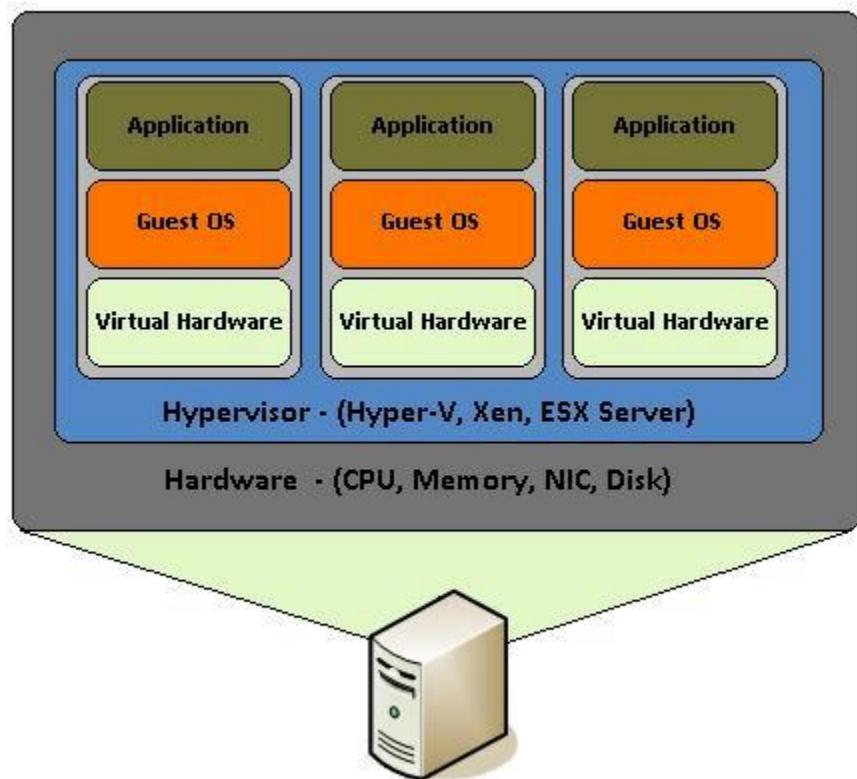
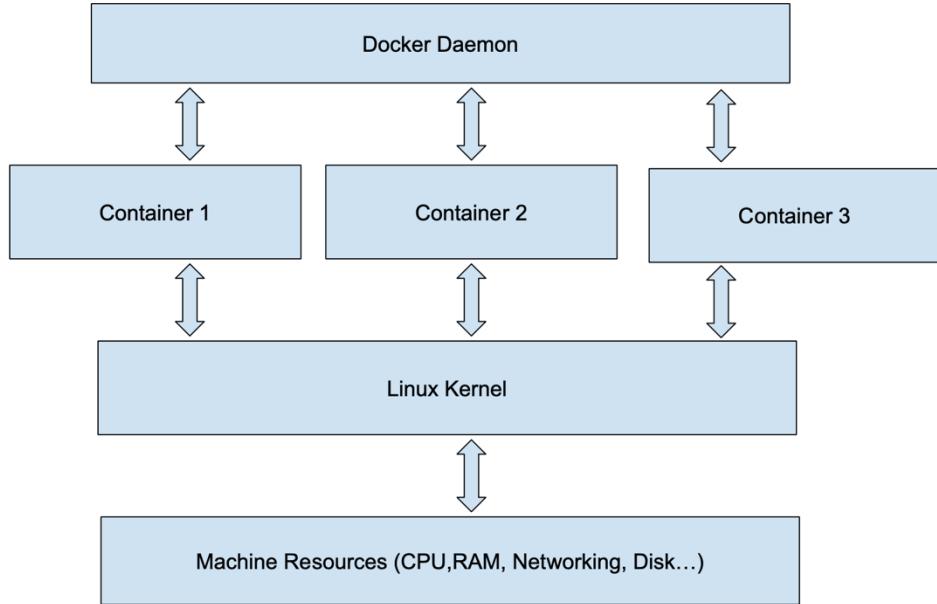


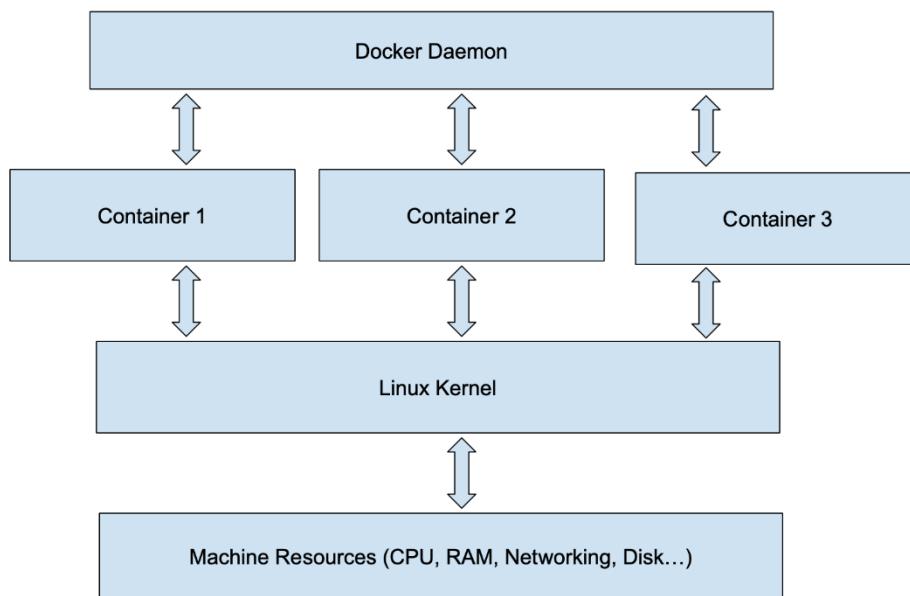
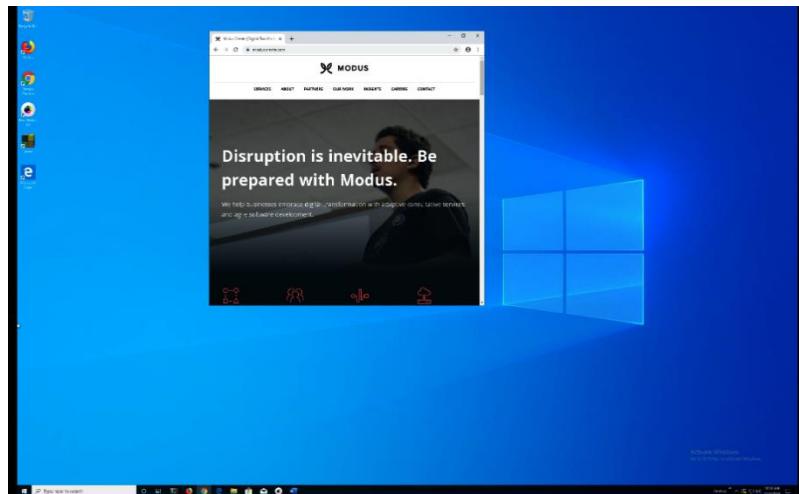
Chapter 1: Introduction to Docker







Chapter 2: Using VirtualBox and Docker Containers for Development



```
Hello, world  
Counterx: 5
```

Chapter 3: Sharing Containers Using Docker Hub

The screenshot shows a web browser window displaying the Docker Hub page for the 'hello-world' Docker image. The URL in the address bar is https://hub.docker.com/_/hello-world. The page features a blue header with the Docker logo, a search bar, and navigation links for 'Explore', 'Sign In', 'Pricing', and 'Get Started'. The main content area has a dark grey header with the repository name 'hello-world' and a star icon. Below it, the text 'Docker Official Images' and a description 'Hello World! (an example of minimal Dockerization)' are displayed. A download counter shows '10M+'. A horizontal row of tags includes 'Container', 'Windows', 'Linux', 'ARM 64', 'x86-64', 'PowerPC 64 LE', 'ARM', '386', 'IBM Z', and 'Official Image'. On the right side, there's a dropdown menu set to 'Windows - x86-64 (latest)', a 'Copy and paste to pull this image' button, a command line interface (CLI) box containing 'docker pull hello-world', and a 'View Available Tags' link. At the bottom, tabs for 'Description' (which is active), 'Reviews', and 'Tags' are visible. A large section titled 'Supported tags and respective Dockerfile links' contains a note: '(See "What's the difference between 'Shared' and 'Simple' tags?" in the FAQ.)'

(See "What's the difference between 'Shared' and 'Simple' tags?" in the FAQ.)

