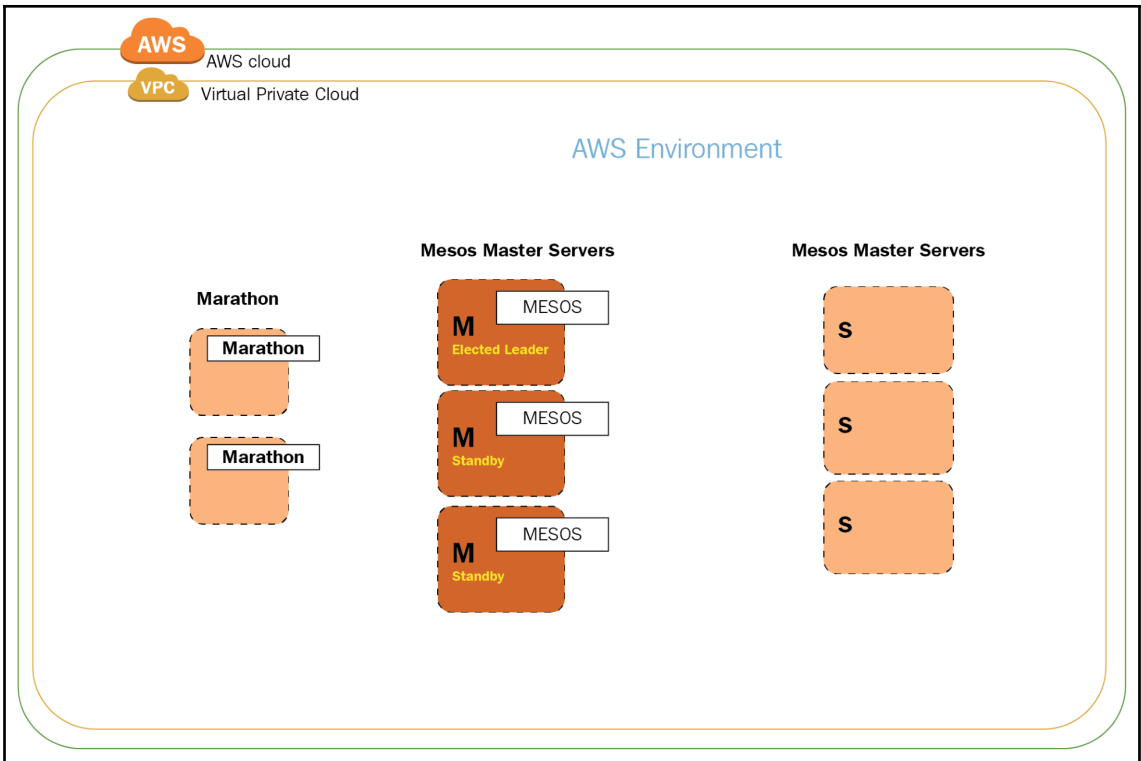
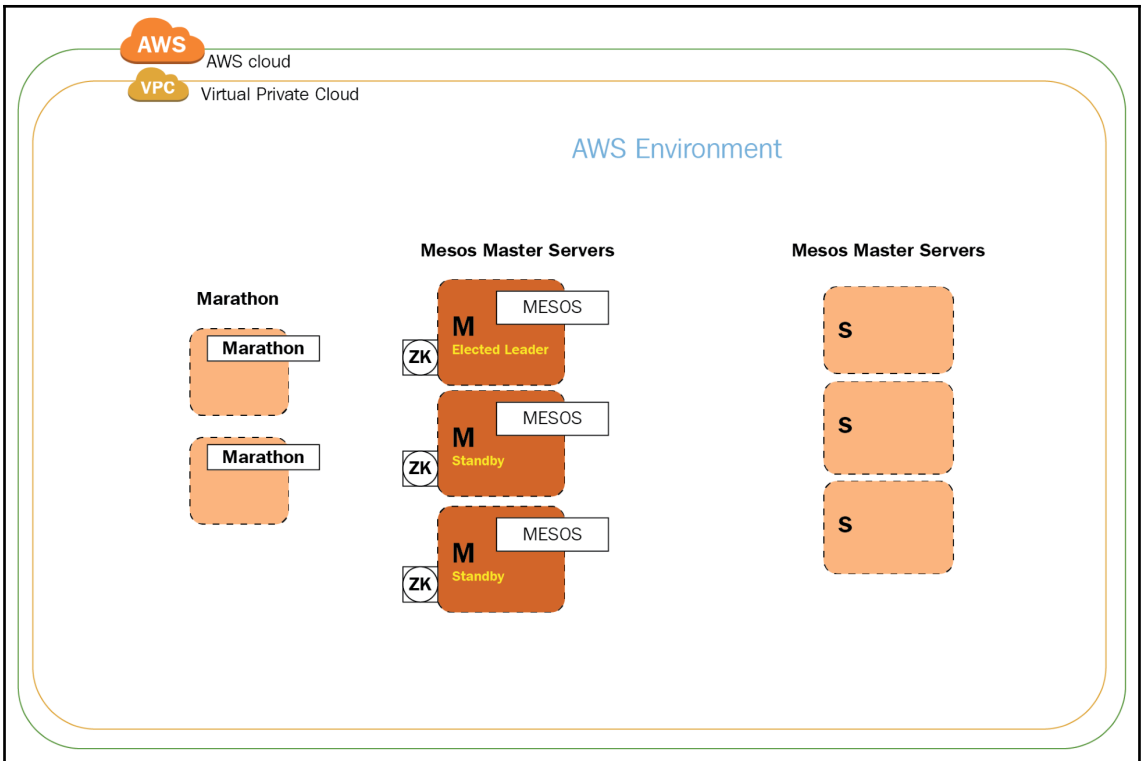


