COMPONENT-BASED DESIGN SYSTEM AND **DEVELOPMENT**

Tereza Novotná
Dávid Halász

April 8, 2019
Gothenburg, Sweden

Dávid **Halász**

- Software Engineer @Red Hat
- Works on ManageIQ mostly in Ruby
- Used to be the maintainer of PatternFly Sass
- Self-proclaimed JavaScript hater
- Passionate guitarist and ukulele player

@halaszdavid

Tereza **Novotná**

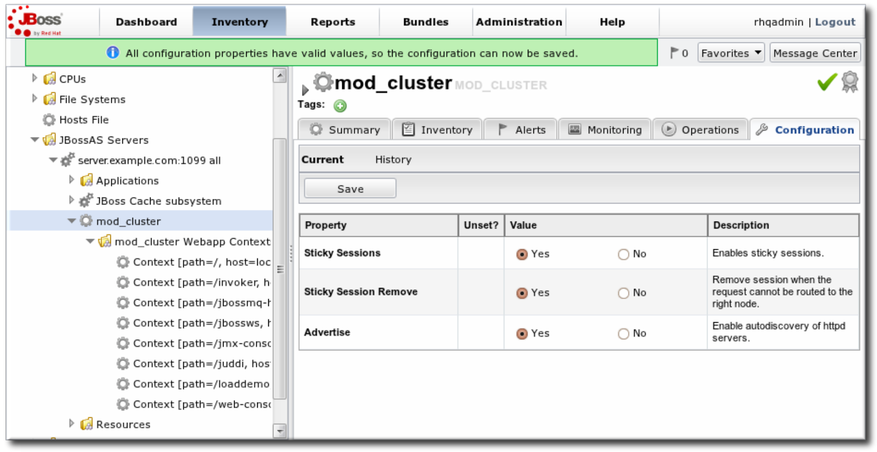
- Interaction Designer @RedHatUXD
- Oversees designs for ManageIQ, Foreman, Insights
- Lived 7 years in North Carolina
- Loves working with people and bringing human perspective to technology.
- Enjoys running and traveling

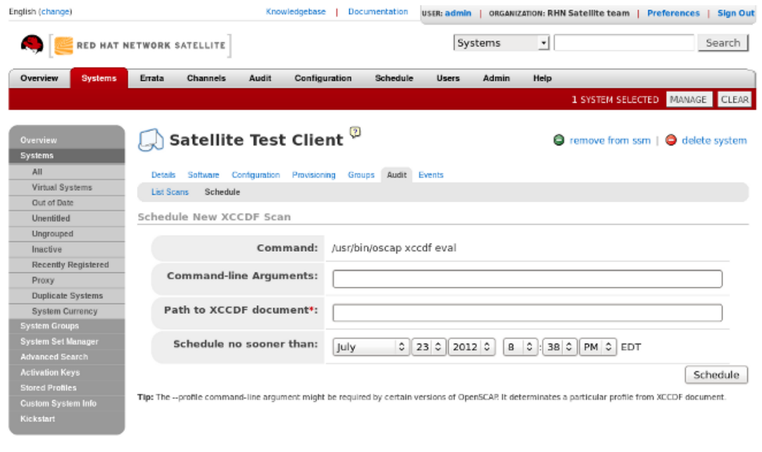
@terezanvtn

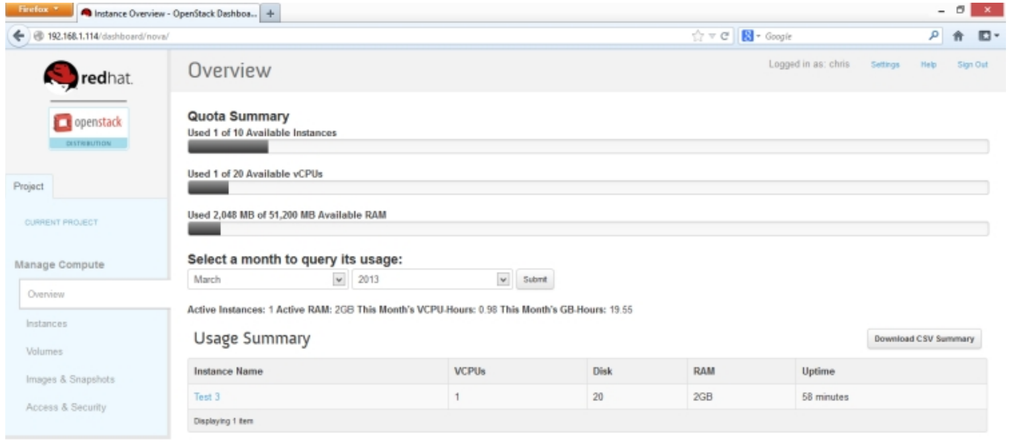
redhat®

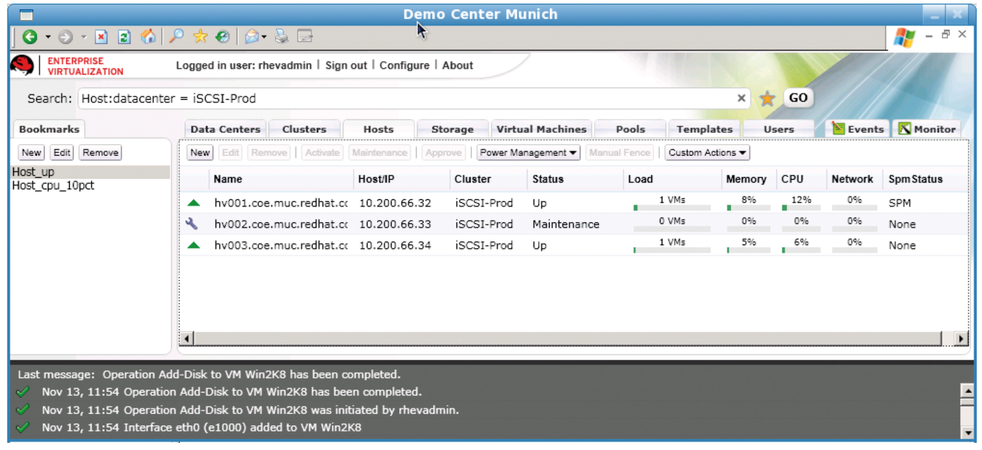
Over 40 different products

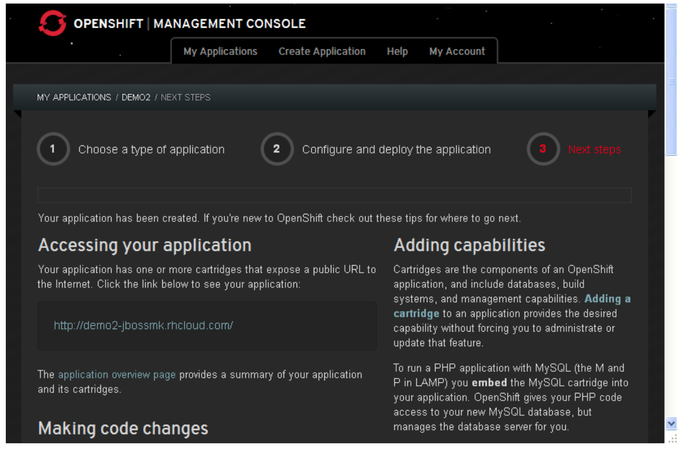
They all looked different

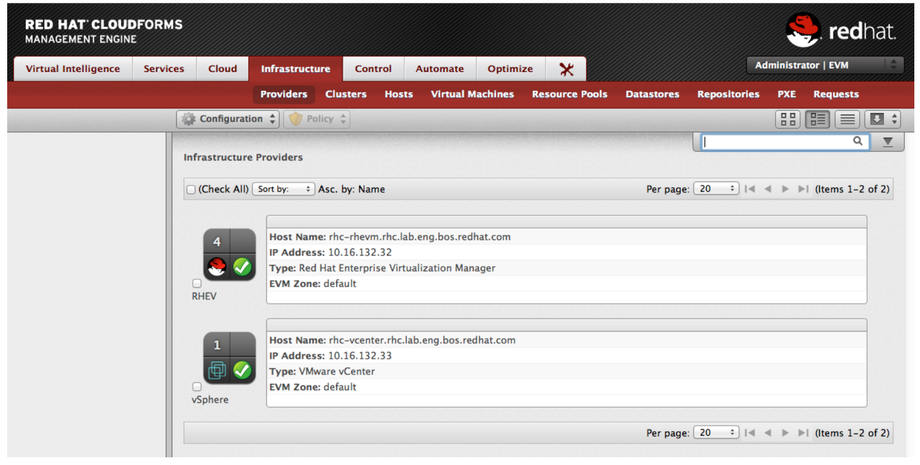

JBoss
Dashboard
Inventory
Reports
Bundles
Administration
Help
rhqadmin | Logout
All configuration properties have valid values, so the configuration can now be saved.
Favorites
Message Center
CPUs
File Systems
Hosts File
JBossAS Servers
server.example.com:1099 all
Applications
JBoss Cache subsystem
mod_cluster
mod_cluster Webapp Context
mod_cluster
MOD_CLUSTER
Tags:
Summary
Inventory
Alerts
Monitoring
Operations
Configuration
Current
History
Save
Property
Unset?
Value
Description
Sticky Sessions
Yes
No
Enables sticky sessions.
Sticky Session Remove
Remove session when the request cannot be routed to the right node.
Advertise
Enable autodiscovery of httpd servers.
Resources


RED HAT NETWORK SATELLITE
Systems
Search
Overview
Systems
Errata
Channels
Audit
Configuration
Schedule
Users
Admin
Help
1 SYSTEM SELECTED
MANAGE
CLEAR
Satellite Test Client
remove from ssm
delete system
Details
Software
Configuration
Provisioning
Groups
Audit
Events
Last Scans
Schedule
Schedule New XCCDF Scan
Command:
/usr/bin/oscap xccdf eval
Command-line Arguments:
Path to XCCDF document*:
Schedule no sooner than:
July
23
2012
8
38
PM
EDT
Schedule


redhat
openstack
Overview
Quota Summary
Used 1 of 10 Available Instances
Used 1 of 20 Available vCPUs
Used 2,048 MB of 51,200 MB Available RAM
Select a month to query its usage:
March
2013
Submit
Usage Summary
Download CSV Summary
Instance Name
VCPUs
Disk
RAM
Uptime
Test 3
1
20
2GB
58 minutes
Project
Manage Compute
Overview
Instances
Volumes
Images & Snapshots
Access & Security