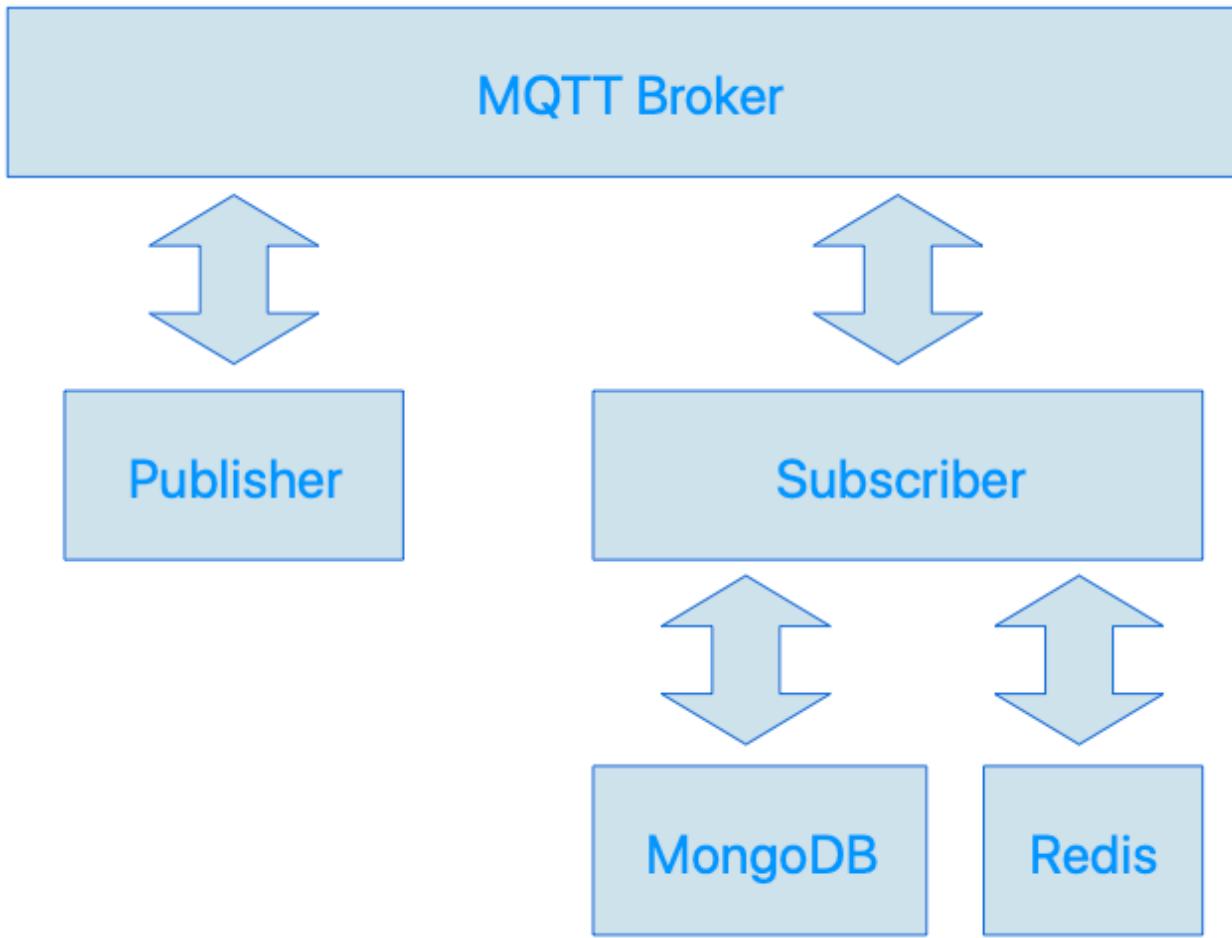
Simple Tags

- [3.4.23-xenial](#), [3.4-xenial](#)
- [3.4.23-windowsservercore-ltsc2016](#), [3.4-windowsservercore-ltsc2016](#)
- [3.6.16-xenial](#), [3.6-xenial](#), [3-xenial](#)
- [3.6.16-windowsservercore-ltsc2016](#), [3.6-windowsservercore-ltsc2016](#), [3-windowsservercore-ltsc2016](#)
- [4.0.13-xenial](#), [4.0-xenial](#)
- [4.0.13-windowsservercore-ltsc2016](#), [4.0-windowsservercore-ltsc2016](#)
- [4.0.13-windowsservercore-1809](#), [4.0-windowsservercore-1809](#)
- [4.2.2-bionic](#), [4.2-bionic](#), [4-bionic](#), [bionic](#)
- [4.2.2-windowsservercore-ltsc2016](#), [4.2-windowsservercore-ltsc2016](#), [4-windowsservercore-ltsc2016](#),
[windowsservercore-ltsc2016](#)
- [4.2.2-windowsservercore-1809](#), [4.2-windowsservercore-1809](#), [4-windowsservercore-1809](#), [windowsservercore-1809](#)

Shared Tags

- [3.4.23](#), [3.4](#):
 - [3.4.23-xenial](#)

Publisher/Subscriber Architecture



```

○ ● ● X84                               YYY YYZ
% mqtt publish -t "publisher" -m "mongo-add foo"
% mqtt publish -t "publisher" -m "mongo-list foo"
% mqtt publish -t "publisher" -m "mongo-count foo"
% 

2020-03-06T17:45:03.741Z publisher
send MQTT messages with topic publisher and any message you like
2020-03-06T18:08:08.962Z mqtt-traffic <<< MESSAGE topic publisher message mongo-add
foo
2020-03-06T18:08:08.962Z mqtt-traffic >>> topic subscriber/mongo-add message foo
2020-03-06T18:08:08.972Z mqtt-traffic <<< MESSAGE topic publisher/mongo-add message
{"result":{"ok":1,"n":1},"ops":[{"text":"foo","_id":"5e629188728800001cfdf0be"}],"in
sertedCount":1,"insertedIds":["0":"5e629188728800001cfdf0be"]}
2020-03-06T18:08:08.973Z publisher result mongo-add = {
  result: { ok: 1, n: 1 },
  ops: [ { text: 'foo' , _id: '5e629188728800001cfdf0be' } ],
  insertedCount: 1,
  insertedIds: { '0': '5e629188728800001cfdf0be' }
}
2020-03-06T18:08:24.438Z mqtt-traffic <<< MESSAGE topic publisher message mongo-list
foo
2020-03-06T18:08:24.438Z mqtt-traffic >>> topic subscriber/mongo-list message foo
2020-03-06T18:08:24.443Z mqtt-traffic <<< MESSAGE topic publisher/mongo-list message
[{"_id":"5e289168c79039918a8b47db","text":"foo"}, {"_id":"5e629188728800001cfdf0be",
"text":"foo"}]
2020-03-06T18:08:24.443Z publisher result mongo-list = [
  { _id: '5e289168c79039918a8b47db' , text: 'foo' },
  { _id: '5e629188728800001cfdf0be' , text: 'foo' }
]
2020-03-06T18:08:35.240Z mqtt-traffic <<< MESSAGE topic publisher message mongo-cou
nt foo
2020-03-06T18:08:35.240Z mqtt-traffic >>> topic subscriber/mongo-count message foo
2020-03-06T18:08:35.243Z mqtt-traffic <<< MESSAGE topic publisher/mongo-count messag
e 2
2020-03-06T18:08:35.243Z publisher result mongo-count = 2

yarn run v1.16.0
$ node ./index.js
2020-03-06T18:07:15.252Z subscriber connecting to MongoDB mongodb://192.168.0.21:27017
(node:28) DeprecationWarning: current Server Discovery and Monitoring engine is depre
cated, and will be removed in a future version. To use the new Server Discover and Monito
ring engine, pass option { useUnifiedTopology: true } to the MongoClient constructor.
2020-03-06T18:07:15.265Z subscriber Connected to mongodb server mongodb://192.168.0.21:
27017
2020-03-06T18:07:15.266Z subscriber
2020-03-06T18:07:15.266Z subscriber connecting to MQTT broker mqtt://192.168.0.21:1883
2020-03-06T18:07:15.293Z subscriber connected to mqtt://192.168.0.21 port 1883
2020-03-06T18:07:15.293Z subscriber
2020-03-06T18:07:15.293Z subscriber WAITING FOR MESSAGES FROM PUBLISHER
2020-03-06T18:08:08.963Z subscriber <<< topic subscriber/mongo-add message foo
2020-03-06T18:08:08.964Z subscriber --- mongodb add foo
2020-03-06T18:08:08.970Z subscriber >>> topic: publisher/mongo-add message: {
  result: { ok: 1, n: 1 },
  ops: [ { text: 'foo' , _id: '5e629188728800001cfdf0be' } ],
  insertedCount: 1,
  insertedIds: { '0': '5e629188728800001cfdf0be' }
}
2020-03-06T18:08:24.430Z subscriber <<< topic subscriber/mongo-list message foo
2020-03-06T18:08:24.443Z subscriber >>> topic: publisher/mongo-list message: [
  { _id: '5e289168c79039918a8b47db' , text: 'foo' },
  { _id: '5e629188728800001cfdf0be' , text: 'foo' }
]
2020-03-06T18:08:35.241Z subscriber <<< topic subscriber/mongo-count message foo
2020-03-06T18:08:35.241Z subscriber --- mongodb count foo
2020-03-06T18:08:35.242Z subscriber >>> topic: publisher/mongo-count message: 2
2020-03-06T18:08:35.242Z subscriber >>> topic: publisher/mongo-count message: 2

book 1 > zsh

```

2020-03-06 < 10:09 yyz

Chapter 4: Composing Systems Using Containers

Publisher

MongoDB

Redis

	VALUE			
List	Count	Add	Remove	Flush

Result

Chapter 5: Alternatives for Deploying and Running Containers in Production



Chapter 7: Continuous Deployment with Jenkins

Getting Started

Unlock Jenkins

To ensure Jenkins is securely set up by the administrator, a password has been written to the log ([not sure where to find it?](#)) and this file on the server:

`/var/lib/jenkins/secrets/initialAdminPassword`

Please copy the password from either location and paste it below.

Administrator password



Continue

Customize Jenkins

Plugins extend Jenkins with additional features to support many different needs.

Install suggested plugins

Install plugins the Jenkins community finds most useful.

Select plugins to install

Select and install plugins most suitable for your needs.