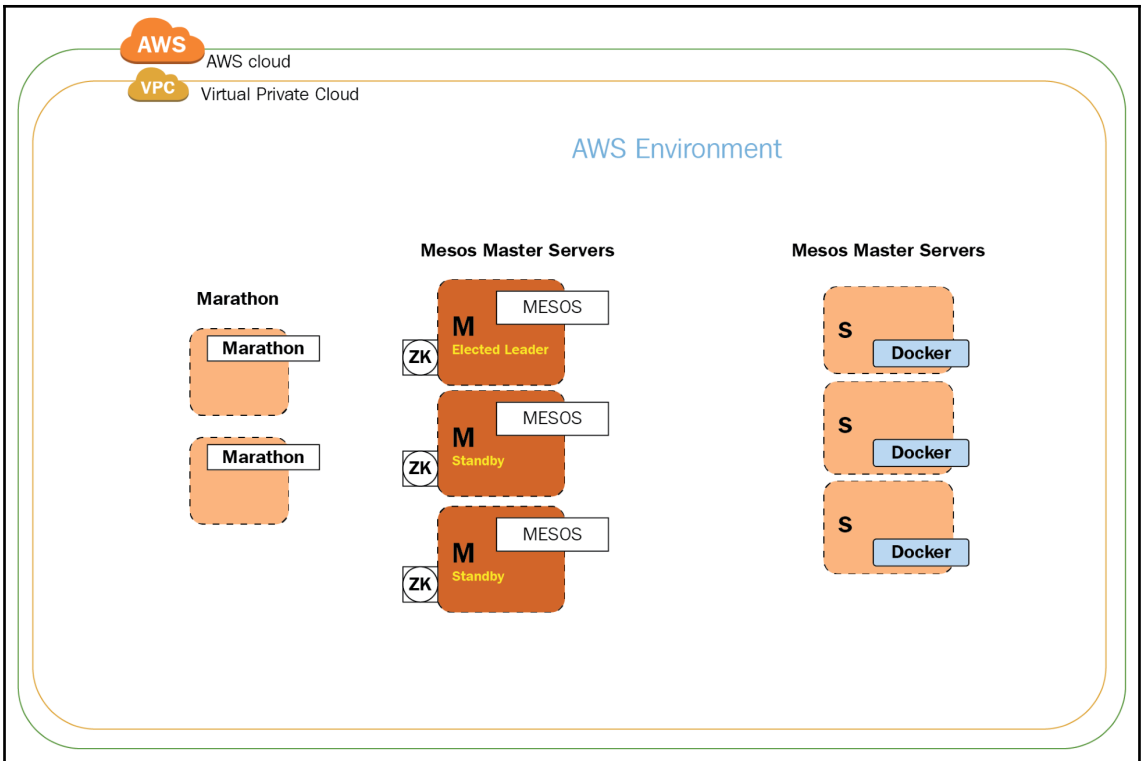
# Chapter 01: Deploying Apache Mesos on AWS

