please review the following security notices:<ul style="list-style-type: none"><li>Credentials stored in plain text</li></ul></div> <div>in AWS Device Farm.</div>	1.29
<input type="checkbox"/>	<div><a href="#">AWS Lambda</a></div> <div>This Plugin allows you to upload a zip file or folder to AWS Lambda</div>	0.5.10
<input type="checkbox"/>	<div><a href="#">AWSEB Deployment</a></div> <div>This Plugin allows you to deploy into one or many AWS Elastic Beanstalk environments.</div>	0.3.21
<input type="checkbox"/>	<div><a href="#">AWS CodeDeploy</a></div> <div>This plugin provides a "post-build" step for AWS CodeDeploy.</div> <div><a href="#">jenkins-cloudformation-plugin</a></div> <div>Adds a build wrapper that can spawn an AWS Cloud Formation recipe at the start of the build and take it down at the end.</div>	1.23
<input type="checkbox"/>	<div>Warning: This plugin version may not be safe to use. Please review the following security notices:<ul style="list-style-type: none"><li>Credentials stored in plain text</li></ul></div> <div>AWS SQS Build Trigger</div>	1.2


Install without restart

Download now and install after restart

Update information obtained: 13 min ago


Check now


# Plugin Management After


 **Jenkins**

search

?


 4


 admin

 log out

Jenkins

Plugin Manager

 Back to Dashboard

 Manage Jenkins

aws

Updates

Available

Installed

Advanced

Install ↑	Name	Version	Released
<input type="checkbox"/>	<div>Amazon Web Services SDK</div> <div>api-plugin aws</div> <div>This plugin provides <a href="#">AWS SDK for Java</a> for other plugins.</div>	1.11.821	3 days 19 hr ago
<input type="checkbox"/>	<div>CloudBees AWS Credentials</div> <div>aws</div> <div>Allows storing Amazon IAM credentials within the Jenkins Credentials API. Store Amazon IAM access keys (AWSAccessKeyId and AWSSecretKey) within the Jenkins Credentials API. Also support IAM Roles and IAM MFA Token.</div>	1.28	10 mo ago
<input type="checkbox"/>	<div>Amazon EC2</div> <div>agent aws Cloud Providers Cluster Management and Distributed Build spotinst</div> <div>This plugin integrates Jenkins with <a href="#">Amazon EC2</a> or anything implementing the EC2 API's such as an Ubuntu.</div>	1.50.3	2 mo 7 days ago
<input type="checkbox"/>	<div>S3 publisher</div> <div>aws Artifact Uploaders</div> <div>This is a plugin to upload files to Amazon S3 buckets.</div>	0.11.5	5 mo 15 days ago
<input type="checkbox"/>	<div>Pipeline: AWS Steps</div> <div>aws pipeline</div> <div>This plugin integrates Jenkins with the AWS API.</div>	1.41	4 mo 4 days ago