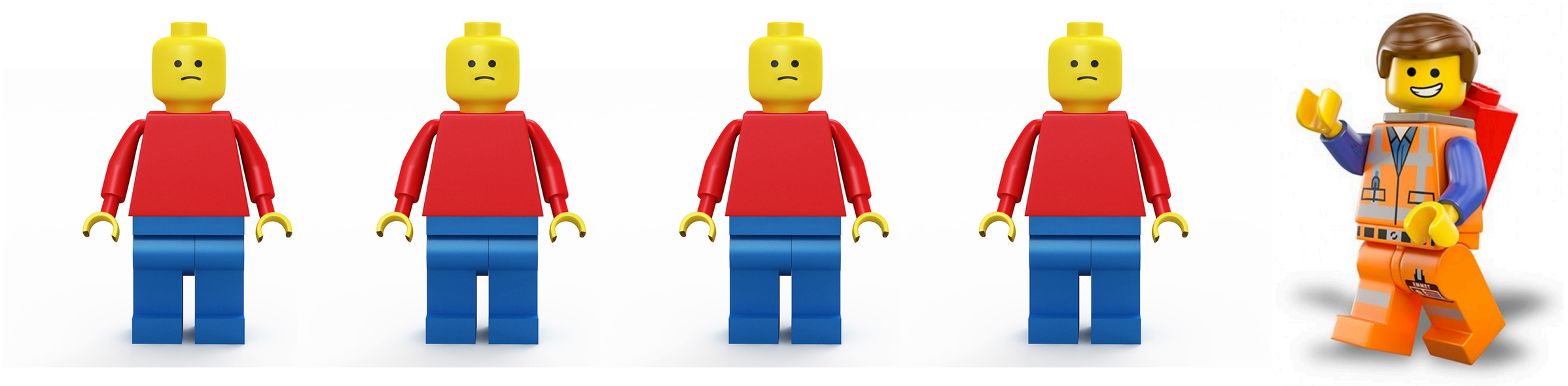

Demo Center Munich
ENTERPRISE VIRTUALIZATION
Logged in user: rhevadmin | Sign out | Configure | About
Search: Host:datacenter = iSCSI-Prod
GO
Bookmarks
Data Centers
Clusters
Hosts
Storage
Virtual Machines
Pools
Templates
Users
Events
Monitor
Host_up
Host_cpu_10pct
Name
Host/IP
Cluster
Status
Load
Memory
CPU
Network
SpmStatus
hv001.coe.muc.redhat.c
10.200.66.32
iSCSI-Prod
Up
hv002.coe.muc.redhat.c
10.200.66.33
iSCSI-Prod
Maintenance
hv003.coe.muc.redhat.c
10.200.66.34
iSCSI-Prod
Up
Last message: Operation Add-Disk to VM Win2K8 has been completed.
Nov 13, 11:54 Operation Add-Disk to VM Win2K8 has been completed.
Nov 13, 11:54 Operation Add-Disk to VM Win2K8 was initiated by rhevadmin.
Nov 13, 11:54 Interface eth0 (e1000) added to VM Win2K8

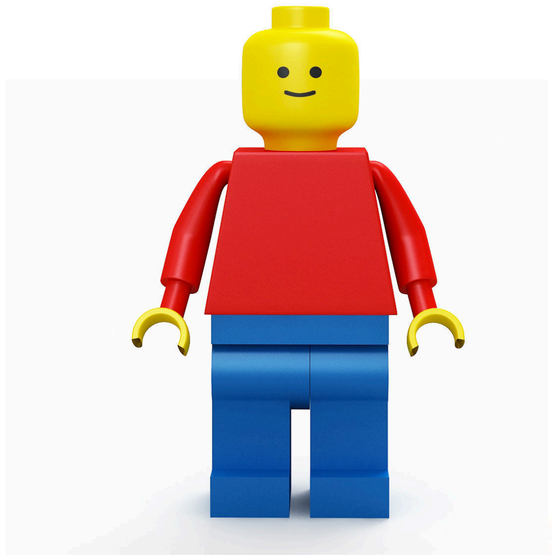

OPENSHIFT | MANAGEMENT CONSOLE
My Applications
Create Application
Help
My Account
MY APPLICATIONS / DEMO2 / NEXT STEPS
1 Choose a type of application
2 Configure and deploy the application
3 Next steps
Your application has been created. If you're new to OpenShift check out these tips for where to go next.
Accessing your application
Your application has one or more cartridges that expose a public URL to the Internet. Click the link below to see your application:
http://demo2-jbossmk.rhcloud.com/
The application overview page provides a summary of your application and its cartridges.
Adding capabilities
Cartridges are the components of an OpenShift application, and include databases, build systems, and management capabilities. Adding a cartridge to an application provides the desired capability without forcing you to administrate or update that feature.
To run a PHP application with MySQL (the M and P in LAMP) you embed the MySQL cartridge into your application. OpenShift gives your PHP code access to your new MySQL database, but manages the database server for you.
Making code changes

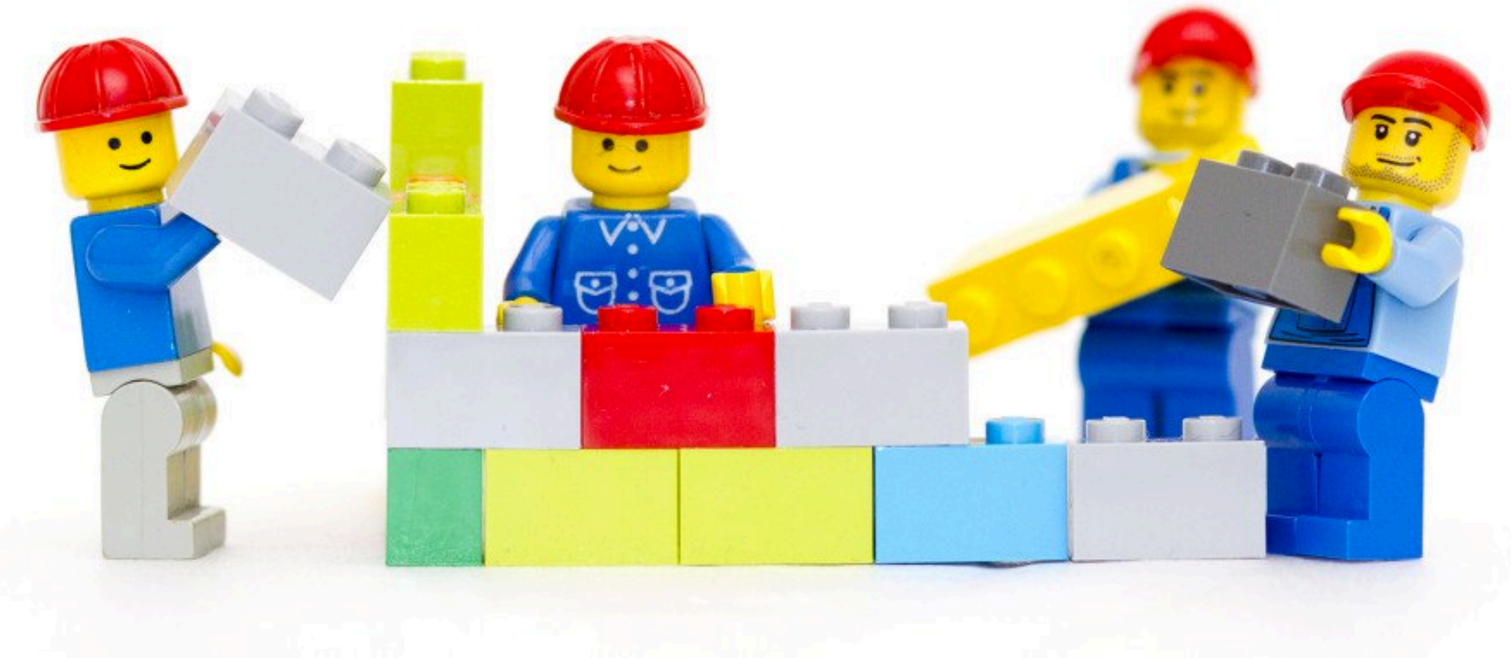

RED HAT CLOUDFORMS
MANAGEMENT ENGINE
redhat
Virtual Intelligence
Services
Cloud
Infrastructure
Control
Automate
Optimize
Administrator | EVM
Providers
Clusters
Hosts
Virtual Machines
Resource Pools
Datastores
Repositories
PXE
Requests
Configuration
Policy
Infrastructure Providers
(Check All)
Sort by:
Asc. by: Name
Per page: 20
(Items 1-2 of 2)
RHEV
Host Name: rhc-rhevm.rhc.lab.eng.bos.redhat.com
IP Address: 10.16.132.32
Type: Red Hat Enterprise Virtualization Manager
EVM Zone: default
vSphere
Host Name: rhc-vcenter.rhc.lab.eng.bos.redhat.com
IP Address: 10.16.132.33
Type: VMware vCenter
EVM Zone: default