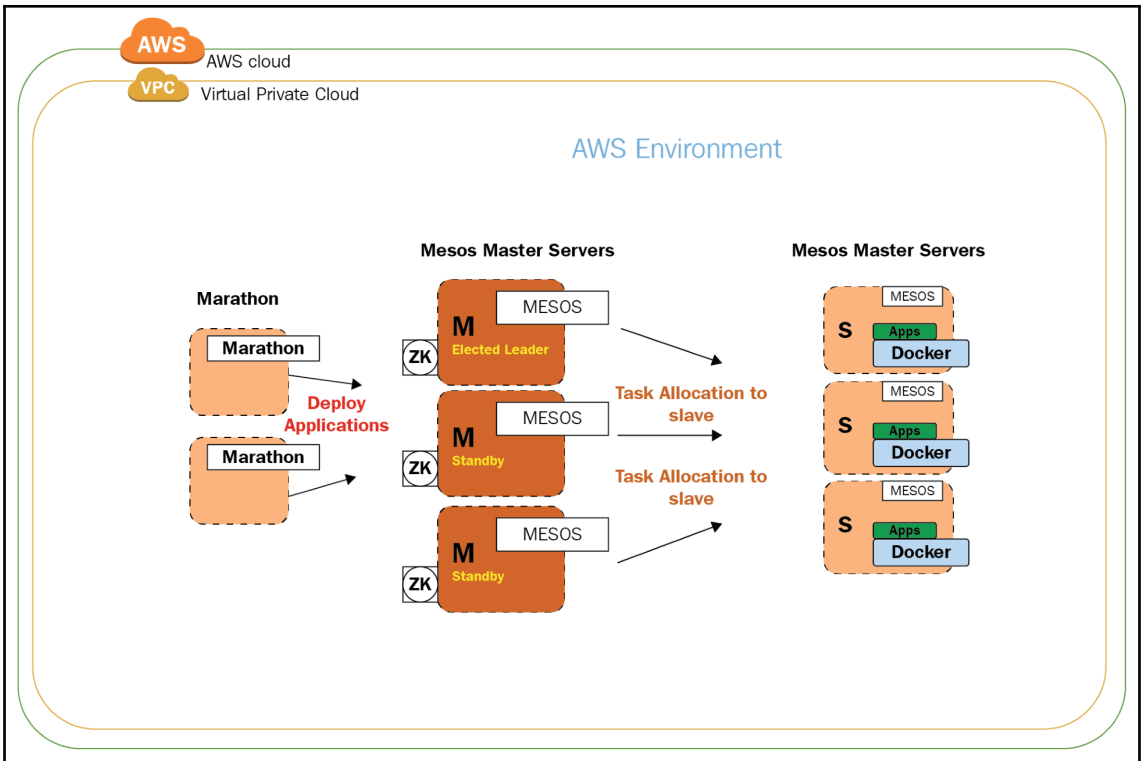


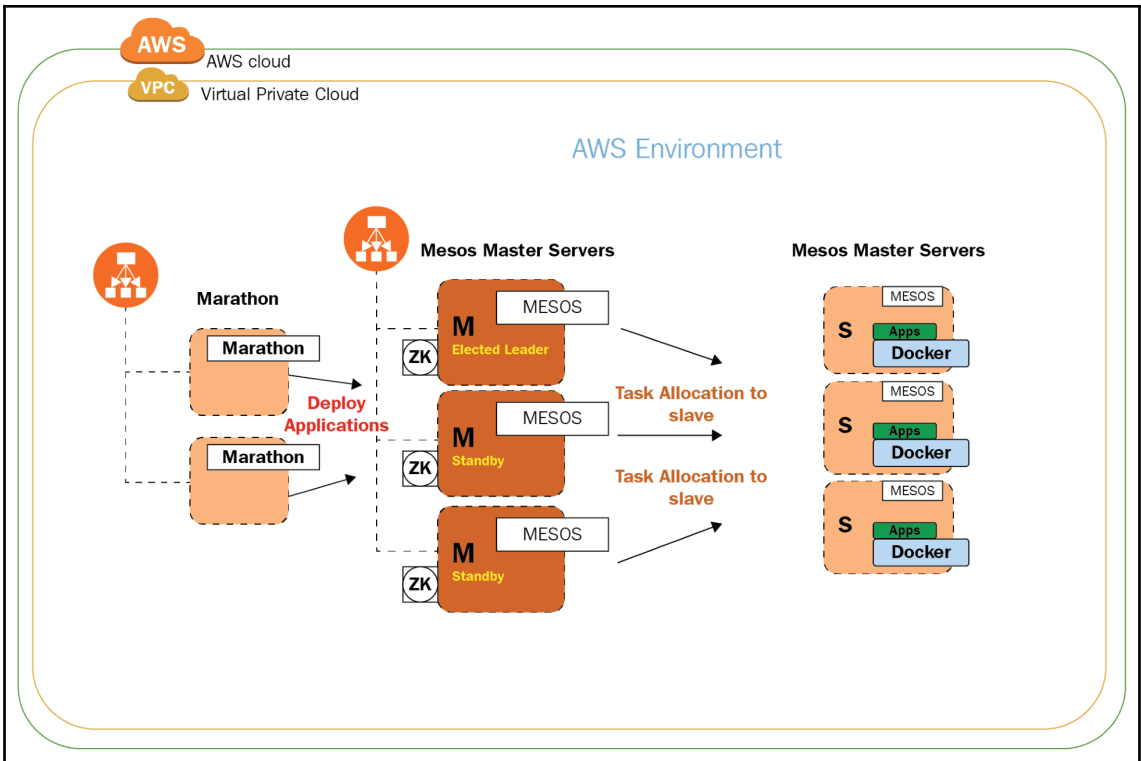


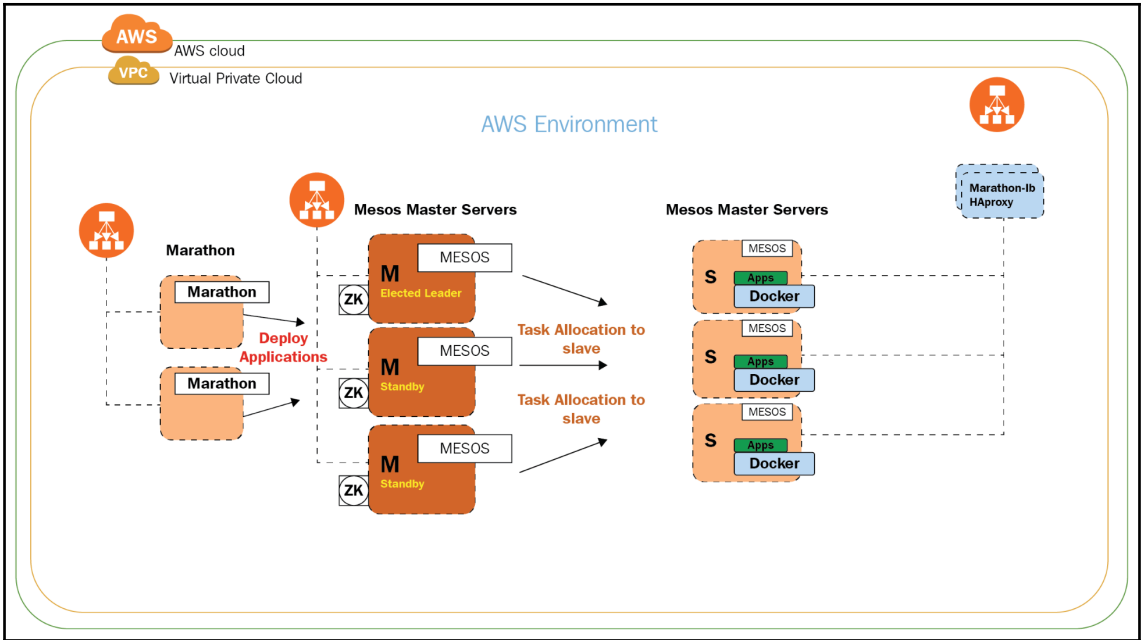














# Chapter 02: Setting up Mesos Single-Cluster Nodes



## Create VPC ✕

A VPC is an isolated portion of the AWS cloud populated by AWS objects, such as Amazon EC2 instances. You must specify an IPv4 address range for your VPC. Specify the IPv4 address range as a Classless Inter-Domain Routing (CIDR) block; for example, 10.0.0.0/16. You cannot specify an IPv4 CIDR block larger than /16. You can optionally associate an Amazon-provided IPv6 CIDR block with the VPC.

**Name tag**  ⓘ

**IPv4 CIDR block\***  ⓘ

**IPv6 CIDR block\***  No IPv6 CIDR Block ⓘ  Amazon provided IPv6 CIDR block

**Tenancy**  ⓘ

[Cancel](#) [Yes, Create](#)

[Create VPC](#) ↻ ⚙️ ⓘ

Search VPCs and their properties << 1 to 3 of 3 VPCs >>

| <input type="checkbox"/> | Name            | VPC ID          | State     | IPv4 CIDR     | IPv6 CIDR | DHCP options set | Route table      | Network   |
|--------------------------|-----------------|-----------------|-----------|---------------|-----------|------------------|------------------|-----------|
| <input type="checkbox"/> | CloudformwerVPC | vpc-6b6b4503    | available | 10.10.10.0/24 |           | dopt-311c8059    | rtb-6ad52101     | acl-a2a0a |
| <input type="checkbox"/> | Mesos           | vpc-0b2ce19c... | available | 10.0.0.0/16   |           | dopt-311c8059    | rtb-074467e35... | acl-05e7c |
| <input type="checkbox"/> |                 | vpc-7e50d016    | available | 172.31.0.0/16 |           | dopt-311c8059    | rtb-b9532ad1     | acl-39046 |