Install without restart

Download now and install after restart

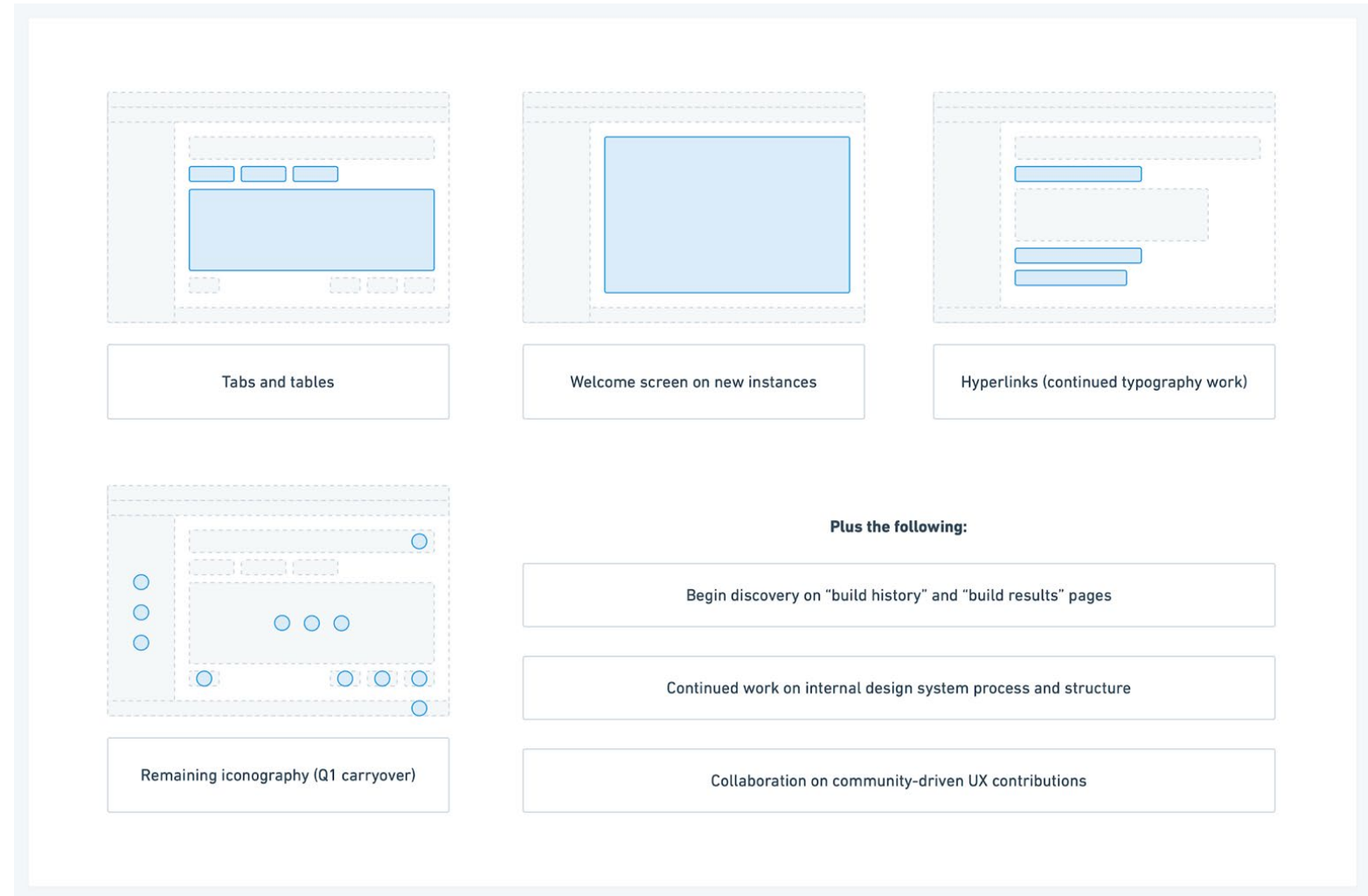
Update information obtained: 4 hr 59 min ago

Check now



# Planned Work

- Iconography Overhaul
- Welcome Screen on New Instances



# Case Study - One

## Revamp Strategy





# Revamp Strategy

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## Challenges

- Work around legacy styles and libraries
  - prototypejs
  - Yahoo! UI
  - Etc
- Avoid breaking plugins
- Where do we start?

# Revamp Strategy

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## Solution

- Broad changes that affect as many screens as possible
- Carefully choosing the order of changes
- Iterate until "good enough" & merge often



# Case Study - Two

## Themes in Jenkins



# Themes in Jenkins

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- Current way of theming: Simple Theme Plugin

- New theme support policy

<https://www.jenkins.io/doc/book/managing/ui-themes/#themes-support-policy>



# Improved Themeability

- Added experimental support by theming using CSS Variables, by **@timja** (Tim Jacomb)
- All new styles use them

```
// State colors
--primary: #0b6aa2;
--primary-hover: #0587d4;
--primary-active: #095683;
// Link
--link-color: var(--primary);
--link-color--hover: var(--link-color);
--link-color--active: var(--text-color);
--link-text-decoration: none;
--link-text-decoration--hover: underline;
--link-text-decoration--active: underline;
--link-font-weight: 600;
```

# Improved Themeability

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- New theme manager plugin
- Themes as plugins
- Several incubating themes available

## Built-in Themes

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- | Theme |  |
|-------|--|
|       | <input type="radio"/> Dark                                     |
|       | <input type="radio"/> Dark (Respect OS/Browser system setting) |
|       | <input checked="" type="radio"/> Default                       |
|       | <input type="radio"/> Solarized (System)                       |
|       | <input type="radio"/> Solarized Dark                           |
|       | <input type="radio"/> Solarized Light                          |



# Theme Demo



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# Moving Forward

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# Future Focus Areas

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- Deeper Page Reworks
  - Build Status Page
  - Build History Page
  - Credentials Management
  - Etc
- Pipeline Visualization
- Cleaner separation front-end and back-end
- Forms: Table to div transition





# Q & A

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# Thank You

*Jeremy Hartley & Félix Queiruga*

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