2013

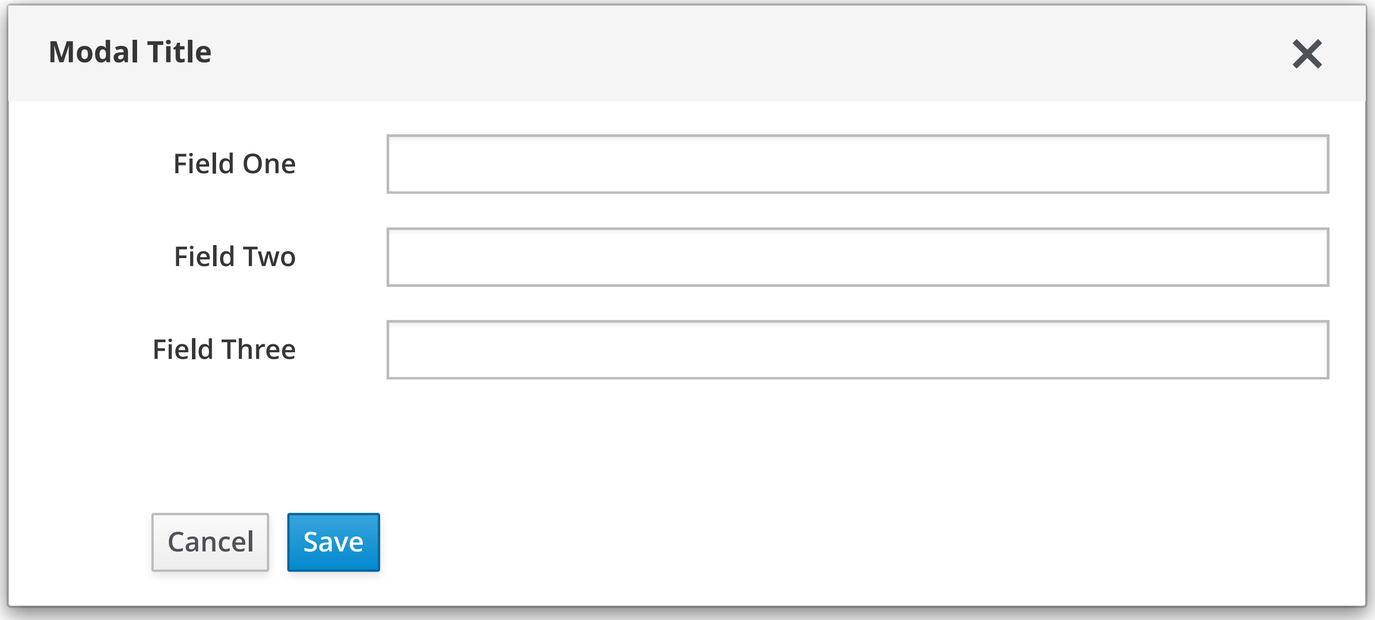
UXD

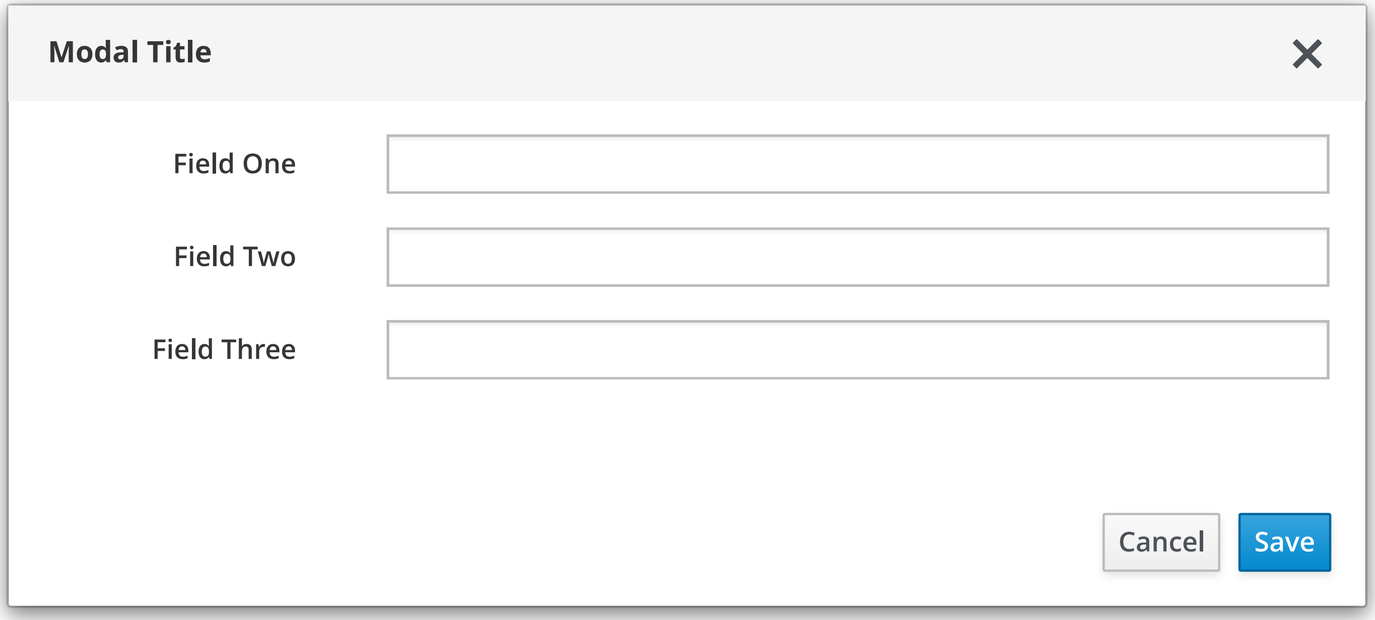






Need of a design system


Modal Title
Field One
Field Two
Field Three
Cancel
Save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Field One
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Field Three
Cancel
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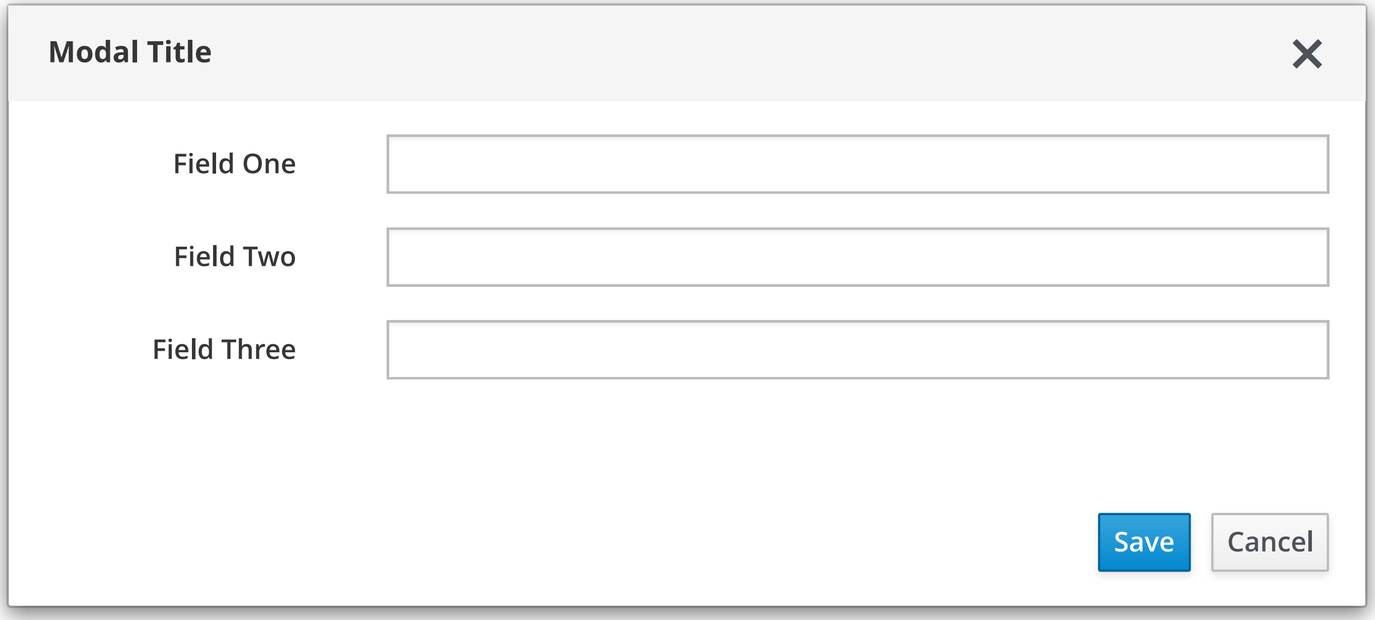

Modal Title
Field One
Field Two
Field Three
Save
Cancel

THE **WHY?**

- Improve consistency
- Increase usability
- Reduce time and cost to market
- Share the best practices with the community

What is a design system?

Rules, constrains, and principles implemented in design and code.

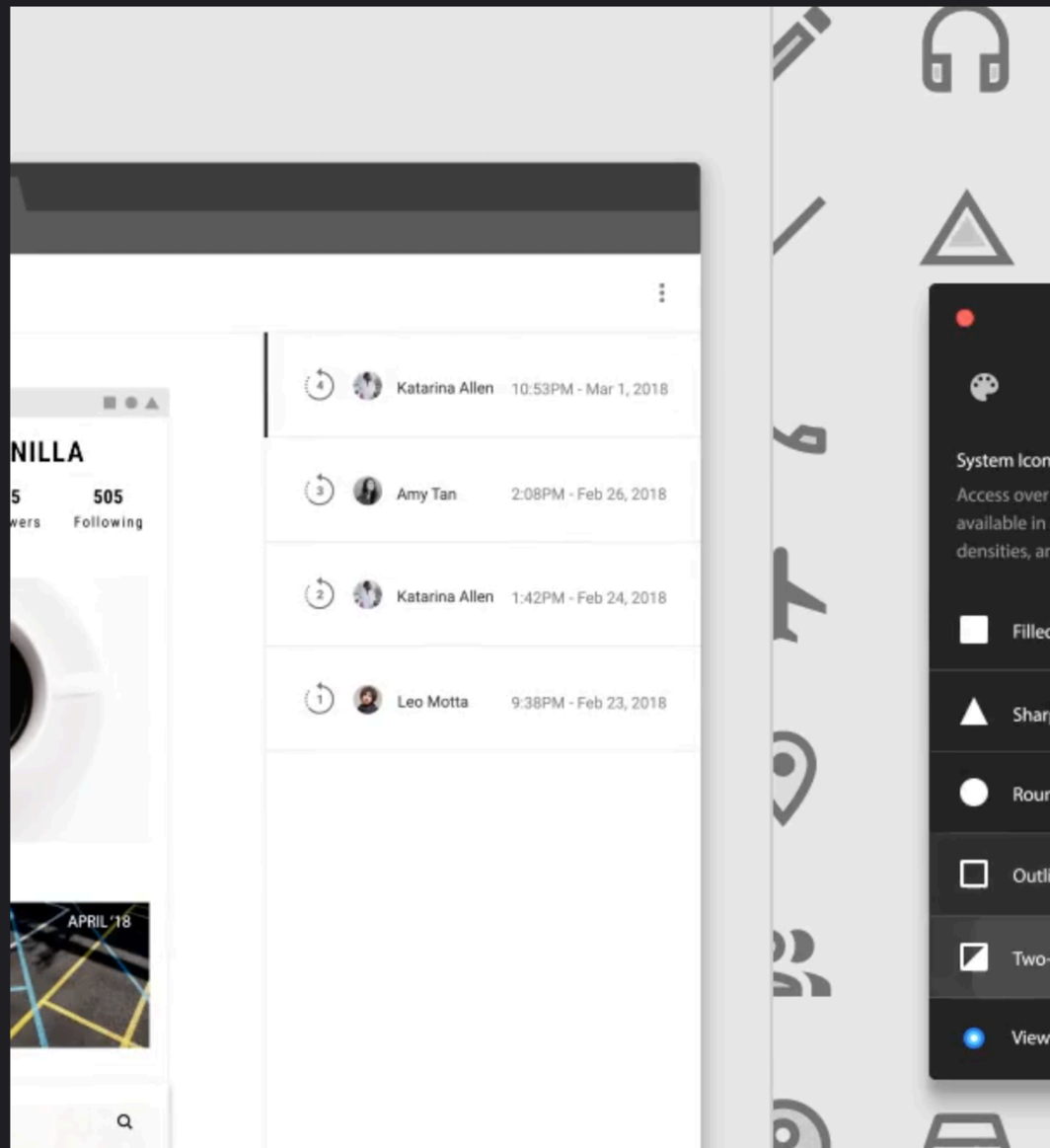
Make beautiful products, faster. Material is a design system – backed by open-source code – that helps teams build digital experiences

Design flexibly

Develop across platforms

Collaborate seamlessly

Design and build faster with new tools that make it easy to customize Material and share work across teams.

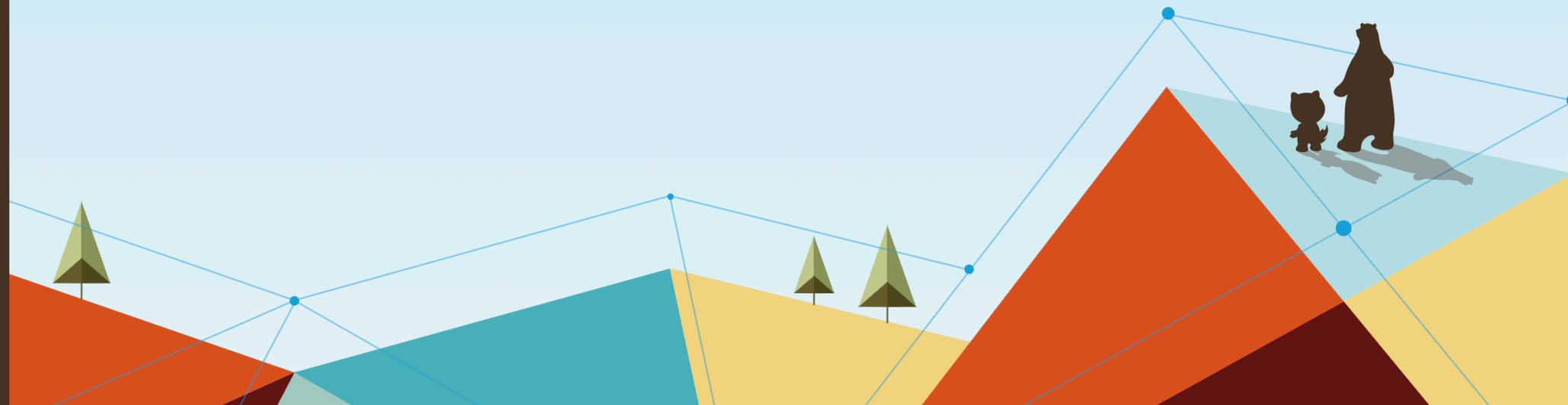


LIGHTNING DESIGN SYSTEM

Create the world's best enterprise app experiences.

GET STARTED

Current release: Winter '19 (SLDS 2.7.0) | Archives



“Design system acts as a connective tissue that brings the portfolio together.”