## Create subnet

Specify your subnet's IP address block in CIDR format, for example, 10.0.0.0/24. IPv4 block sizes must be between a /16 netmask and /28 netmask, and can be the same size as your VPC. An IPv6 CIDR block must be a /64 CIDR block.

**Name tag**  ⓘ

**VPC\***  ⓘ

| VPC CIDRs | CIDR        | Status     | Status Reason |
|-----------|-------------|------------|---------------|
|           | 10.0.0.0/16 | associated |               |

**Availability Zone**  ⓘ

**IPv4 CIDR block\***  ⓘ

\* Required [Cancel](#) [Create](#)

VPC Dashboard

Filter by VPC:

Virtual Private Cloud

Your VPCs

- Subnets
- Route Tables
- Internet Gateways
- Egress Only Internet Gateways
- DHCP Options Sets
- Elastic IPs
- Endpoints
- Endpoint Services
- NAT Gateways
- Peering Connections

Security

Network ACLs

**Create Subnet** Subnet Actions

mesos

<< 1 to 2 of 2 Subnets >>

| Name             | Subnet ID       | State     | VPC                  | IPv4 CIDR   | Available IPv4 | IF |
|------------------|-----------------|-----------|----------------------|-------------|----------------|----|
| 10.0.1.0 - mesos | subnet-a91e1bcd | available | vpc-6066b51b   Mesos | 10.0.1.0/24 | 251            |    |
| 10.0.2.0 - mesos | subnet-cba7fae4 | available | vpc-6066b51b   Mesos | 10.0.2.0/24 | 251            |    |

subnet-cba7fae4 | 10.0.2.0 - mesos

Summary | Route Table | Network ACL | Flow Logs | Tags

Subnet ID: subnet-cba7fae4 | 10.0.2.0 - mesos

Availability Zone: us-east-1b

IPv4 CIDR: 10.0.2.0/24

IPv6 CIDR:

State: available

Route table: rtb-bd75b0c1

Network ACL: acl-69ba9713

Default subnet: no

VPC Dashboard

Filter by VPC:

Virtual Private Cloud

Your VPCs

- Subnets
- Route Tables
- Internet Gateways
- Egress Only Internet Gateways
- DHCP Options Sets
- Elastic IPs
- Endpoints
- Endpoint Services
- NAT Gateways
- Peering Connections

Security

Network ACLs

**Create Route Table** Delete Route Table Set As Main Table

mesos

<< 1 to 1 of 1 Route Table >>

| Name | Route Table ID | Explicitly Associat | Main | VPC                  |
|------|----------------|---------------------|------|----------------------|
|      | rtb-bd75b0c1   | 0 Subnets           | Yes  | vpc-6066b51b   Mesos |

Select a route table above

**VPC Dashboard**

Filter by VPC:

Virtual Private Cloud

Your VPCs

- Subnets
- Route Tables
- Internet Gateways
- Egress Only Internet Gateways
- DHCP Options Sets
- Elastic IPs
- Endpoints
- Endpoint Services
- NAT Gateways
- Peering Connections

Security

Network ACLs

**Create Subnet** Subnet Actions

mesos

| Name             | Subnet ID       | State     | VPC                  | IPv4 CIDR   | Available IPv4 | IF |
|------------------|-----------------|-----------|----------------------|-------------|----------------|----|
| 10.0.1.0 - mesos | subnet-a91e1bcd | available | vpc-6066b51b   Mesos | 10.0.1.0/24 | 251            |    |
| 10.0.2.0 - mesos | subnet-cba7fae4 | available | vpc-6066b51b   Mesos | 10.0.2.0/24 | 251            |    |

subnets

subnet-cba7fae4 | 10.0.2.0 - mesos

Summary Route Table Network ACL Flow Logs Tags

**Edit**

Route Table: rtb-bd75b0c1

| Destination | Target |
|-------------|--------|
| 10.0.0.0/16 | local  |

**EC2 Dashboard**

- Events
- Tags
- Reports
- Limits

INSTANCES

- Instances
- Launch Templates
- Spot Requests
- Reserved Instances
- Dedicated Hosts
- Scheduled Instances

IMAGES

- AMIs
- Bundle Tasks

ELASTIC BLOCK STORE

- Volumes
- Snapshots

NETWORK & SECURITY

**Resources**

You are using the following Amazon EC2 resources in the US East (N. Virginia) region:

- 0 [Running Instances](#)
- 0 [Elastic IPs](#)
- 0 [Dedicated Hosts](#)
- 1 [Snapshots](#)
- 3 [Volumes](#)
- 0 [Load Balancers](#)
- 13 [Key Pairs](#)
- 39 [Security Groups](#)
- 0 [Placement Groups](#)

Learn more about the latest in AWS Compute from AWS re:Invent 2017 by viewing the [EC2 Videos](#).

**Create Instance**

To start using Amazon EC2 you will want to launch a virtual server, known as an Amazon EC2 instance.

**Launch Instance**

Note: Your instances will launch in the US East (N. Virginia) region

**Service Health**

**Service Status:** ✔ US East (N. Virginia): This service is operating normally

**Availability Zone Status:**

**Scheduled Events**

**US East (N. Virginia):** No events

**Account Attributes**

- [Supported Platforms](#)
- VPC
- [Default VPC](#)
- vpc-520bf734
- [Resource ID length management](#)

**Additional Information**

- [Getting Started Guide](#)
- [Documentation](#)
- [All EC2 Resources](#)
- [Forums](#)
- [Pricing](#)
- [Contact Us](#)

**AWS Marketplace**

Find free software trial products in the AWS Marketplace from the [EC2 Launch Wizard](#). Or try these popular AMIs:

- [Barracuda NextGen Firewall F-Series - PAYG](#)

Provided by Barracuda Networks, Inc.

## Step 1: Choose an Amazon Machine Image (AMI)

[Cancel and Exit](#)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace, or you can select one of your own AMIs.

Quick Start

My AMIs

**AWS Marketplace**

Community AMIs

**Categories**

**All Categories**

- Software Infrastructure (136)
- Developer Tools (11)
- Business Software (8)

**Operating System**

[Clear Filter](#)

▼ All Marketplace

1 to 25 of 142 Products

**CentOS** **CentOS 7 (x86\_64) - with Updates HVM** [Select](#)

★★★★★ (50) | 1801\_01 [Previous versions](#) | Sold by [Centos.org](#)

\$0.00/hr for software + AWS usage fees

**Free tier eligible** Linux/Unix, CentOS 7 | 64-bit Amazon Machine Image (AMI) | Updated: 1/14/18

This is the Official CentOS 7 x86\_64 HVM image that has been built with a minimal profile, suitable for use in HVM instance types only. The image contains just enough packages to ...