 Jenkins

Jenkins > All >

Enter an item name

Hello Docker

» Required field

Freestyle project
 This is the central feature of Jenkins. Jenkins will build your project, combining any SCM with any build system, and this can be even used for something other than software build.

Pipeline
 Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.

Multi-configuration project
 Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-specific builds, etc.

Folder
 Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, which is just a filter, a folder creates a separate namespace, so you can have multiple things of the same name as long as they are in different folders.

GitHub Organization
 Scans a GitHub organization (or user account) for all repositories matching some defined markers.

GitHub Organization
 Scans a GitHub organization (or user account) for all repositories matching some defined markers.

Multibranch Pipeline
 Creates a set of Pipeline projects according to detected branches in one SCM repository.

If you want to create a new item from other existing, you can use this option:

 Copy from

 OK

Page generated: Mar 2, 2020 4:10:13 AM UTC [REST API](#) [Jenkins ver. 2.219](#)

 Jenkins

Jenkins > Credentials > System > Global credentials (unrestricted) >

[Back to credential domains](#)

[!\[\]\(c4b902e871dde0bc3768c67b340e76f0_img.jpg\) Add Credentials](#)

Kind: **SSH Username with private key**

Scope: **Global (Jenkins, nodes, items, all child items, etc)**

ID: **jenkins.shipit**

Description: **Key**

Username: **centos**

Private Key: Enter directly

Key:

Enter New Secret Below

```
zVsyyfVUcQ1GqVkYLpdsY2vfjeldS8hU2RGc/lhriePyWwqQAAAIEAwai10/Vo42JUMY/i  
JJdBQOEnnYcEf1UZ1yomghKcLet7hg2VileJsy YEALvINhc4j9RrcjsjH2b3F/YzLcrwd  
g1bbOPLe6TForSOC9WYtlfzaolzzPQVp2Y6tTUVxmiFGAwvdBm0ETPfsJVTQFisJT2S+7H  
lIbn i2DOHvZ86DEAAAUCmJ1bGxp bmdAQ29kZXgubG9jYWwBAgMEBQYH  
-----END OPENSSH PRIVATE KEY-----
```

Passphrase:

OK

Page generated: Mar 2, 2020 4:31:57 AM UTC [REST API](#) [Jenkins ver. 2.219](#)

Jenkins > All >

Enter an item name

SSH to Production

» Required field



Freestyle project

This is the central feature of Jenkins. Jenkins will build your project, combining any SCM with any build system, and this can be even used for something other than software build.



Pipeline

Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.



Multi-configuration project

Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-specific builds, etc.



Folder

Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, which is just a filter, a folder creates a separate namespace, so you can have multiple things of the same name as long as they are in different folders.



GitHub Organization

Scans a GitHub organization (or user account) for all repositories matching some defined markers.



GitHub Organization

Scans a GitHub organization (or user account) for all repositories matching some defined markers.



Multibranch Pipeline

Creates a set of Pipeline projects according to detected branches in one SCM repository.

If you want to create a new item from other existing, you can use this option:



Copy from

Type to autocomplete

OK

Resource root URL ?

Without a resource root URL, resources will be served from the main domain with Content-Security-Policy set.

Global properties Disable deferred wipeout on this node ? Environment variables

List of variables

Name Value DeleteName Value DeleteAdd Tool Locations**Pipeline Speed/Durability Settings**SaveApply

 Jenkins

3 search Admin | log out

Jenkins Packt Publishing Docker-for-Developers master ENABLE AUTO REFRESH

Up Status Changes Build Now View Configuration Full Stage View GitHub Pipeline Syntax

Branch master

Full project name: Packt-Publishing/Docker-for-Developers/master

Recent Changes

Stage View

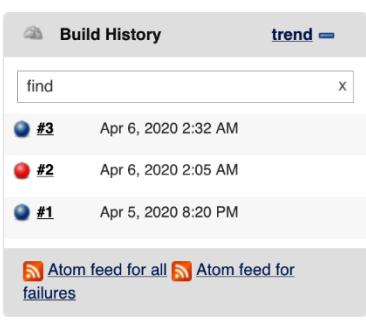
Average stage times:
(Average full run time: ~18s)

Declarative: Checkout SCM	build	deploy
1s	4s	9s
#3 Apr 05 22:32 1 commit	854ms	2s
#2 Apr 05 22:05 5 commits	1s	4s
#1 Apr 05 16:20 No Changes	1s	6s

Build History trend →

- find X
- #3 Apr 6, 2020 2:32 AM
- #2 Apr 6, 2020 2:05 AM
- #1 Apr 5, 2020 8:20 PM

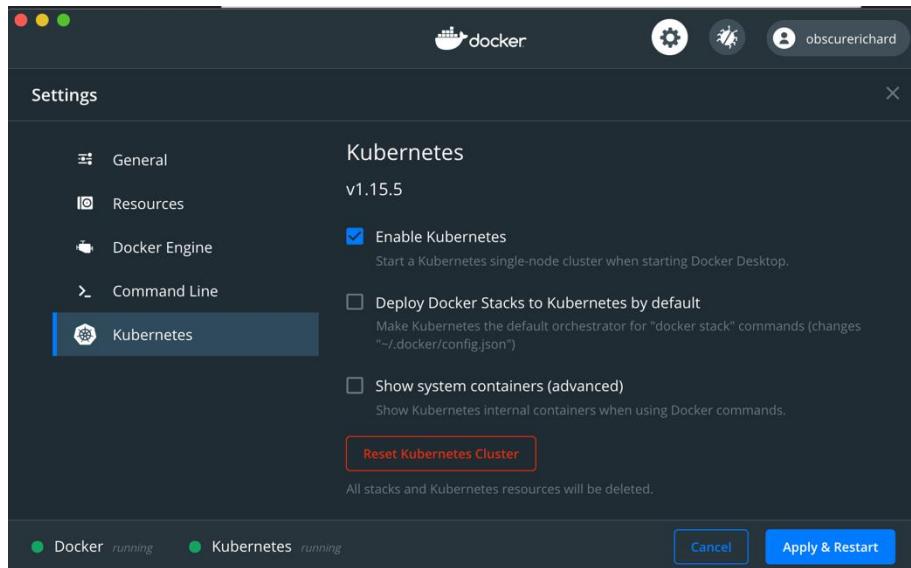
Atom feed for all Atom feed for failures



Permalinks

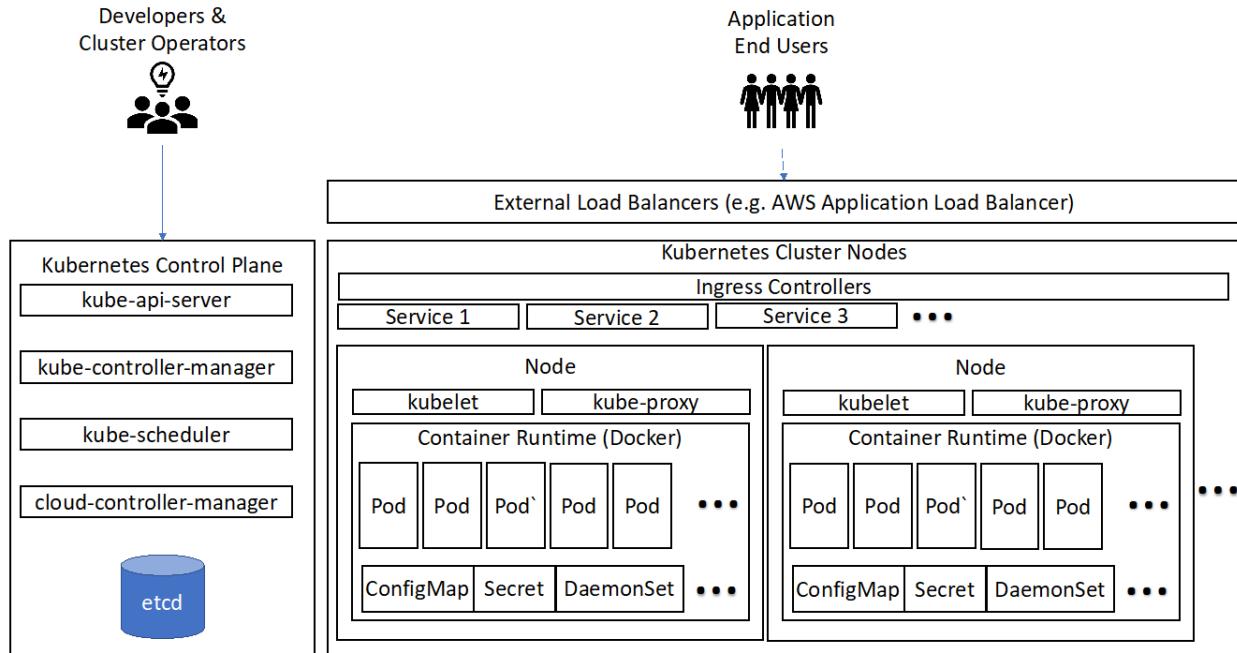
- [Last build \(#3\), 3.7 sec ago](#)
- [Last stable build \(#1\), 6 hr 11 min ago](#)