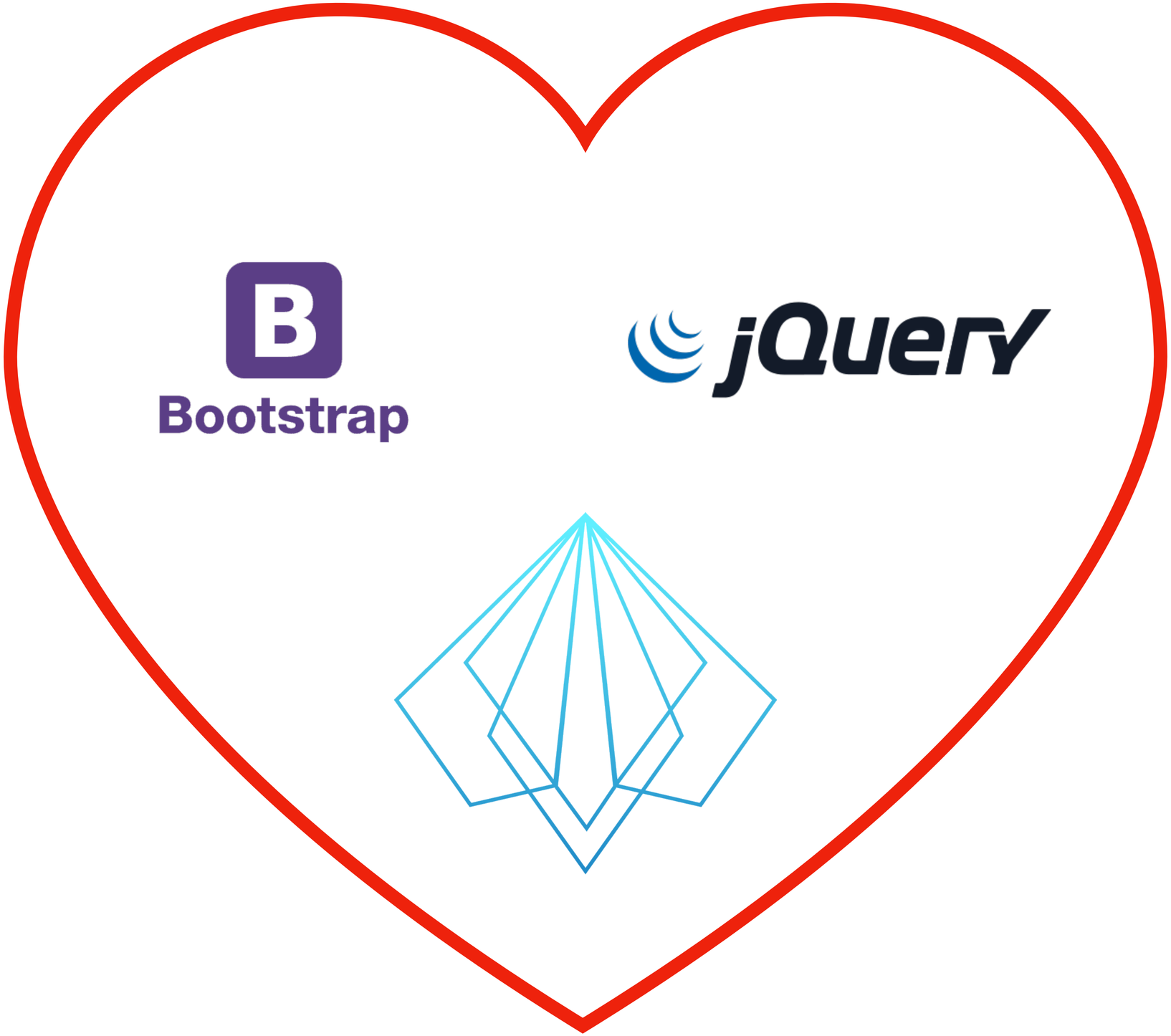
Meet PatternFly

@terezanvtn
@halaszdavid

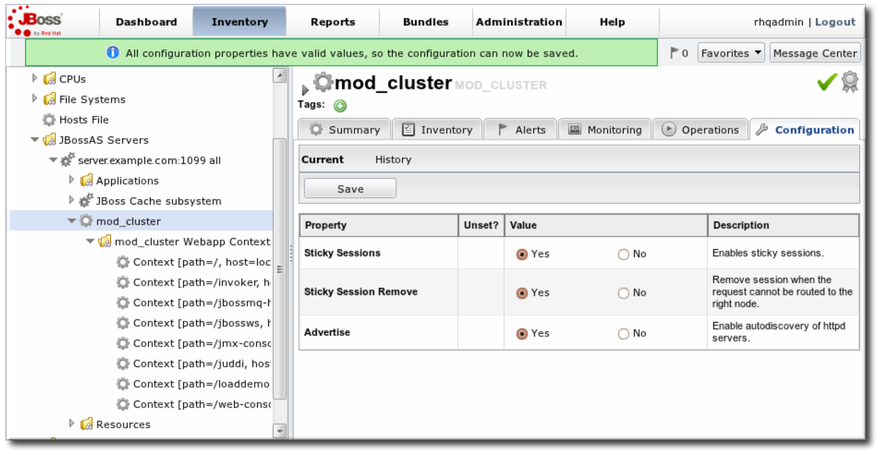
PatternFly

A community of designers and developers collaborating to build a UI framework for enterprise web applications.

Version 3.53.0


Bootstrap
jQuery

The first success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File Systems
Hosts File
JBossAS Servers
server.example.com:1099 all
Applications
JBoss Cache subsystem
mod_cluster
mod_cluster Webapp Context
mod_cluster
MOD_CLUSTER
Tags:
Summary
Inventory
Alerts
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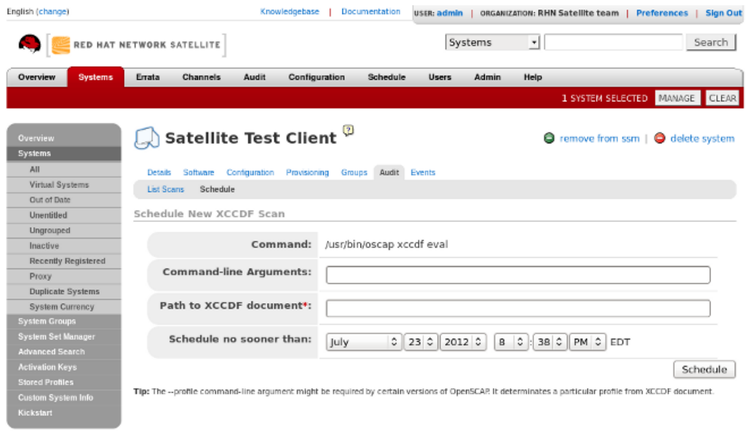
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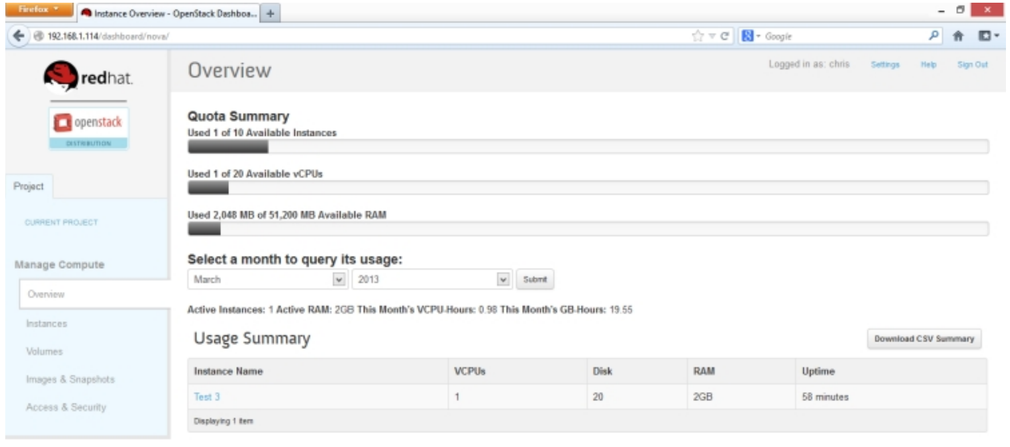
Schedule