[More info](#)

**CentOS** **CentOS 6 (x86\_64) - with Updates HVM** [Select](#)

★★★★★ (33) | 1801\_01 [Previous versions](#) | Sold by [Centos.org](#)

\$0.00/hr for software + AWS usage fees

**Free tier eligible** Linux/Unix, CentOS 6 | 64-bit Amazon Machine Image (AMI) | Updated: 1/14/18

This is the Official CentOS 6 x86\_64 HVM image that has been built with a minimal profile. The image contains just enough packages to run within AWS, bring up an SSH Server and ...

[More info](#)

### Step 3: Configure Instance Details

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of instances  [Launch into Auto Scaling Group](#)

You may want to consider launching these instances into an Auto Scaling Group to help you maintain application availability and for easy scaling in the future. [Learn how Auto Scaling can help your application stay healthy and cost effective.](#)

Purchasing option  Request Spot instances

Network  [Create new VPC](#)

Subnet  [Create new subnet](#)

Auto-assign Public IP

Placement group  Add instance to placement group.

Capacity Reservation  [Create new Capacity Reservation](#)

IAM role  [Create new IAM role](#)

Shutdown behavior

Enable termination protection  Protect against accidental termination

Monitoring  Enable CloudWatch detailed monitoring  
Additional charges apply.

Tenancy  Additional charges will apply for dedicated tenancy.

## Step 7: Review Instance Launch

provided by Centos.org

| Type ⓘ | Protocol ⓘ | Port Range ⓘ | Source ⓘ  | Description ⓘ |
|--------|------------|--------------|-----------|---------------|
| SSH    | TCP        | 22           | 0.0.0.0/0 |               |

### ▼ Instance Details

[Edit instance details](#)

Number of instances 5 Purchasing option On demand  
 Network vpc-0b2ce19c3f912b93b  
 Subnet subnet-059c7be243426bb7b  
 EBS-optimized No  
 Monitoring No  
 Termination protection No  
 Shutdown behavior Stop  
 Capacity Reservation open  
 IAM role None  
 Tenancy default  
 T2/T3 Unlimited Disabled  
 Host ID  
 Affinity Off  
 Kernel ID Use default  
 RAM disk ID Use default  
 User data  
 Assign Public IP Yes  
 Assign IPv6 IP Use subnet setting (Disable)  
 Network interfaces

| Device | Network Interface     | Subnet                   | Primary IP  | Secondary IP Addresses |
|--------|-----------------------|--------------------------|-------------|------------------------|
| eth0   | New network interface | subnet-059c7be243426bb7b | Auto-assign |                        |

### ▶ Storage

[Edit storage](#)

### ▶ Tags

[Edit tags](#)

Activate Windows  
 Go to Settings to activate Windows.
 Cancel Previous Launch

### Select an existing key pair or create a new key pair ✕

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about [removing existing key pairs from a public AMI](#).

**Key pair name**

... You have to download the **private key file** (\*.pem file) before you can continue. **Store it in a secure and accessible location.** You will not be able to download the file again after it's created.

EC2 Dashboard

Filter by tags and attributes or search by keyword

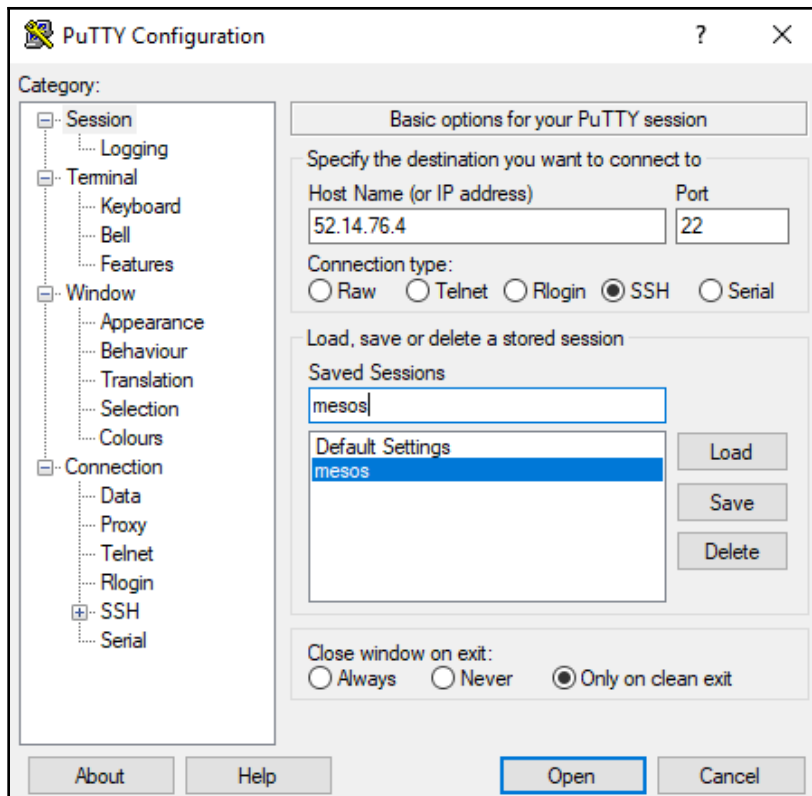
| <input type="checkbox"/>            | Name | Instance ID          | Instance Type | Availability Zone | Instance State | Status Checks  | Alarm Status |
|-------------------------------------|------|----------------------|---------------|-------------------|----------------|----------------|--------------|
| <input checked="" type="checkbox"/> |      | i-005d34a68f7a885d7  | t2.micro      | us-east-1a        | running        | 2/2 checks ... | None         |
| <input type="checkbox"/>            |      | i-0515e9d9fec5b5f505 | t2.micro      | us-east-1a        | running        | 2/2 checks ... | None         |
| <input type="checkbox"/>            |      | i-0aafd3caf3a5f5982  | t2.micro      | us-east-1a        | running        | 2/2 checks ... | None         |
| <input type="checkbox"/>            |      | i-0ad5f98bafa383e39  | t2.micro      | us-east-1a        | running        | 2/2 checks ... | None         |
| <input type="checkbox"/>            |      | i-0d75c8c81bee69474  | t2.micro      | us-east-1a        | running        | 2/2 checks ... | None         |