Chapter 8: Deploying Docker Apps to Kubernetes



```
$ kubectl get pods -A
```

NAMESPACE	NAME	READY	STATUS	RESTARTS	AGE
docker	compose-78f95d4f8c-6q47g	1/1	Running	0	13d
docker	compose-api-6ffb89dc58-xmc7g	1/1	Running	0	13d
kube-system	coredns-5644d7b6d9-trt7s	1/1	Running	0	13d
kube-system	coredns-5644d7b6d9-x7z5f	1/1	Running	0	13d
kube-system	etcd-docker-desktop	1/1	Running	0	13d
kube-system	kube-apiserver-docker-desktop	1/1	Running	0	13d
kube-system	kube-controller-manager-docker-desktop	1/1	Running	0	13d
kube-system	kube-proxy-9mq8k	1/1	Running	0	13d
kube-system	kube-scheduler-docker-desktop	1/1	Running	0	13d
kube-system	storage-provisioner	1/1	Running	1	13d
kube-system	vpnkit-controller	1/1	Running	0	13d



```
$ ➔ kubectl get secrets
NAME                                     TYPE          DATA   AGE
default-token-sm7kn                      kubernetes.io/service-account-token  3      15d
nginx-ingress-backend-token-slkjf         kubernetes.io/service-account-token  3      3h43m
nginx-ingress-token-v5jjp                 kubernetes.io/service-account-token  3      3h43m
sample-secret                            Opaque          1     15m
secex                                    Opaque          1     12m
sh.helm.release.v1.nginx-ingress.v1       helm.sh/release.v1                  1     3h43m
sh.helm.release.v1.shipitclicker.v1       helm.sh/release.v1                  1     3h30m
sh.helm.release.v1.shipitclicker.v2       helm.sh/release.v1                  1     3h1m
sh.helm.release.v1.shipitclicker.v3       helm.sh/release.v1                  1     112m
sh.helm.release.v1.shipitclicker.v4       helm.sh/release.v1                  1     104m
sh.helm.release.v1.shipitclicker.v5       helm.sh/release.v1                  1     102m
shipitclicker-secrets                     Opaque          1     102m
shipitclicker-token-lc9qv                kubernetes.io/service-account-token  3      3h30m
```

```
$ ➔ kubectl describe secrets/shipitclicker-secrets
Name:           shipitclicker-secrets
Namespace:      default
Labels:         <none>
Annotations:   <none>
```

Type: Opaque

Data

====

SESSION_SECRET: 12 bytes



Identity and Access Management (IAM)

Dashboard

Access management

Groups

Users

User ARN arn:aws:iam::1[REDACTED]:user/Administrator

Path /

Creation time 2020-04-27 00:05 EDT



Identity and Access Management (IAM)

Dashboard

Access management

Groups

Users

Roles

Policies

Identity providers

Account settings

Access reports

Access analyzer

Archive rules

Analyzers

Settings

Credential report

Organization activity

Service control policies (SCPs)

Search IAM

Users > Administrator

Summary

Delete user

?

User ARN arn:aws:iam:[REDACTED]:user/Administrator

Path /

Creation time 2020-04-27 00:05 EDT

Permissions Groups (1) Tags Security credentials Access Advisor

Sign-in credentials

Summary

- Console sign-in link: https://[REDACTED].signin.aws.amazon.com/console
- MFA is required when signing in. [Learn more](#)

Console password

Enabled (last signed in 9 days) | [Manage](#)

Assigned MFA device

arn:aws:iam:[REDACTED]:mfa/Administrator (Virtual) | [Manage](#)

Signing certificates

None

Access keys

Use access keys to make secure REST or HTTP Query protocol requests to AWS service APIs. For your protection, you should never share your secret keys with anyone. As a best practice, we recommend frequent key rotation.

[Learn more](#)

[Create access key](#)

Access key ID	Created	Last used	Status
---------------	---------	-----------	--------

```
$ aws sts get-caller-identity
{
    "UserId": "AIDASDBKOBZBUC3RCCP42",
    "Account": "143970405955",
    "Arn": "arn:aws:iam::143970405955:user/Administrator"
}
```

The screenshot shows the AWS EC2 console. At the top, there's a blue banner with the text "Welcome to the new EC2 console! We're redesigning the EC2 console to make it easier for you to manage your resources. Please provide feedback periodically. We encourage you to try the switch between the old console and the new one." Below the banner, the navigation bar includes "Services", "Resource Groups", "EC2", "DockerBook - Admin", "Ohio", and "Support". On the left sidebar, there are links for "New EC2 Experience", "EC2 Dashboard", and "Events". The main content area shows three regions: "US East (N. Virginia) us-east-1", "US East (Ohio) us-east-2", and "US West (N. California) us-west-1".

The screenshot shows the "Create stack" wizard in the AWS CloudFormation console. The title is "Create stack". The left sidebar lists steps: Step 1 "Specify template" (selected), Step 2 "Specify stack details", Step 3 "Configure stack options", and Step 4 "Review". The main content area has a section titled "Prerequisite - Prepare template". It contains a sub-section "Prepare template" with the text: "Every stack is based on a template. A template is a JSON or YAML file that contains configuration information about the AWS resources you want to include in the stack." Below this are three radio button options: "Template is ready" (selected), "Use a sample template", and "Create template in Designer". The next section is "Specify template" with the sub-section "Template source" containing the text: "Selecting a template generates an Amazon S3 URL where it will be stored." It shows two radio button options: "Amazon S3 URL" (selected) and "Upload a template file". Below this is a text input field "Amazon S3 URL" containing the URL "https://s3.amazonaws.com/aws-quickstart/quickstart-amazon-eks/templates/amazon-eks-master.template.yaml". To the right of the URL is a "View in Designer" button. At the bottom are "Cancel" and "Next" buttons.

Stacks (11)				
	Stack name	Status	Created time	Description
<input type="radio"/>	Amazon-EKS-EKSStack-16HIS1XPV... [NESTED]	CREATE_COMPLETE	2020-05-02 17:26:55 UTC-0400	Deploys an EFS file system
<input type="radio"/>	Amazon-EKS-EKSStack-16HIS1XPV... [NESTED]	CREATE_COMPLETE	2020-05-02 17:25:17 UTC-0400	Deploys EKS nodes into an
<input type="radio"/>	Amazon-EKS-EKSStack-16HIS1XPV... [NESTED]	CREATE_COMPLETE	2020-05-02 17:25:17 UTC-0400	LinuxBastion+VPC Nov,19,2
<input type="radio"/>	Amazon-EKS-EKSStack-16HIS1XPV... [NESTED]	CREATE_COMPLETE	2020-05-02 17:25:17 UTC-0400	Deploys the grafana helm c
<input type="radio"/>	Amazon-EKS-EKSStack-16HIS1XPV... [NESTED]	CREATE_COMPLETE	2020-05-02 17:25:17 UTC-0400	Deploys the prometheus he
<input type="radio"/>	Amazon-EKS-EKSStack-16HIS1XPV... [NESTED]	CREATE_COMPLETE	2020-05-02 17:07:08 UTC-0400	Deploys the EKS control pla
<input type="radio"/>	Amazon-EKS-EKSStack-16HIS1XPV... [NESTED]	CREATE_COMPLETE	2020-05-02 17:04:02 UTC-0400	Deploys Lambda functions
<input type="radio"/>	Amazon-EKS-EKSStack-16HIS1XPV... [NESTED]	CREATE_COMPLETE	2020-05-02 17:01:21 UTC-0400	Deploys IAM roles and polic
<input type="radio"/>	Amazon-EKS-EKSStack-16HIS1XPVX1S [NESTED]	CREATE_COMPLETE	2020-05-02 17:00:52 UTC-0400	Deploys an EKS cluster into
<input type="radio"/>	Amazon-EKS-VPCStack-6PBRTQZD8W... [NESTED]	CREATE_COMPLETE	2020-05-02 16:57:17 UTC-0400	This template creates a Mu
<input type="radio"/>	Amazon-EKS	CREATE_COMPLETE	2020-05-02 16:57:11 UTC-0400	Deploys an EKS cluster in a

AWS Services Resource Groups EC2 DockerBook - Admin

ECR > Create repository

Create repository

Repository access and tags

Repository name
143970405955.dkr.ecr.us-east-2.amazonaws.com/ dockerfordevelopers/shipitclicker

A namespace can be included with your repository name (e.g. namespace/repo-name).

Tag immutability
Enable tag immutability to prevent image tags from being overwritten by subsequent image pushes using the same tag.
Disable tag immutability to allow image tags to be overwritten.

Disabled

Image scan settings

Scan on push
Enable scan on push to have each image automatically scanned after being pushed to a repository. If disabled, each image scan must be manually started to get scan results.