Instance Overview - OpenStack Dashboa...
redhat
openstack
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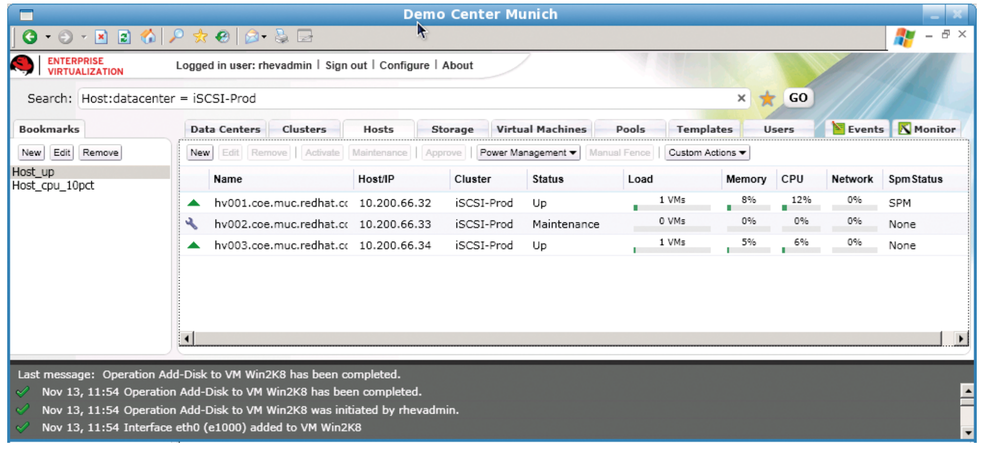
Volumes
Images & Snapshots
Access & Security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Bookmarks
Data Centers
Clusters
Hosts
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Virtual Machines
Pools
Templates
Users
Events
Monitor
Host_up
Host_cpu_10pct
Name
Host/IP
Cluster
Status
Load
Memory
CPU
Network
SpmStatus
hv001.coe.muc.redhat.c
10.200.66.32
iSCSI-Prod
Up
hv002.coe.muc.redhat.c
10.200.66.33
iSCSI-Prod
Maintenance
hv003.coe.muc.redhat.c
10.200.66.34
iSCSI-Prod
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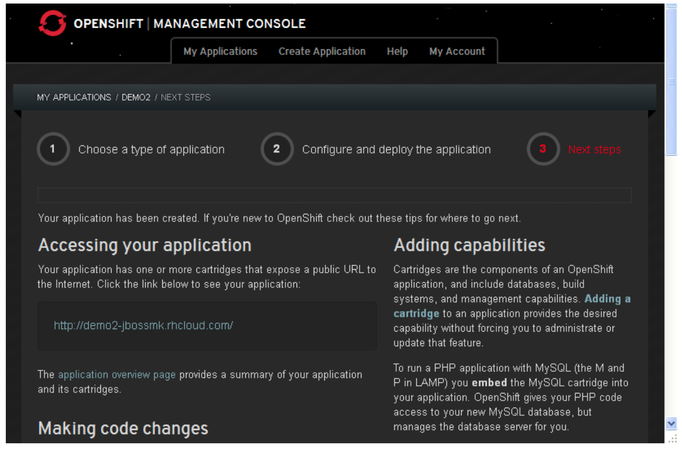
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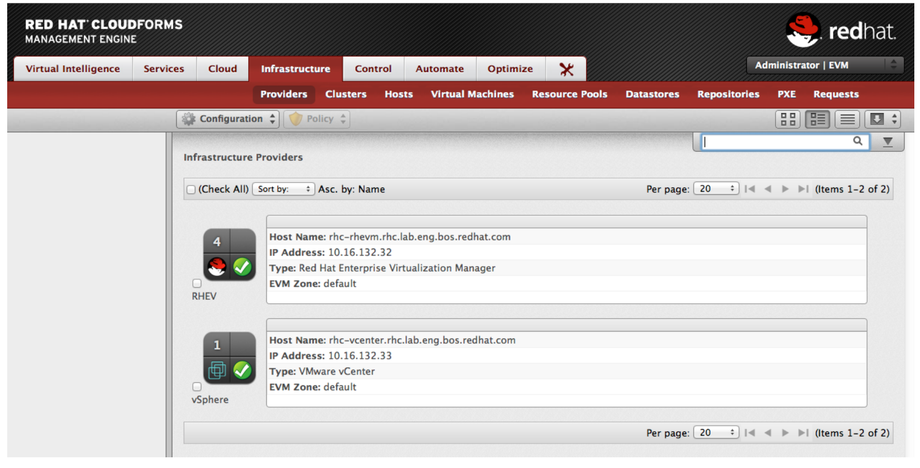
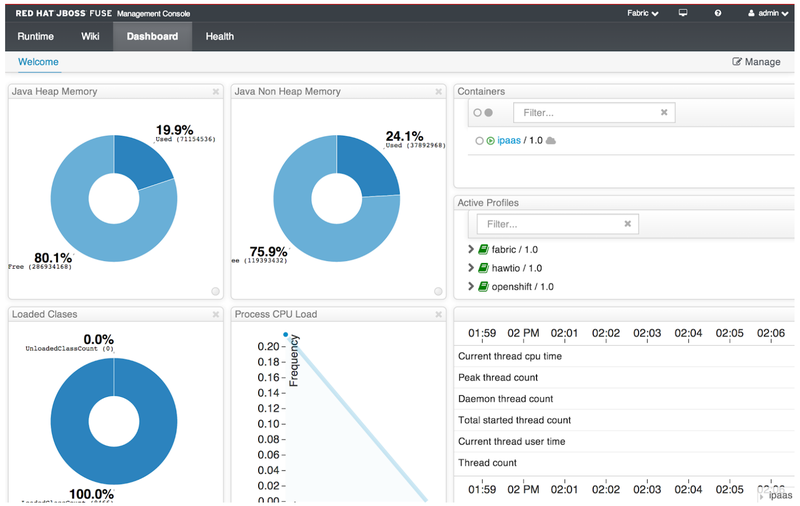
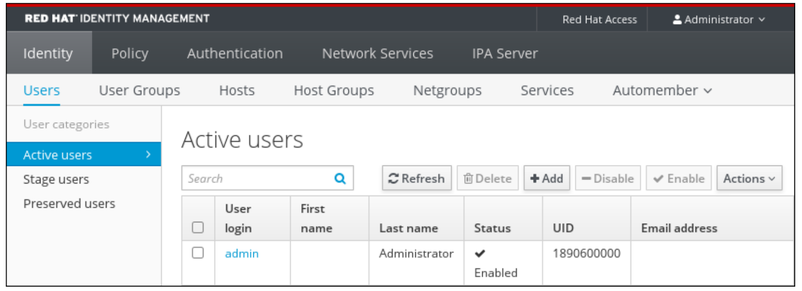
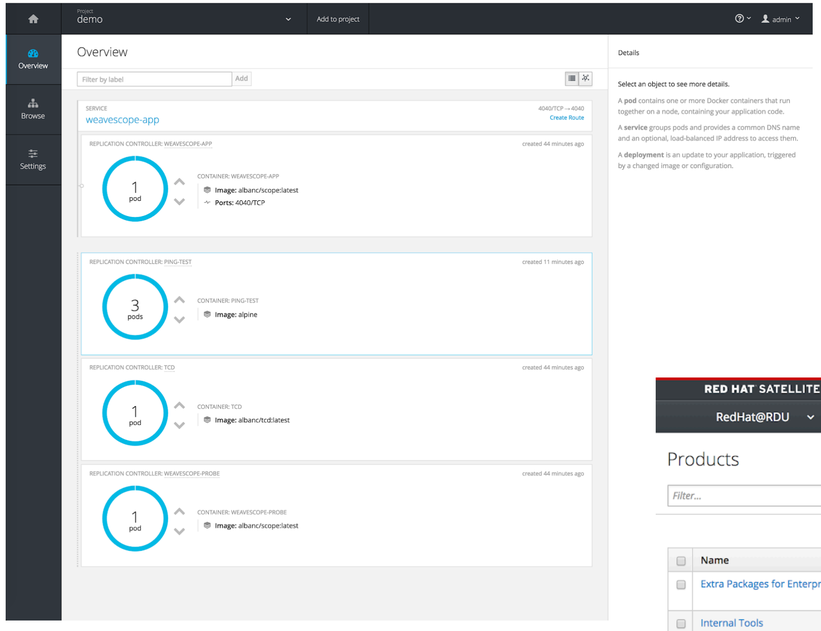
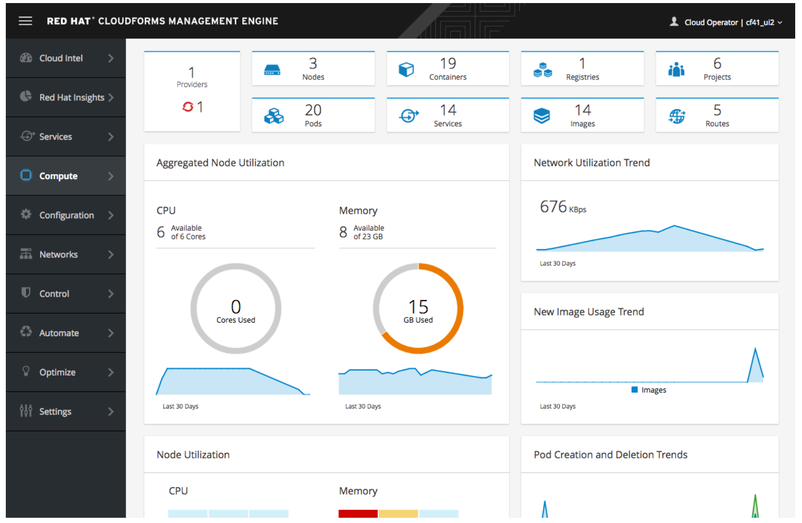
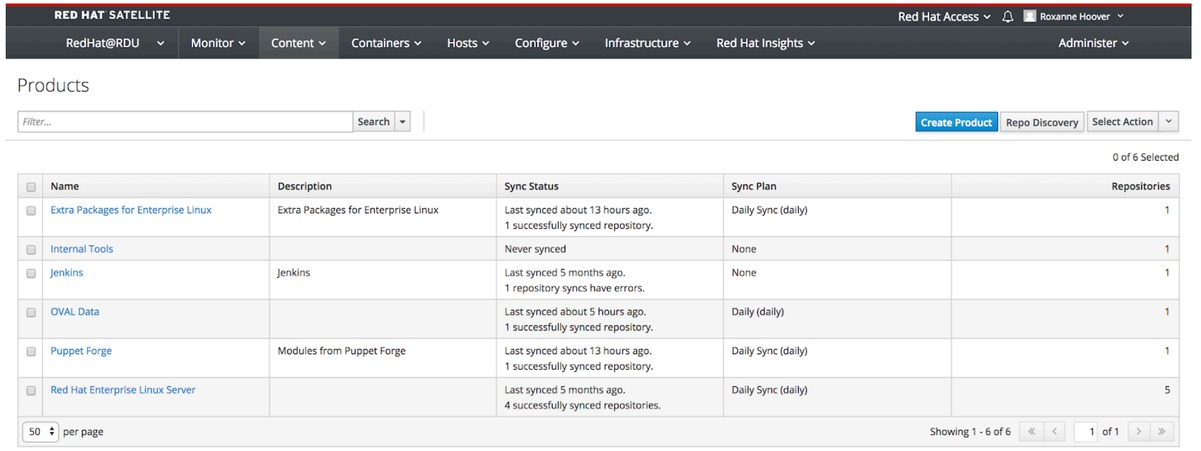

RED HAT CLOUDFORMS
MANAGEMENT ENGINE
redhat
Virtual Intelligence
Services
Cloud
Infrastructure
Control
Automate
Optimize
Administrator | EVM
Providers
Clusters
Hosts
Virtual Machines
Resource Pools
Datastores
Repositories
PXE
Requests
Configuration
Policy
Infrastructure Providers
(Check All)
Sort by:
Asc. by: Name
Per page: 20
(Items 1-2 of 2)
RHEV
Host Name: rhc-rhevm.rhc.lab.eng.bos.redhat.com
IP Address: 10.16.132.32
Type: Red Hat Enterprise Virtualization Manager
EVM Zone: default
vSphere
Host Name: rhc-vcenter.rhc.lab.eng.bos.redhat.com
IP Address: 10.16.132.33
Type: VMware vCenter
EVM Zone: default


RED HAT JBOSS FUSE Management Console
Fabric
admin
Runtime
Wiki
Dashboard
Health
Welcome
Manage
Java Heap Memory
19.9%
Used (71134536)
80.1%
Free (286734168)
Java Non Heap Memory
24.1%
Used (37892968)
75.9%
(119393432)
Containers
Filter...
ipaas / 1.0
Active Profiles
Filter...
fabric / 1.0
hawtio / 1.0
openshift / 1.0
Loaded Clases
0.0%
UnloadedClassCount (0)
100.0%
Process CPU Load
Frequency
01:59 02 PM 02:01 02:02 02:03 02:04 02:05 02:06
Current thread cpu time
Peak thread count
Daemon thread count
Total started thread count
Current thread user time
Thread count
ipaas


RED HAT IDENTITY MANAGEMENT
Red Hat Access
Administrator
Identity
Policy
Authentication
Network Services
IPA Server
Users
User Groups
Hosts
Host Groups
Netgroups
Services
Automember
User categories
Active users
Stage users
Preserved users
Active users
Search
Refresh
Delete
Add
Disable
Enable
Actions
User login
First name
Last name
Status
UID
Email address
admin
Administrator
Enabled
1890600000


Project
demo
Add to project
admin
Overview
Browse
Settings
Overview
Filter by label
Add
SERVICE
weavescope-app
4040/TCP → 4040
Create Route
REPLICATION CONTROLLER: WEAVESCOPE-APP
created 44 minutes ago
1
pod
CONTAINER: WEAVESCOPE-APP
Image: albanc/scope:latest
Ports: 4040/TCP
REPLICATION CONTROLLER: PING-TEST
created 11 minutes ago
3
pods
CONTAINER: PING-TEST
Image: alpine
REPLICATION CONTROLLER: TCD
created 44 minutes ago
1
pod
CONTAINER: TCD
Image: albanc/tcd:latest
REPLICATION CONTROLLER: WEAVESCOPE-PROBE
created 44 minutes ago
1
pod
CONTAINER: WEAVESCOPE-PROBE
Image: albanc/scope:latest
Details
Select an object to see more details.
A pod contains one or more Docker containers that run together on a node, containing your application code.
A service groups pods and provides a common DNS name and an optional, load-balanced IP address to access them.
A deployment is an update to your application, triggered by a changed image or configuration.


RED HAT CLOUDFORMS MANAGEMENT ENGINE
Cloud Operator | cf41_ui2
Cloud Intel
Red Hat Insights
Services
Compute
Configuration
Networks
Control
Automate
Optimize
Settings
1
Providers
1
3
Nodes
19
Containers
1
Registries
6
Projects
20
Pods
14
Services
14
Images
5
Routes
Aggregated Node Utilization
CPU
6
Available
of 6 Cores
0
Cores Used
Memory
8
Available
of 23 GB
15
GB Used
Last 30 Days
Network Utilization Trend
676
KBps
Last 30 Days
New Image Usage Trend
Images
Last 30 Days
Node Utilization
CPU
Memory
Pod Creation and Deletion Trends