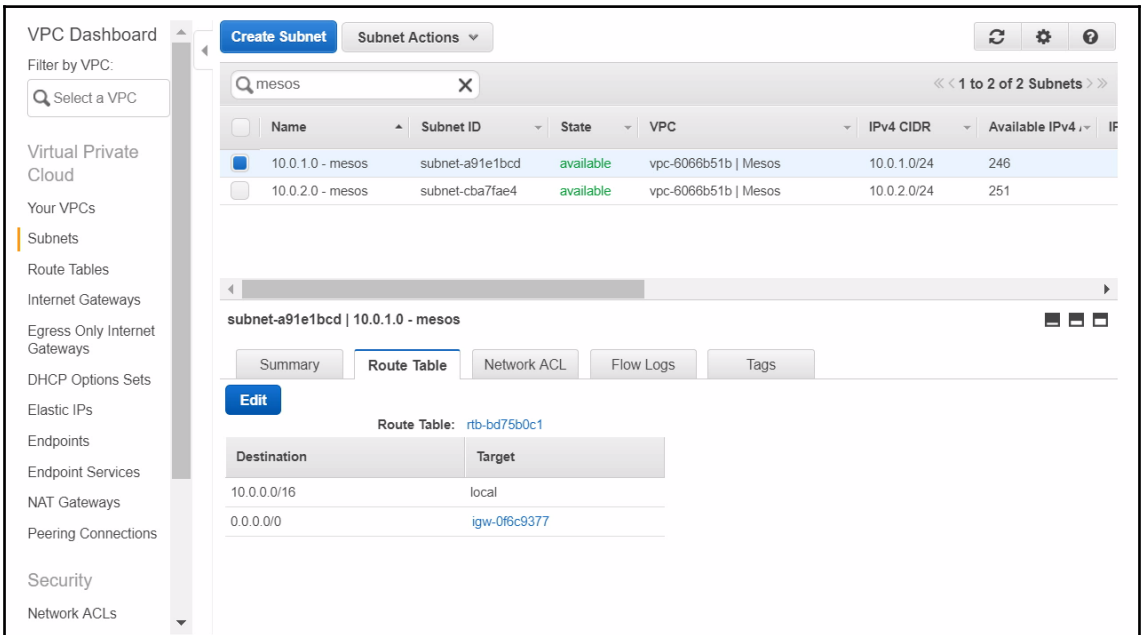
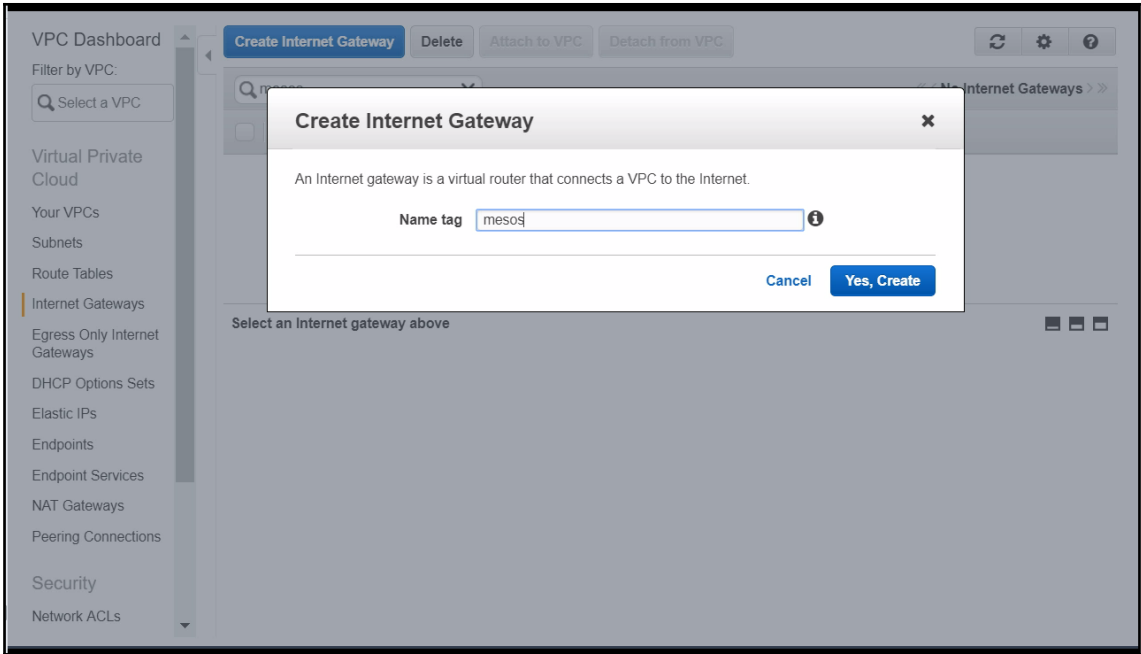
Instance: **i-005d34a68f7a885d7**    Public IP: 34.201.25.46