Disabled

Create repository

Feedback English (US) Privacy Policy Terms of Use

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AWS Services Resource Groups EC2 IAM DockerBook - Admin Ohio Support

Successfully created repository dockerfordevelopers/shipitclicker View push commands X

ECR > Repositories

Repositories (1)		<input type="button" value="View push commands"/>	<input type="button" value="Delete"/>	<input type="button" value="Edit"/>	<input type="button" value="Create repository"/>
<input type="text"/> Find repositories		< 1 >	⚙️		
Repository name	URI	Created at	Tag immutability	Scan on push	
<input type="radio"/> dockerfordevelopers/shipitclicker	143970405955.dkr.ecr.us-east-2.amazonaws.com/dockerfordevelopers/shipitclicker	05/21/20, 11:22:38 PM	Disabled	Disabled	

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```
$ docker push $REPO/$IMAGE:latest
The push refers to repository [143970405955.dkr.ecr.us-east-2.amazonaws.com/dockerfordevelopers/shipitclicker]
91886c2bec58: Pushed
803db8939aa3: Pushed
0e0a18348ee5: Pushed
62e05e3bb22a: Pushed
1348a1f0cff: Pushed
f3acd9559398: Pushed
784ec316539a: Pushed
405463c769df: Pushed
ffac27138e4b: Pushed
da64c1c32e07: Pushed
latest: digest: sha256:c66f057ae0794e67705474fa480eaf653d0f8abe1eb6bd13354a23a4a1eefd89 size: 2409
```

Chapter 9: Cloud-Native Continuous Deployment Using Spinnaker

Screenshot of the AWS Certificate Manager (ACM) "Request a certificate" page. The status is "Request in progress". A note says: "A certificate request with a status of Pending validation has been created. Further action is needed to complete the validation and approval of the certificate." The validation step is shown:

Domain	Validation status	
*.eks.shipitclicker.com	Pending validation	
Add the following CNAME record to the DNS configuration for your domain. The procedure for adding CNAME records depends on your DNS service Provider. Learn more .		
Name	Type	Value
_d3a3f59bf75c6c9a805fc42afe72c0591.eks.s hipitclicker.com.	CNAME	_d707355be64409e38f41714e6c487186.auiqraehs.acm-validations.aws.

Note: Changing the DNS configuration allows ACM to issue certificates for this domain name for as long as the DNS record exists. You can revoke permission at any time by removing the record. [Learn more](#).

[Create record in Route 53](#) Amazon Route 53 DNS Customers ACM can update your DNS configuration for you.

[Learn more](#).

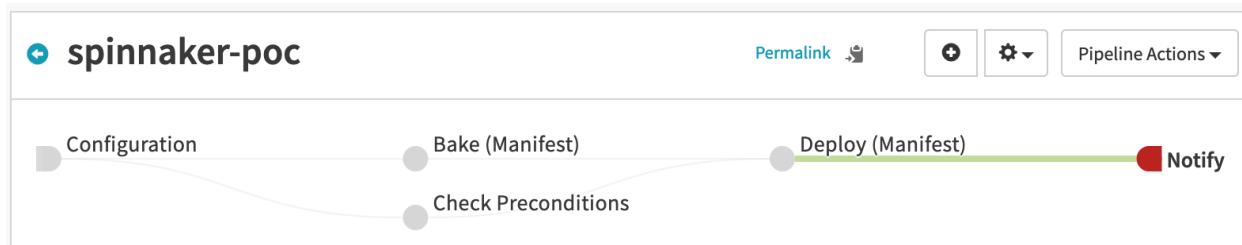
Domain	Validation status
eks.shipitclicker.com	Pending validation

Screenshot of the AWS Route 53 "Create Record Set" interface. The table shows various DNS records for the "shipitclicker.com" zone:

Name	Type	Value	Evaluate Target Health	Health Check ID	TTL
shipitclicker.com.	A	34.238.248.192	-	-	300
shipitclicker.com.	NS	ns-1372.awsdns-43.org. ns-645.awsdns-16.net. ns-378.awsdns-47.com. ns-1842.awsdns-38.co.uk.	-	-	172800
shipitclicker.com.	SOA	ns-1372.awsdns-43.org. awsdns-hostmaster.amazon. ns-7ff0a633eef881a4b61477b07d1d2e8b.shipitclicker.com.	-	-	900
_7ff0a633eef881a4b61477b07d1d2e8b.shipitclicker.com.	CNAME	_3b23a3575547e689e6fde9ee5f0c1ac3.auiqraehs.	-	-	300
_da3f59bf75c6c9a805fc42afe72c0591.eks.shipitclicker.com.	CNAME	_d707355be64409e38f41714e6c487186.auiqraehs.	-	-	300
shipit-staging.eks.shipitclicker.com.	A	ALIAS dualstack.9b0bd6fc-default-shipitstaging-1229-15	No	-	-
shipit-v5.eks.shipitclicker.com.	A	ALIAS dualstack.9b0bd6fc-default-shipitv5-051a-1f	No	-	-
spinnaker-gate.eks.shipitclicker.com.	A	ALIAS dualstack.9b0bd6fc-spinnaker-springat-7121-1	No	-	-
spinnaker.eks.shipitclicker.com.	A	ALIAS dualstack.9b0bd6fc-spinnaker-spindtec-5f03-1	No	-	-
jenkins.shipitclicker.com.	A	ALIAS dualstack.7c44fb12814d07c7eedb6afeff8d39-1	No	-	-
_b610b607efad48660fe18b40ed69369d.jenkins.shipitclicker.com.	CNAME	_e644c0f0ecd5f571df37528b0350a74b.vhzmppjdqk.r.	-	-	300
staging.shipitclicker.com.	A	18.213.192.151	-	-	300

The right panel shows the "Create Record Set" configuration:

- Name: shipit-v5.eks.shipitclicker.com.
- Type: A – IPv4 address
- Alias: Yes
- Alias Target: 199361.us-east-2.elb.amazonaws.com.
- Alias Hosted Zone ID: Z3AADJGX9KTTL2
- Routing Policy: Simple
- Evaluate Target Health: Yes



```

NAME: spinnaker
LAST DEPLOYED: Sun May 3 14:33:10 2020
NAMESPACE: spinnaker
STATUS: deployed
REVISION: 1
TEST SUITE: None
NOTES:
1. You will need to create 2 port forwarding tunnels in order to access the Spinnaker UI:
   export DECK_POD=$(kubectl get pods --namespace spinnaker -l "cluster=spin-deck" -o jsonpath=".items[0].metadata.name")
   kubectl port-forward --namespace spinnaker $DECK_POD 9000

   export GATE_POD=$(kubectl get pods --namespace spinnaker -l "cluster=spin-gate" -o jsonpath=".items[0].metadata.name")
   kubectl port-forward --namespace spinnaker $GATE_POD 8084

2. Visit the Spinnaker UI by opening your browser to: http://127.0.0.1:9000

To customize your Spinnaker installation. Create a shell in your Halyard pod:

  kubectl exec --namespace spinnaker -it spinnaker-spinnaker-halyard-0 bash

For more info on using Halyard to customize your installation, visit:
  https://www.spinnaker.io/reference/halyard/