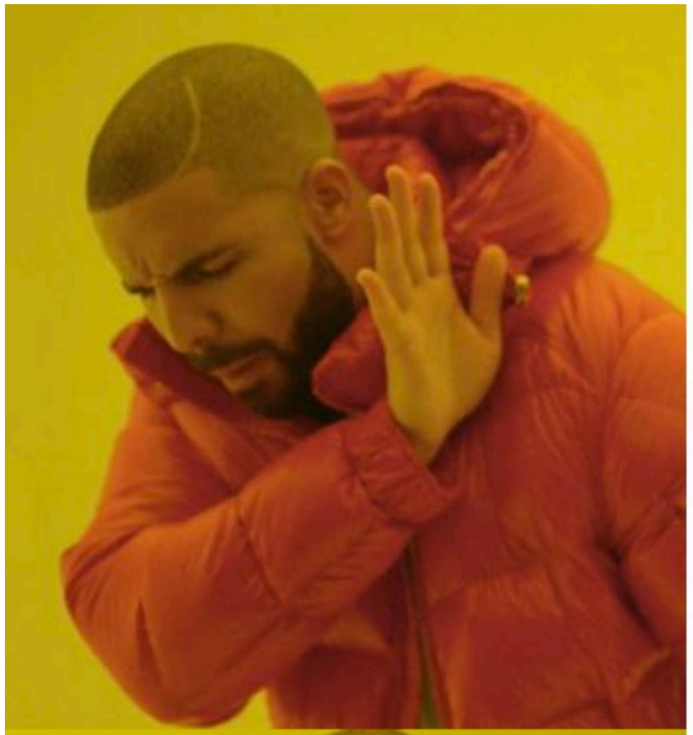

RED HAT SATELLITE
Red Hat Access
Roxanne Hoover
RedHat@RDU
Monitor
Content
Containers
Hosts
Configure
Infrastructure
Red Hat Insights
Administer
Products
Filter...
Search
Create Product
Repo Discovery
Select Action
0 of 6 Selected
Name
Description
Sync Status
Sync Plan
Repositories
Extra Packages for Enterprise Linux
Extra Packages for Enterprise Linux
Last synced about 13 hours ago.
1 successfully synced repository.
Daily Sync (daily)
1
Internal Tools
Never synced
None
1
Jenkins
Jenkins
Last synced 5 months ago.
1 repository syncs have errors.
None
1
OVAL Data
Last synced about 5 hours ago.
1 successfully synced repository.
Daily (daily)
1
Puppet Forge
Modules from Puppet Forge
Last synced about 13 hours ago.
1 successfully synced repository.
Daily Sync (daily)
1
Red Hat Enterprise Linux Server
Last synced 5 months ago.
4 successfully synced repositories.
Daily Sync (daily)
5
50
per page
Showing 1 - 6 of 6
1
of 1

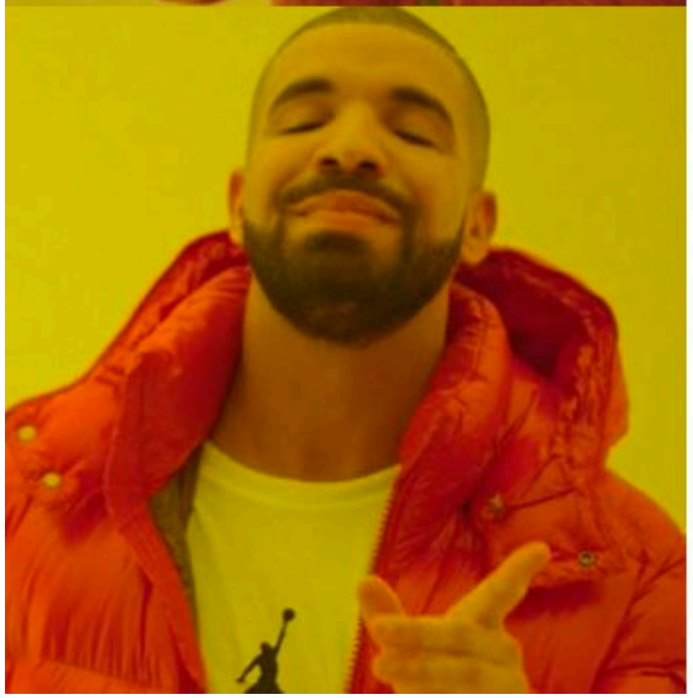
livememe.com

Frontend Libraries

@terezanvtn
@halaszdavid

The problem was
that our engineers started using these libraries
and we didn’t have support,
so our engineers ignored PatternFly.





jQuery

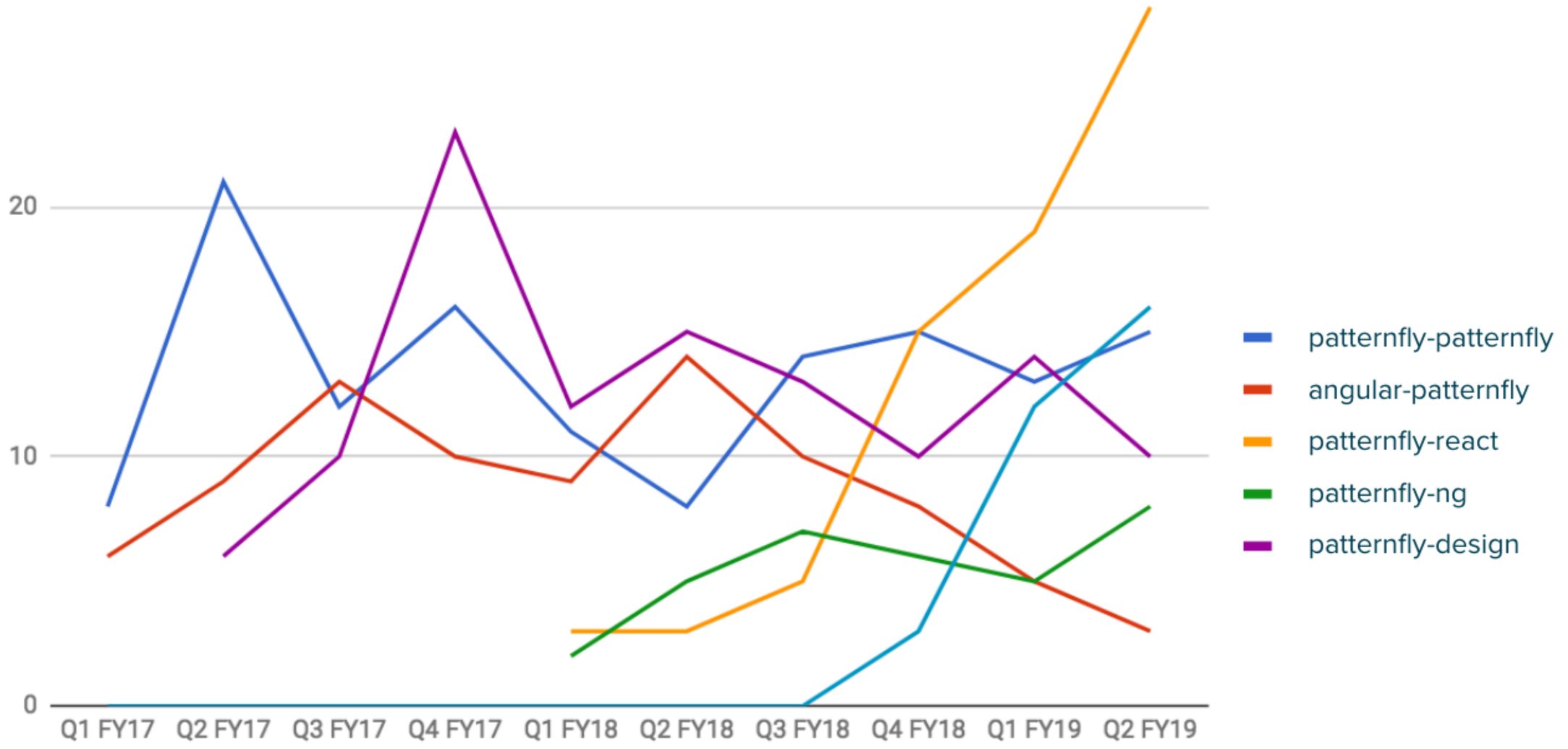
Angular

React

INCONSISTENCY

CONSISTENCY

@terezanvtn
@halaszdavid


20
10
0
Q1 FY17
Q2 FY17
Q3 FY17
Q4 FY17
Q1 FY18
Q2 FY18
Q3 FY18
Q4 FY18
Q1 FY19
Q2 FY19
patternfly-patternfly
angular-patternfly
patternfly-react
patternfly-ng
patternfly-design

We learned

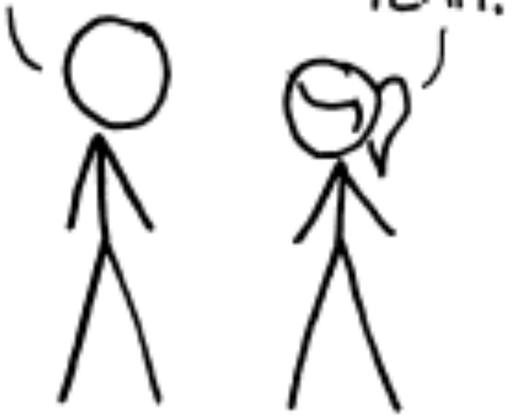
We need a universal solution

HOW STANDARDS PROLIFERATE:

(SEE: A/C CHARGERS, CHARACTER ENCODINGS, INSTANT MESSAGING, ETC)

SITUATION:
THERE ARE
14 COMPETING
STANDARDS.

14?! RIDICULOUS!
WE NEED TO DEVELOP
ONE UNIVERSAL STANDARD
THAT COVERS EVERYONE'S
USE CASES.



SOON:

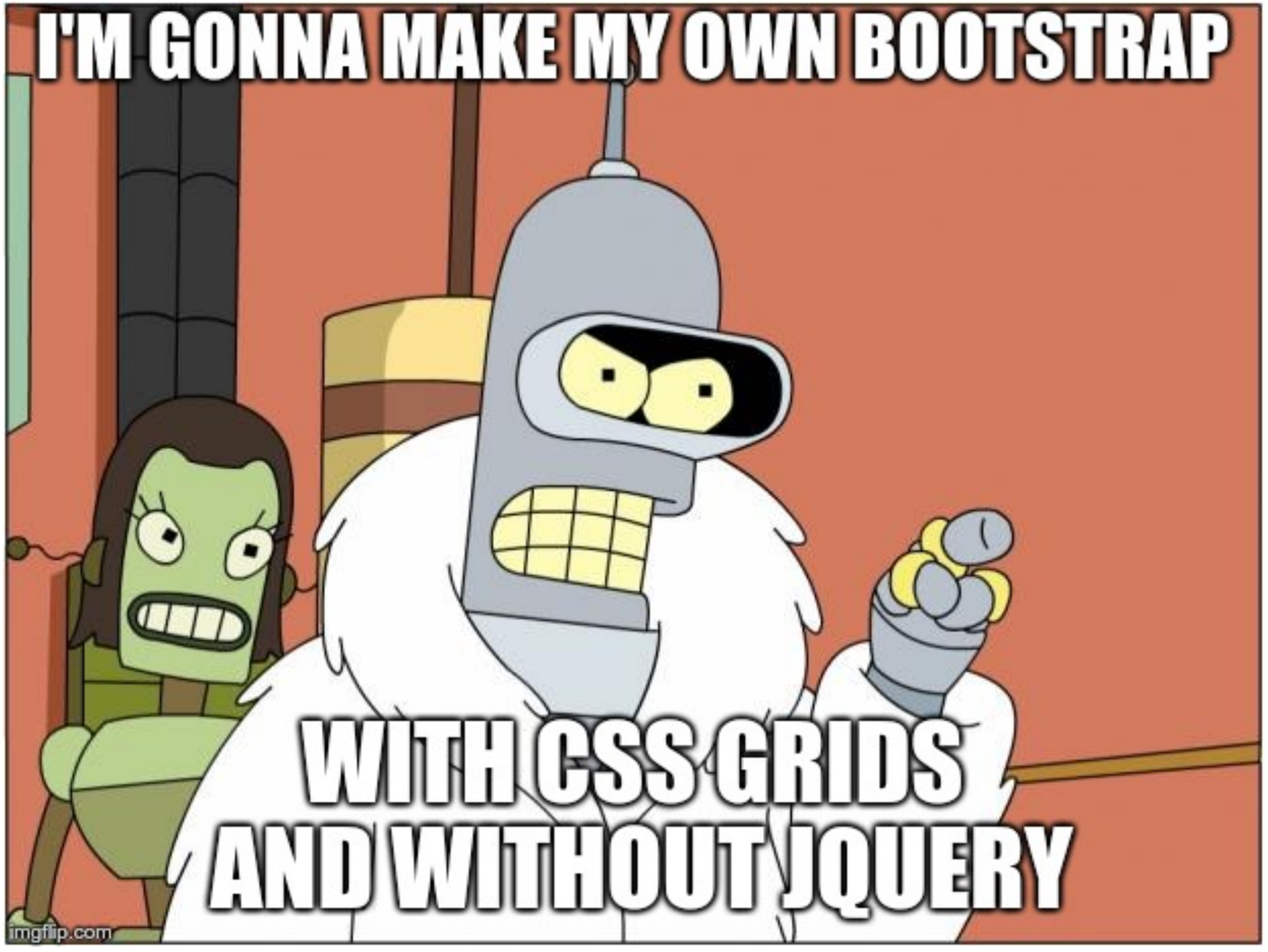
SITUATION:
THERE ARE
15 COMPETING
STANDARDS.

components
components
components

- Remove any JavaScript from the core repo
- Split up PatternFly to very small components
- Each component acts as a mini-library
- Use only one framework to implement them -> React
- It can coexist with other frameworks to ease transition

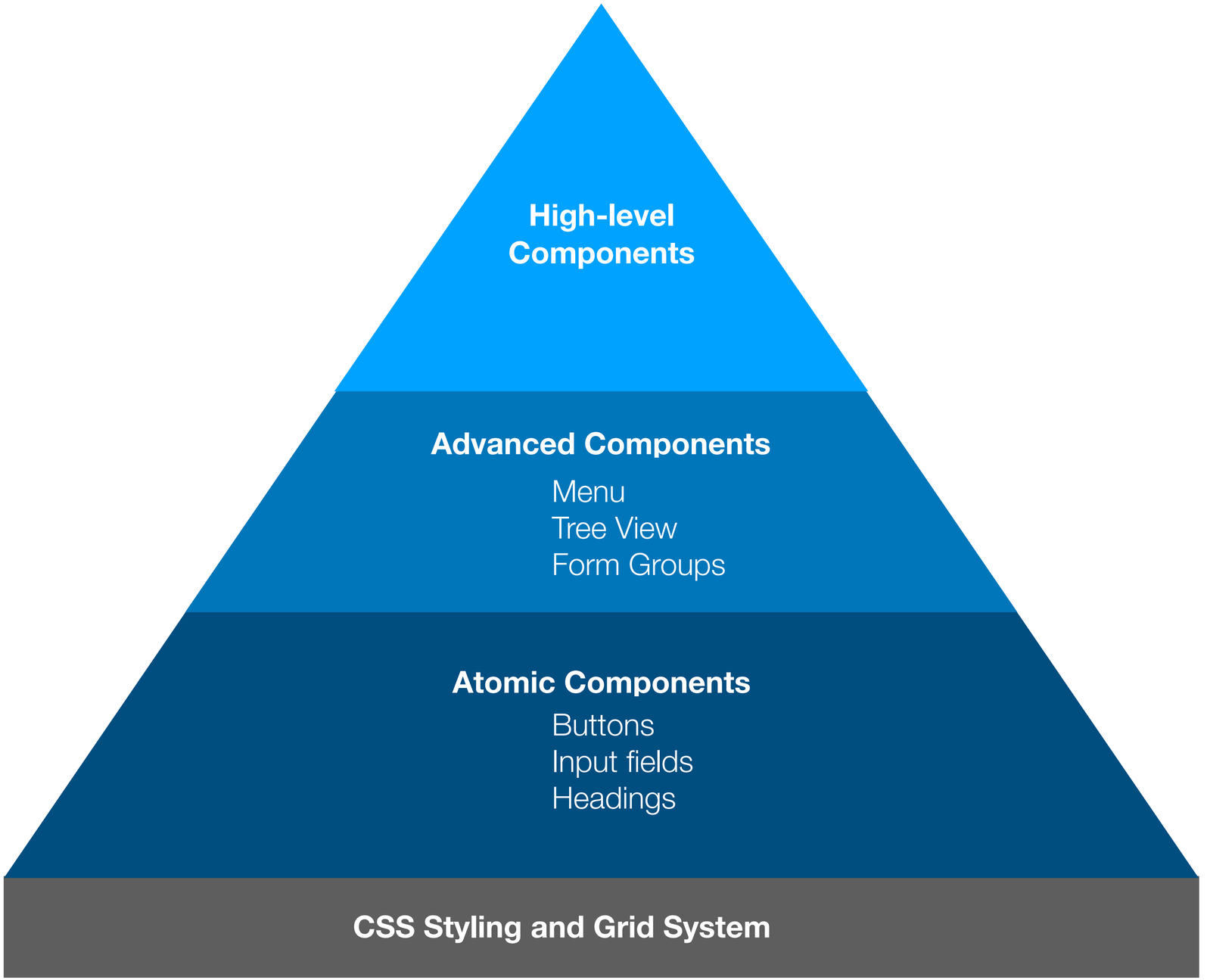
Bootstrap?

We no longer need Bootstrap


I'M GONNA MAKE MY OWN BOOTSTRAP
WITH CSS GRIDS
AND WITHOUT JQUERY
imgflip.com

Meet **PatternFly Next**

PF4



Engineering

Engineering
UXD

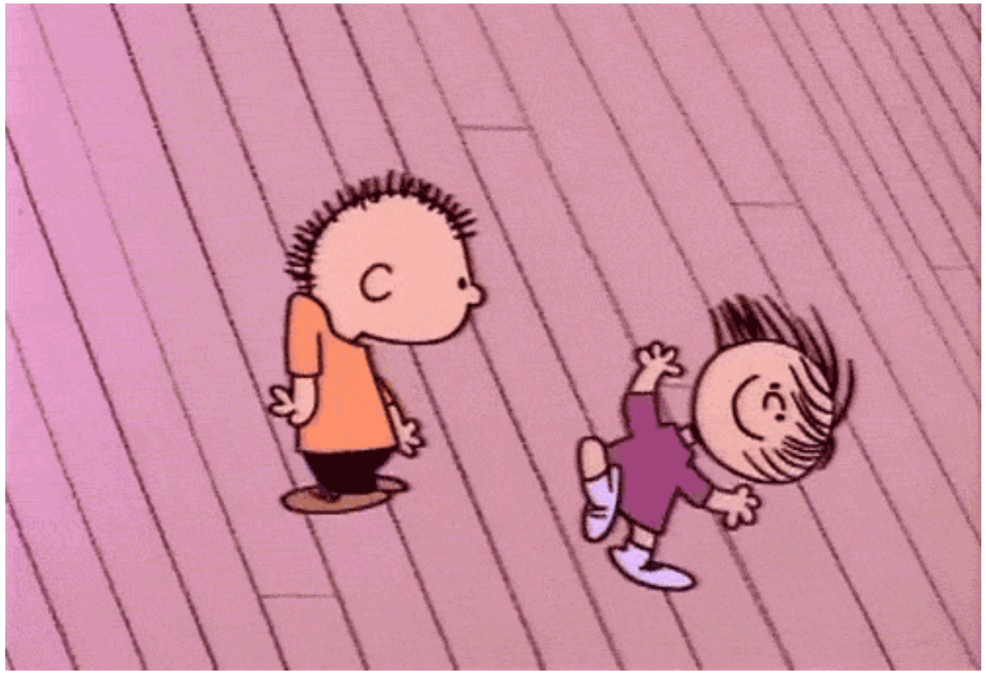
UXD

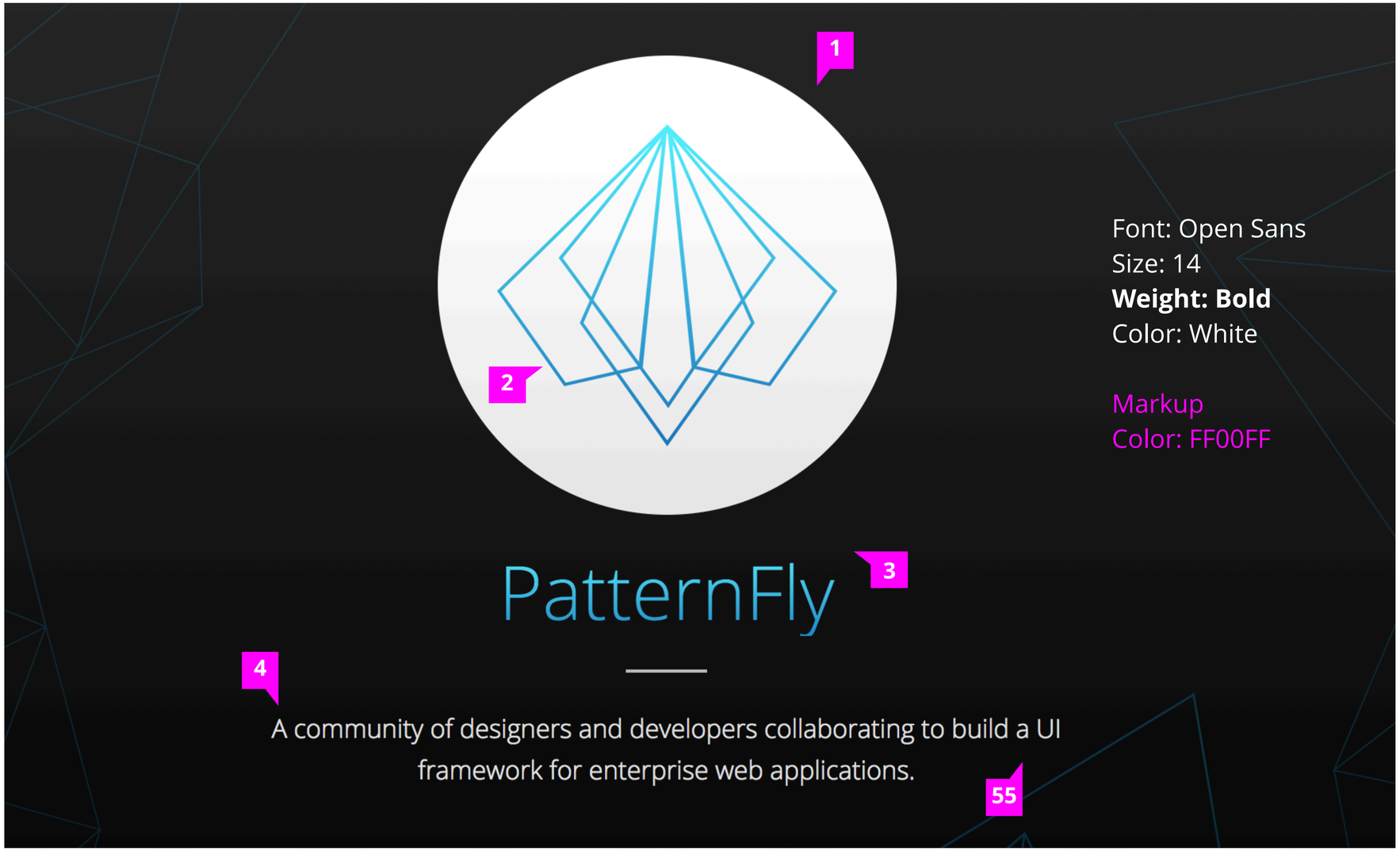
UXD

This is how we

collaborate.

It’s *fun* to work with each other.




1
2
PatternFly
3
4
A community of designers and developers collaborating to build a UI framework for enterprise web applications.
55
Font: Open Sans
Size: 14
Weight: Bold
Color: White
Markup
Color: FF00FF

“Consistency is one of the most powerful usability principles: when things always behave the same, users don’t have to worry about what will happen.”

Jakob Nielsen

Hey there is a problem! Yeah this is really messed up and you should know about it.

There might be a problem here! We are not really sure, but it might be bad.

Great job! This is really working out great for us.

This is some general information. You should know about this.

Hey there is a problem! Yeah this is really messed up and you should know about it.

42 42 42 42 42 42

Default Success Danger Warning Primary Info

Added Datasources TestDS

Modified Datasources ExampleDS

Clear Messages

Popover

Empty title example. This is more information about a smartproxy. This is even more information about a smartproxy. This is even more information about a smartproxy.

Popover

This is more information about a smartproxy. This is more information about a smartproxy. This is more information about a smartproxy. This is more information about a smartproxy.