For more info on the Kubernetes integration for Spinnaker, visit:
  https://www.spinnaker.io/reference/providers/kubernetes-v2/

```

The screenshot shows the Jenkins Admin interface. On the left, there's a sidebar with links: People, Status, Builds, Configure, My Views, and Credentials. The main area has a header with a Jenkins logo, a red notification badge (3), a search bar, and Admin / log out buttons.

User Management: A table lists users with columns: Full Name (Admin), Description (empty), and two question-mark icons for help.

API Token: A section titled "API Token" shows a message: "There are no registered tokens for this user." It contains a text input field with "spinnaker", a "Generate" button (disabled), a "Cancel" button, and a "Add new Token" button.

Jenkins 3 search Admin | log out

Back to Dashboard Manage Jenkins

Updates Available Installed Advanced

Install ↓	Name	Version
<input type="checkbox"/>	Cisco Spark Notifier	1.1.1
<input type="checkbox"/>	Notify Cisco Spark spaces from build, post-build and pipeline steps using 'Secret text' credential containing bot or user token	
<input type="checkbox"/>	HashiCorp Vault	3.4.1
<input type="checkbox"/>	Jenkins plugin to populate environment variables from secrets stored in HashiCorp's Vault	
<input checked="" type="checkbox"/>	Amazon ECR	1.6
<input checked="" type="checkbox"/>	This plugin generates Docker authentication token from Amazon Credentials to access Amazon ECR.	
CloudBees AWS Credentials		

Install without restart Download now and install after restart Update information obtained: 21

Jenkins 3 search Admin | log out

ENABLE AUTO REFRESH

Back to Dashboard Manage Jenkins Manage Plugins

Installing Plugins/Upgrades

Preparation

- Checking internet connectivity
- Checking update center connectivity
- Success

Variant	Status
Amazon Web Services SDK	Downloaded Successfully. Will be activated during the next boot
CloudBees AWS Credentials	Installing
Amazon ECR	Pending
Restarting Jenkins	Pending

Go back to the top page
(you can start using the installed plugins right away)

Restart Jenkins when installation is complete and no jobs are running



2

Admin | log out

Jenkins > Credentials > System > Global credentials (unrestricted) >

[Back to credential domains](#)

Add Credentials

Kind **AWS Credentials**

Scope **Global (Jenkins, nodes, items, all child items, etc)**

ID **shipit.aws.key**

Description **Shipt Clicker AWS API Key**

Access Key ID **AKIASDBKOBZBUPLRSWQF**

Secret Access Key **.....**

These credentials are valid but do not have access to the "AmazonEC2" service in the region "us-east-1". This message is not a problem if you need to access to other services or to other regions.
Message: "You are not authorized to perform this operation.
(UnauthorizedOperation)"

IAM Role Support

[Advanced...](#)[OK](#)

Branch Sources

GitHub

Credentials

User obscurerichard

Repository HTTPS URL

Repository HTTPS URL

Repository Scan - Deprecated Visualization

Behaviors

Discover branches

Strategy

Discover pull requests from origin

Strategy

Discover pull requests from forks

Strategy

Trust
May not be supported on older versions of GitHub Enterprise. See help button.

Property strategy

Build Configuration

Mode

Script Path

SPINNAKER Applications Applications

New Application

Name *	shipandspin
Owner Email *	user@example.com
Repo Type	github
Repo Project	my-github-user
Repo Name	Docker-for-Developers
Description	Enter a description
Instance Health	<input type="checkbox"/> Consider only cloud provider health when executing tasks <input type="checkbox"/> Show health override option for each operation
Instance Port	80
Pipeline Behavior	<input type="checkbox"/> Enable restarting running pipelines <input type="checkbox"/> Enable re-run button on active pipelines
*Required	
<input type="button" value="Cancel"/> <input type="button" value="Create"/>	

SPINNAKER Search Projects Applications

Applications

SHIPANDSPIN PIPELINES INFRASTRUCTURE TASKS CONFIG

Match against? Remove artifact

Account obscurerichard

File path chapter9/helm.tar.gz

Display name helm.tar.gz

If missing?

Use Prior Execution

Use Default Artifact

Default artifact?

Account obscurerichard

Content URL https://api.github.com/repos/PacktPublishing/Docker-for-Developer

Commit/Branch staging

Match against   Remove artifact

Account	 obscurerichard	▼
File path 	chapter9/values-spin.yaml	
Display name	values-spin.yaml	

If missing 

Use Prior Execution

Use Default Artifact 
Default artifact 

Account	 obscurerichard	▼
Content URL 	https://api.github.com/repos/PacktPublishing/Docker-for-Developer	
Commit/Branch 	staging	

Automated Triggers

Type	Jenkins	 
Master	my-jenkins-master	 
Job	Spinnaker/job/staging	 
Property File 	build.properties	
Artifact Constraints 	Select...	
<input checked="" type="checkbox"/> Trigger Enabled		

 Add Trigger

Bake (Manifest) Configuration

Template Renderer

Render Engine ⓘ

HELM2

Helm Options

Name

shipit-staging

Namespace

default

Template Artifact

Expected Artifact ⓘ

helm.tar.gz

Overrides

Expected Artifact

values-spin.yaml



+Add value artifact

Overrides

Key

Value

image.repository

`\${trigger["properties"]["ima]`



ingress.hosts[0].host

shipit-staging.eks.example.c`



+Add override

Expression Evaluation ⓘ

Evaluate SpEL expressions in overrides at bake time

Produces Artifacts

Match against ⓘ Delete

Kind	b64 Base64	An artifact that includes its referenced resource as part of its payload.
Name	kube-templates.yaml	

Assign to a matched artifact

Display name	kube-templates.yaml
--------------	---------------------

If missing ⓘ

Use Default Artifact

Add Artifact

Deploy (Manifest) Configuration

Basic Settings

Account ⓘ	default
Application ⓘ	shipandspin
Override Namespace	<input checked="" type="checkbox"/>
Namespace	default

Manifest Configuration

Manifest Source ⓘ Artifact

Manifest Artifact ⓘ b64 kube-templates.yaml

Expression Evaluation ⓘ Skip SpEL expression evaluation

Required Artifacts to Bind ⓘ Select an artifact...

Rollout Strategy Options

Enable ⓘ Spinnaker manages traffic based on your selected strategy

SPINNAKER Search Projects Applications Search

shipandspin ⏪ PIPELINES INFRASTRUCTURE TASKS

SEARCH ⟳

+ - Group by Pipeline Show 20 executions per pipeline stage durations ➕ ⚙️ ▶

PIPELINES ⌄

- shipit-eks-staging
- shipit-eks-prod

Reorder Pipelines

STATUS ⌄

- Running
- Terminal
- Succeeded
- Not Started
- Canceled
- Stopped
- Paused
- Buffered

PIPLINES ⌄

DEFAULT shipit-eks-staging Trigger: enabled Configure ▶ Start Manual Execution

BUILD #9
MANUAL START
[anonymous] (anonymous)
25 minutes ago

00:02 00:16

Status: SUCCEEDED Duration: 00:19 ⟳ trash

View All Artifacts (3) Execution Details

BUILD #9
MANUAL START
[anonymous] (anonymous)
about 1 hour ago

00:01 00:05

Status: TERMINAL Duration: 00:07 ⟳ trash

View All Artifacts (3) Execution Details

BUILD #9
MANUAL START
[anonymous] (anonymous)
about 3 hours ago

00:15 -

Status: TERMINAL Duration: 00:15 ⟳ trash

View All Artifacts (3) Execution Details

Chapter 10: Monitoring Docker Using Prometheus, Grafana, and Jaeger

Build Configuration

Mode: by Jenkinsfile

Script Path: chapter10/Jenkinsfile

Log groups (11)				
	Action	Retention	Stored bytes	Creation time
<input type="checkbox"/> /aws/eks/EKS-BPWG7608/cluster	Never expire	4.36 GB	22 days ago	
<input type="checkbox"/> /aws/lambda/Amazon-EKS-EKSStack-16H5-CleanupLoadBal...	Never expire	1.45 KB	22 days ago	
<input type="checkbox"/> /aws/lambda/Amazon-EKS-EKSStack-16H5-CleanupSecurity...	Never expire	2.89 KB	22 days ago	
<input type="checkbox"/> /aws/lambda/Amazon-EKS-EKSStack-16H5-DeletedBucketCo...	Never expire	1.45 KB	22 days ago	
<input type="checkbox"/> /aws/lambda/Amazon-EKS-EKSStack-16H5XVP-RegisterTy...	Never expire	2.34 KB	22 days ago	
<input type="checkbox"/> /aws/lambda/Amazon-EKS-EKSStack-16H5XVP-CreateVp...	Never expire	1.39 KB	22 days ago	
<input type="checkbox"/> /aws/lambda/Amazon-EKS-EKSStack-16H5XVPX-GetCall...	Never expire	1.42 KB	22 days ago	
<input type="checkbox"/> /aws/lambda/Amazon-EKS-EKSStack-16H5XVPX-Copy...	Never expire	1.3 KB	22 days ago	
<input type="checkbox"/> /aws/lambda/Amazon-EKS-EKSStack-16H5XVPXIS-Funct...	Never expire	84.59 KB	22 days ago	
<input type="checkbox"/> Amazon-EKS-EKSStack-16H5XVPXIS-BastionStack-13HK...	Never expire	-	22 days ago	
<input type="checkbox"/> awssop-eks-cluster-logs	Never expire	784.46 KB	28 days ago	

Prometheus Alerts Graph Status ▾ Help

Alerts

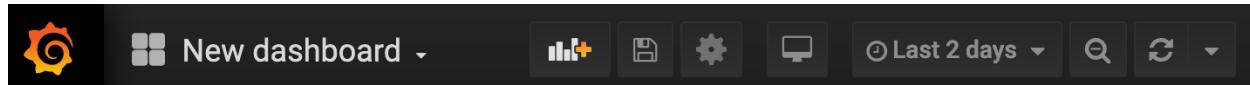
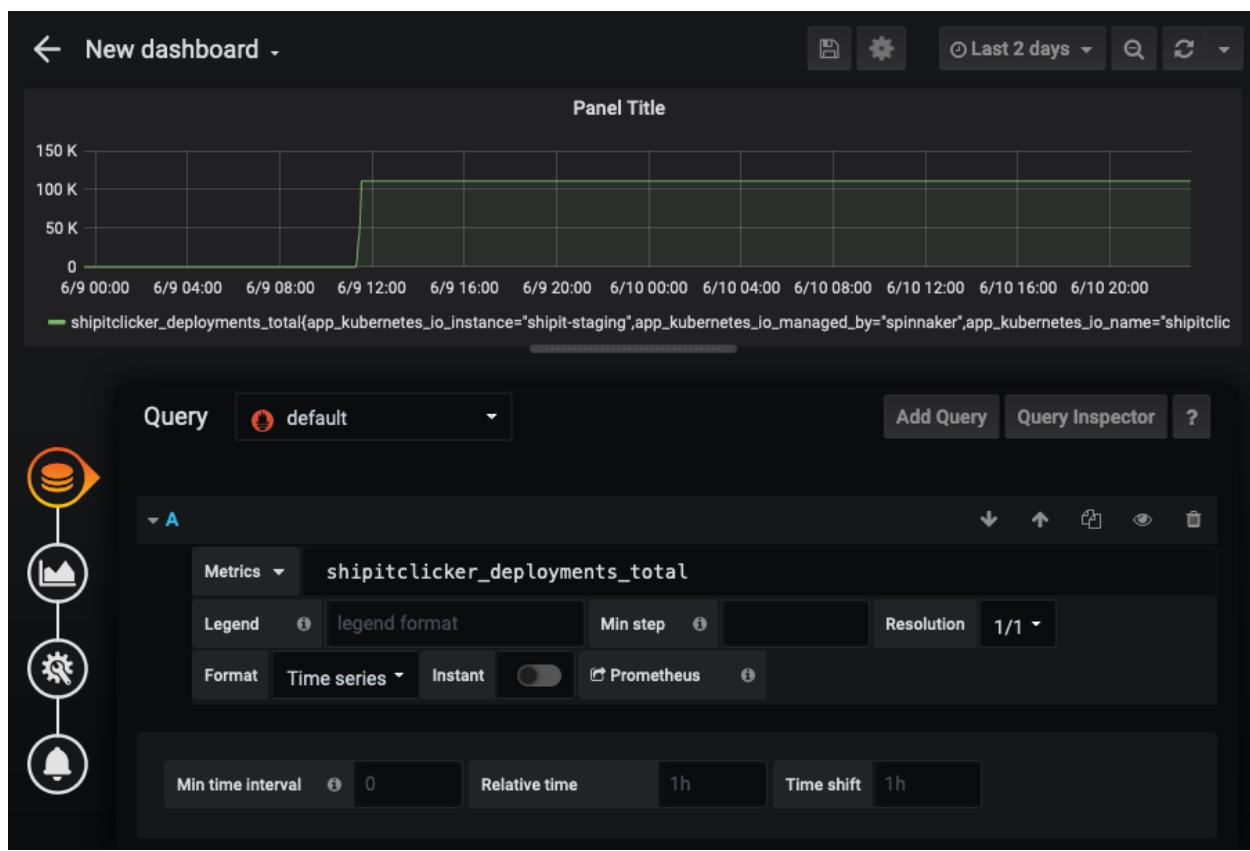
Inactive (1) Pending (0) Firing (0)

Show annotations

/etc/config/alerts > Kubernetes

InstanceDown (0 active)