Popover

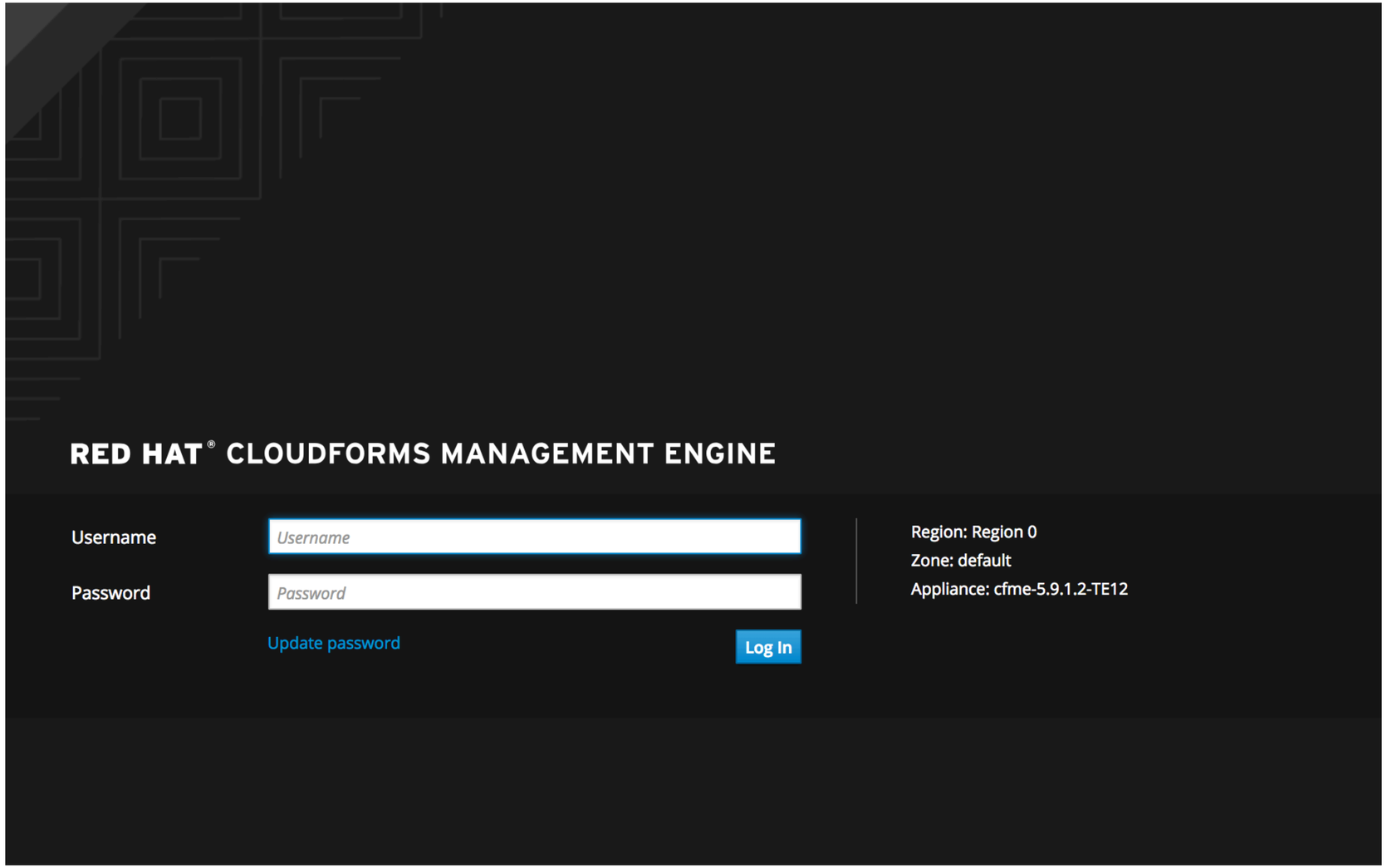
Popover with a long title and close button

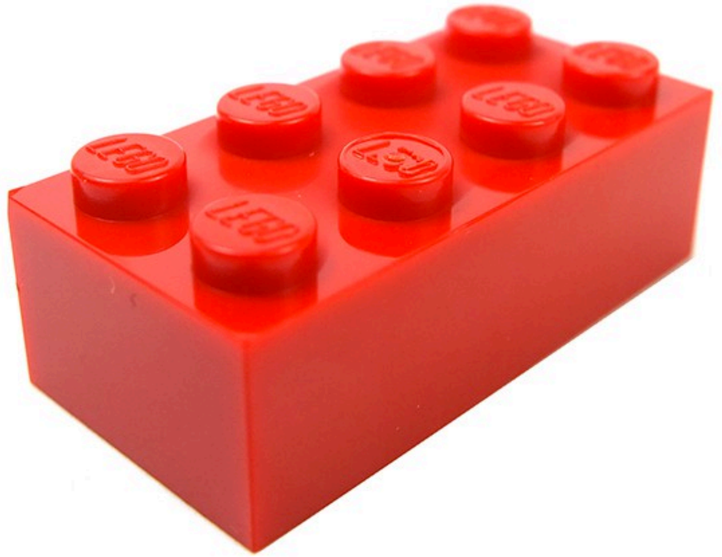
This is more information about a smartproxy. This is more information about a smartproxy. This is more information about a smartproxy. This is more information about a smartproxy.

Popover

Title, No Close

Title with no Close icon. This is more information about a smartproxy. This is more information about a smartproxy. This is more information about a smartproxy.


RED HAT® CLOUDFORMS MANAGEMENT ENGINE
Username
Username
Password
Password
Update password
Log In
Region: Region 0
Zone: default
Appliance: cfme-5.9.1.2-TE12



UXD

@terezanvtn
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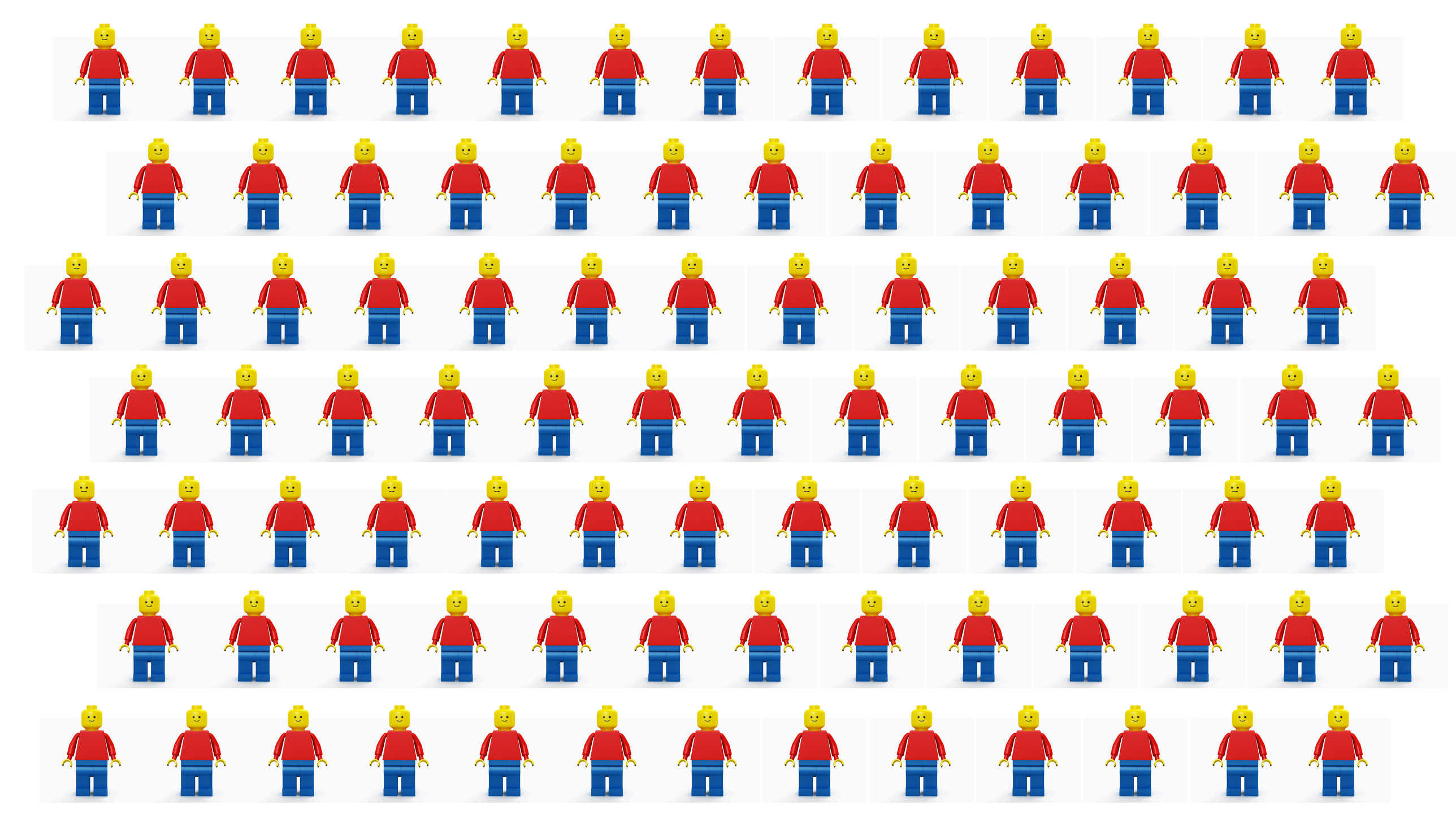
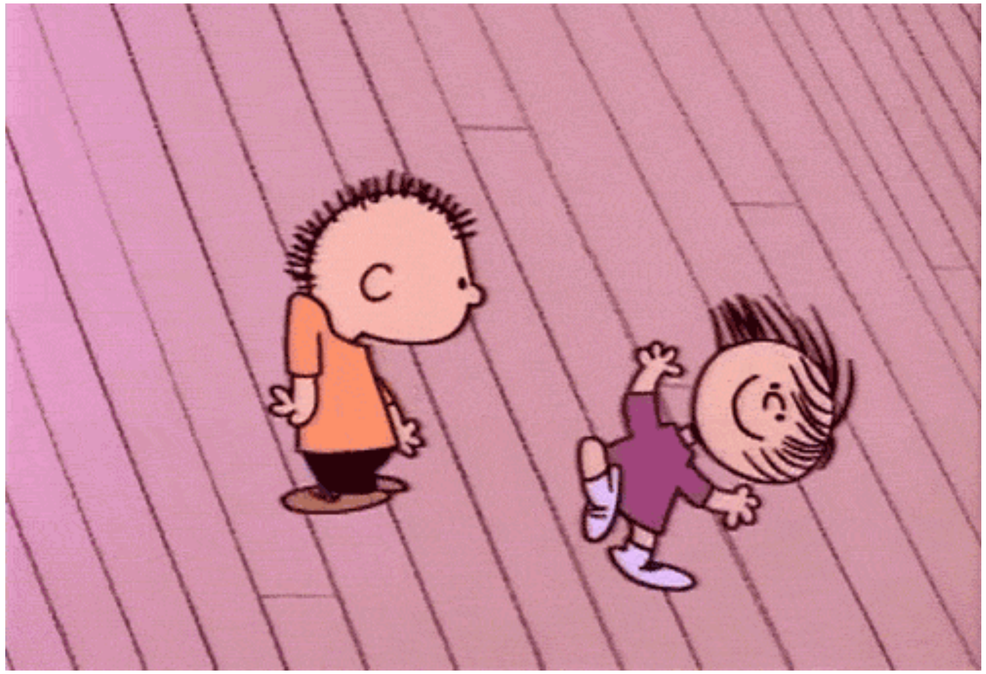


It’s *fun* to work with each other.



Design + Engineer

teamwork

@terezanvtn
@halaszdavid

“Systems are build to change.”

Tack så mycket!

@terezanvtn
@halaszdavid

Thank you.

Q&A

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@halaszdavid