```
alert: InstanceDown
expr: up == 0
for: 5m
labels:
  severity: page
annotations:
  description: '{{ $labels.instance }} of job {{ $labels.job }} has been down for
    more than 5 minutes.'
  summary: Instance {{ $labels.instance }} down
```





Jaeger UI Lookup by Trace ID... Search Compare System Architecture About Jaeger ▾

Search JSON File

Service (1)
jaeger-query

Operation (2)
all

Tags (2)
http.status_code=200 error=true

Lookback
Last Hour

Min Duration
e.g. 1.2s, 100ms, 500us

Max Duration
e.g. 1.2s, 100ms, 500us

Limit Results
20

Find Traces

15ms
10ms
5ms

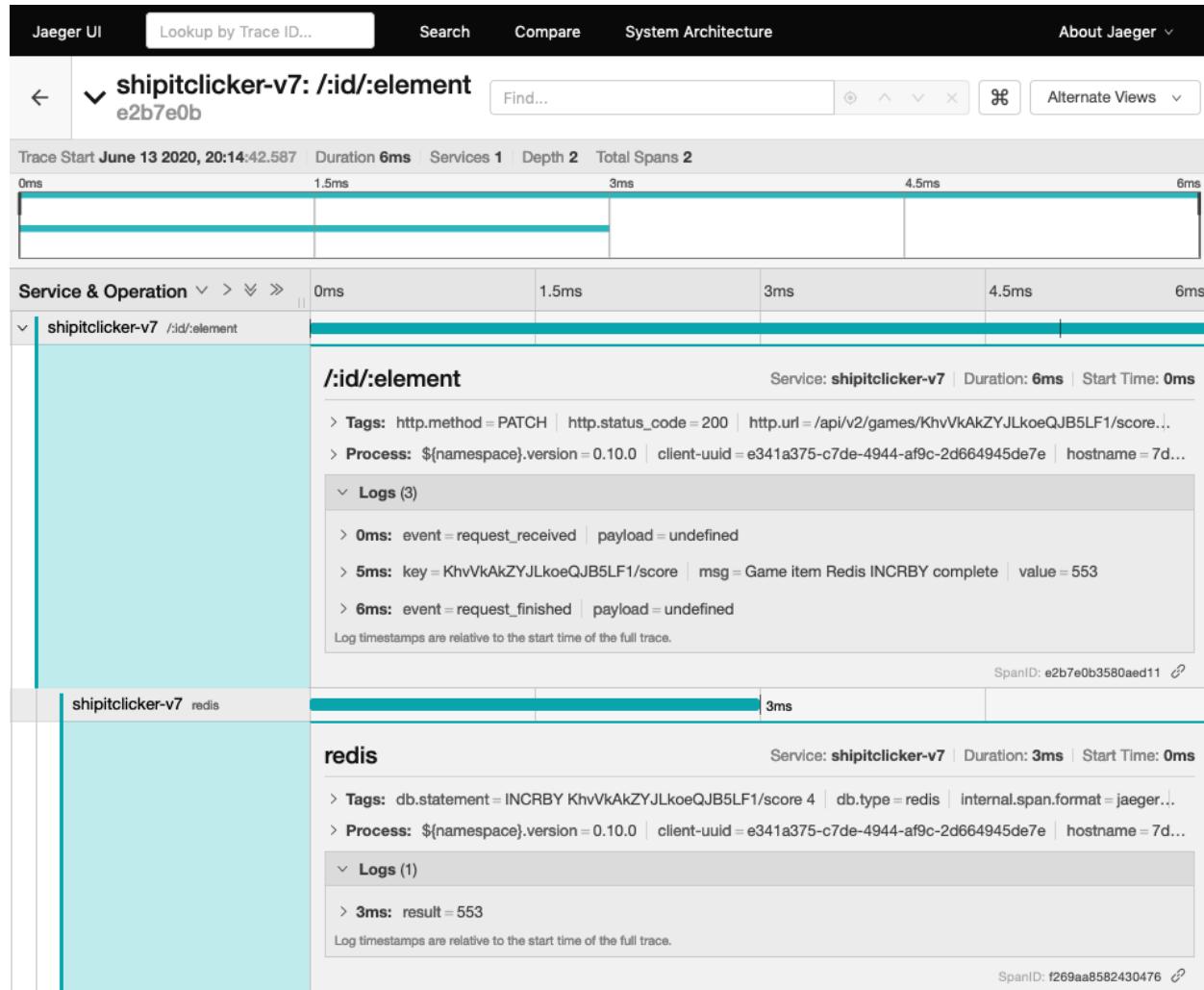
11:47:00 am 11:47:10 am 11:47:20 am

Time

5 Traces Sort: Most Recent ▾ Deep Dependency Graph

Compare traces by selecting result items

Trace ID	Duration	Timestamp	Details
jaeger-query: /api/services/{service}/operations 260bc45	0.21ms	Today 11:47:27 am	a few seconds ago
jaeger-query: /api/services/{service}/operations 2a45a60	0.62ms	Today 11:47:19 am	a few seconds ago
jaeger-query: /api/services 365416a	0.42ms	Today 11:47:19 am	a few seconds ago
jaeger-query: /api/services/{service}/operations 7e89efa	0.39ms		



Chapter 11: Scaling and Load Testing Docker Applications

Number of nodes

The number of Amazon EKS node instances. The default is one for each of the three Availability Zones.

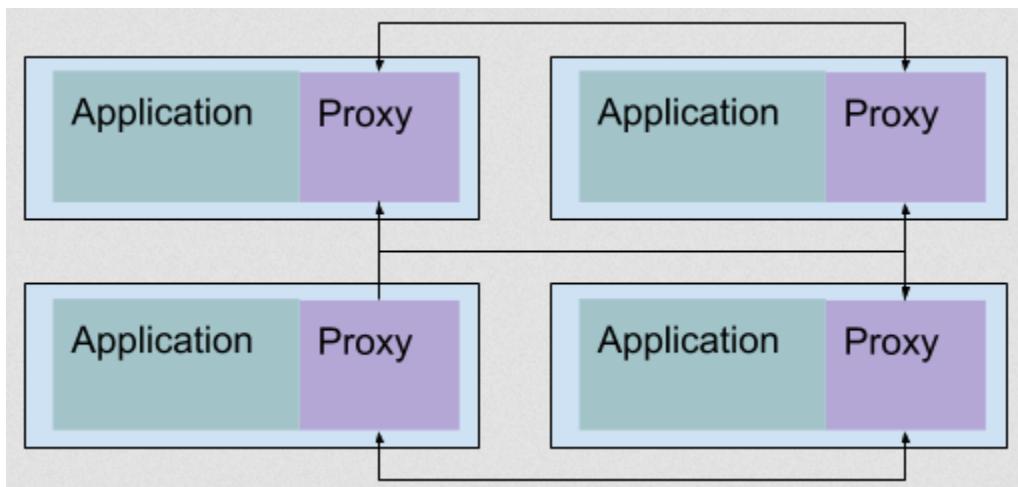
4



Maximum number of nodes

The maximum number of Amazon EKS node instances. The default is three node.

8



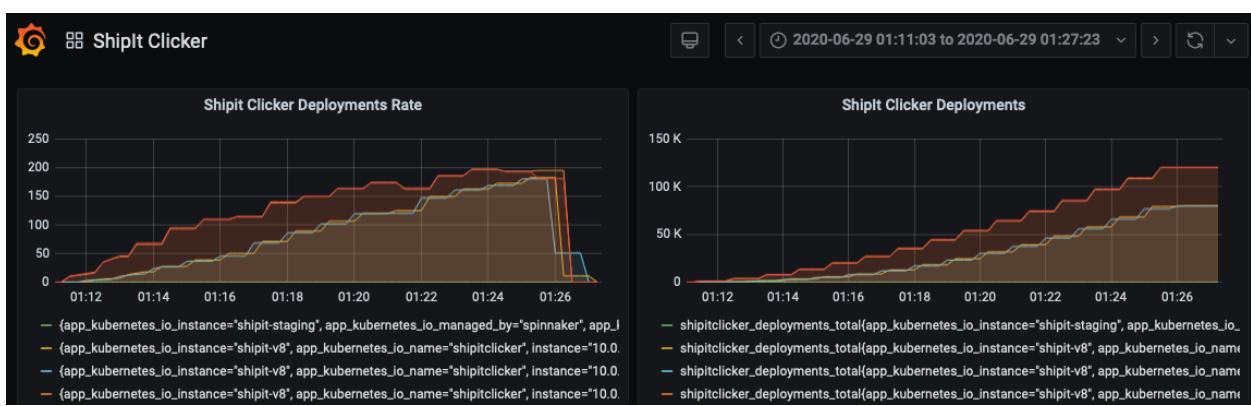
Screenshot of the Network tab in the Chrome DevTools Network panel. A context menu is open over a request to "shipit-v8.eks.shipitclicker.com".

Request Details:

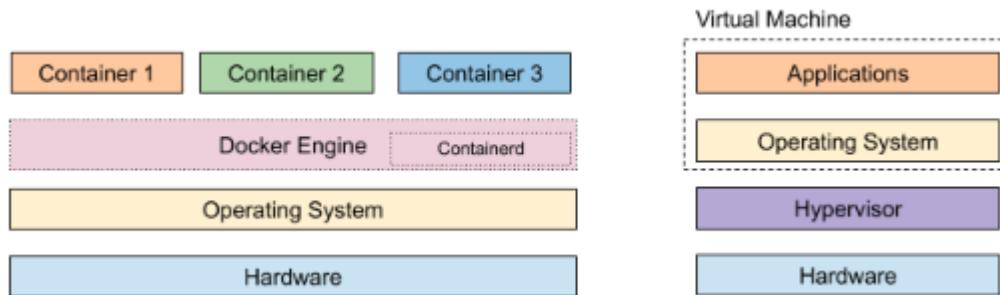
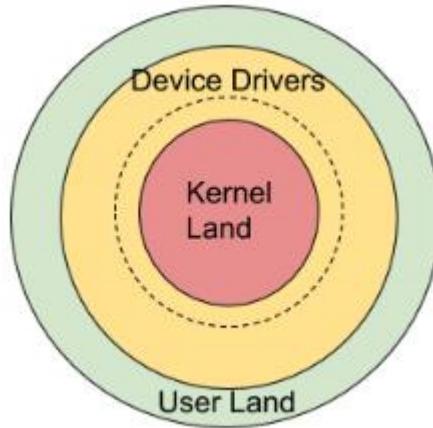
- URL:** https://shipit-v8.eks.shipitclicker.com/
- Method:** GET
- Code:** 304
- Address:** 18.219.50.74:443
- Policy:** no-referrer-when-downgrade

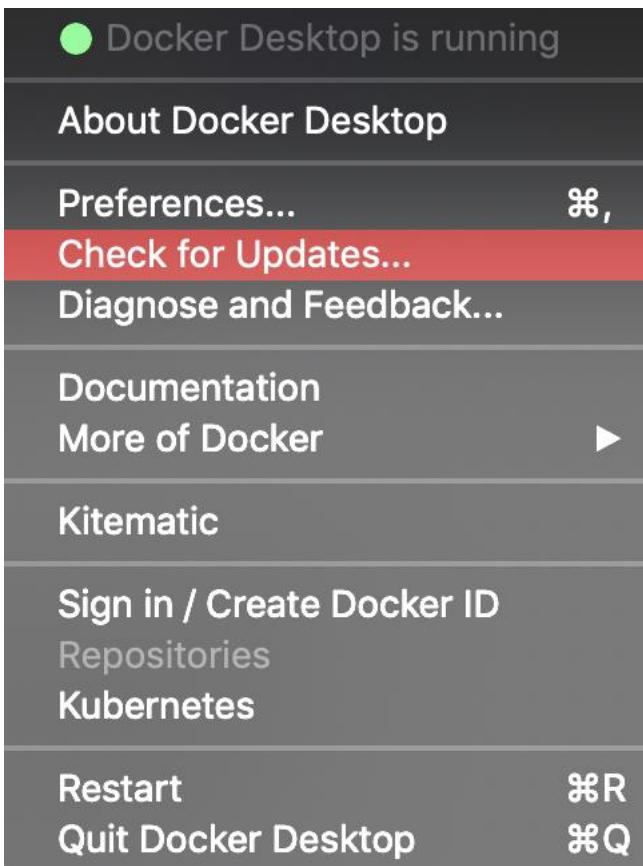
Copy Submenu:

- Copy link address
- Copy response
- Copy as fetch
- Copy as Node.js fetch
- Copy as cURL
- Copy all as fetch
- Copy all as Node.js fetch
- Copy all as cURL
- Copy all as HAR** (highlighted)
- ...



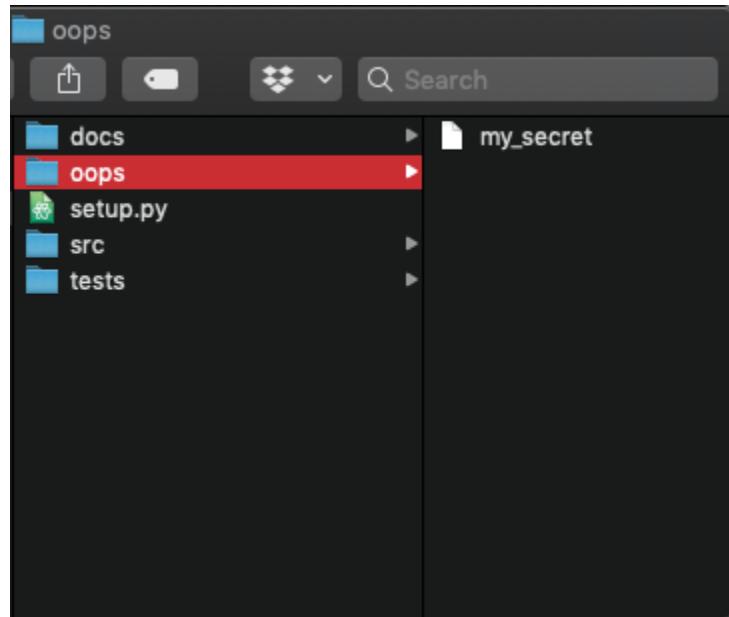
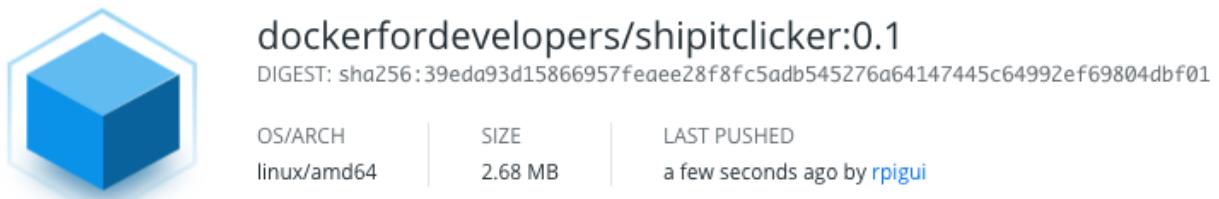
Chapter 12: Introduction to Container Security





Chapter 13: Docker Security Fundamentals and Best Practices

The screenshot shows the Docker Hub search interface with the query 'couchbase'. The results page displays two official Docker images: 'couchbase' and 'ubuntu'. The 'couchbase' image is highlighted. Both images have a red circular icon with a white 'C' and a blue 'Docker Certified' badge. The 'couchbase' image has '10M+' downloads and '501' stars. The 'ubuntu' image has '10M+' downloads and '10K+' stars. Both images are labeled as 'OFFICIAL IMAGE'.



Chapter 15: Scanning, Monitoring, and Using Third-Party Tools

The screenshot displays the cAdvisor interface, which provides monitoring and configuration for Docker containers. At the top, there's a navigation bar with a root link and a sidebar titled "Containers".

Docker Containers Subcontainers:

- /000-metadata
- /001-sysfs
- /002-binfmt
- /003-sysctl
- /004-format
- /005-extend
- /006-mount
- /007-swap
- /008-move-logs
- /009-mount-docker
- /010-mount-kube-images
- /011-bridge
- /012-ip
- /docker
- /kmsg
- /kubepods
- /podruntime
- /systemresvred
- /write-and-rotate-logs

Isolation:

CPU
Shares: 1024 shares
Allowed Cores: 0 1 2 3

Containers Overview:

Running container char...	5m
100 %	1
Running cont...	1m
Stopped cont...	1m
Running containers by image	1h

Running containers by image:

1.00	datadog/agent:7
0.00	anchore/engine-cli:latest
0.00	anchore/engine-db-preload:latest
0.00	gcr.io/google-containers/cadvisor:l...
0.00	anchore/anchore-engine:v0.6.1

Security Configuration Detection Rules:

78 rules defined

Rule	Severity	Source	Scope
Container Image Vulnerability Detected	DEFAULT	HIGH	twistlock
Container Violated Compliance Standards	DEFAULT	HIGH	twistlock

```

NAME: datadog-agent
LAST DEPLOYED: Wed Jun  3 10:23:37 2020
NAMESPACE: default
STATUS: deployed
REVISION: 1
TEST SUITE: None
NOTES:
Datadog agents are spinning up on each node in your cluster. After a few
minutes, you should see your agents starting in your event stream:
https://app.datadoghq.com/event/stream

```



All Dashboards				
	Name	Modified	Popularity	
<input type="checkbox"/>	★↑ Security Signals	Jun 3, 2020		H
<input type="checkbox"/>	★ Docker - Overview Preset	-		docker
<input type="checkbox"/>	★ Host Counts Preset	-		DATADOG
<input type="checkbox"/>	★ Kubernetes - Overview Preset	-		Kubernetes
<input type="checkbox"/>	★ Kubernetes Pods Overview Preset	-		Kubernetes
<input type="checkbox"/>	★ System - Disk I/O Preset	-		system
<input type="checkbox"/>	★ System - Metrics Preset	-		system
<input type="checkbox"/>	★ System - Networking Preset	-		system

Chapter 16: Conclusion – End of the Road, but not the Journey