Description
Status Checks
Monitoring
Tags
Usage Instructions

|                |                     |                   |                            |
|----------------|---------------------|-------------------|----------------------------|
| Instance ID    | i-005d34a68f7a885d7 | Public DNS (IPv4) | -                          |
| Instance state | running             | IPv4 Public IP    | 34.201.25.46               |
| Instance type  | t2.micro            | IPv6 IPs          | -                          |
| Elastic IPs    |                     | Private DNS       | ip-10-0-1-191.ec2.internal |







```
centos@ip-10-0-1-191:~  
login as: centos  
Authenticating with public key "imported-openssh-key"  
Last login: Sun Feb 25 14:59:53 2018 from 27.96.89.66  
[centos@ip-10-0-1-191 ~]$
```

**EC2 Dashboard**

**Resources**

You are using the following Amazon EC2 resources in the US East (N. Virginia) region:

|                                     |                                    |
|-------------------------------------|------------------------------------|
| 5 <a href="#">Running Instances</a> | 0 <a href="#">Elastic IPs</a>      |
| 0 <a href="#">Dedicated Hosts</a>   | 1 <a href="#">Snapshots</a>        |
| 8 <a href="#">Volumes</a>           | 0 <a href="#">Load Balancers</a>   |
| 14 <a href="#">Key Pairs</a>        | 40 <a href="#">Security Groups</a> |
| 0 <a href="#">Placement Groups</a>  |                                    |

[Learn more about the latest in AWS Compute from AWS re-Invent 2017 by viewing the EC2 Videos.](#)

**Create Instance**

To start using Amazon EC2 you will want to launch a virtual server, known as an Amazon EC2 instance.

[Launch Instance](#)

Note: Your instances will launch in the US East (N. Virginia) region

**Service Health**

**Service Status:**

- US East (N. Virginia): This service is operating normally

**Availability Zone Status:**

**Scheduled Events**

**US East (N. Virginia):** No events

**Account Attributes**

**Supported Platforms**

- VPC

**Default VPC**

- vpc-520bf734

**Resource ID length management**

**Additional Information**

- [Getting Started Guide](#)
- [Documentation](#)
- [All EC2 Resources](#)
- [Forums](#)
- [Pricing](#)
- [Contact Us](#)

**AWS Marketplace**

Find free software trial products in the AWS Marketplace from the [EC2 Launch Wizard](#). Or try these popular AMIs:

- [Barracuda NextGen Firewall F-Series - PAYG](#)

Provided by Barracuda Networks, Inc.

EC2 Dashboard

Events

Tags

Reports

Limits

INSTANCES

**Instances**

Launch Templates

Spot Requests

Reserved Instances

Dedicated Hosts

Scheduled Instances

IMAGES

AMIs

Bundle Tasks

ELASTIC BLOCK STORE

Volumes

Snapshots

Launch Instance Connect Actions

Filter by tags and attributes or search by keyword

1 to 8 of 8

| Name          | Instance ID         | Instance Type | Availability Zone | Instance State | Status Checks  | Alarm Status |
|---------------|---------------------|---------------|-------------------|----------------|----------------|--------------|
| marathon1     | i-005d34a68f7a885d7 | t2.micro      | us-east-1a        | running        | 2/2 checks ... | None         |
| marathon2     | i-01a7b3f49e4fc7ee0 | t2.micro      | us-east-1b        | running        | Initializing   | None         |
| mesos-master  | i-0515e9d9fec5bf505 | t2.micro      | us-east-1a        | running        | 2/2 checks ... | None         |
| mesos-master3 | i-0a3cb68504d697e08 | t2.micro      | us-east-1b        | running        | Initializing   | None         |
| mesos-slave1  | i-0aafd3caf3a5f5882 | t2.micro      | us-east-1a        | running        | 2/2 checks ... | None         |
| mesos-slave2  | i-0ad5f98bafa383e39 | t2.micro      | us-east-1a        | running        | 2/2 checks ... | None         |
| mesos-slave3  | i-0c18cde69bc0d1060 | t2.micro      | us-east-1b        | pending        | Initializing   | None         |
| mesos-master2 | i-0d75c8c81bee69474 | t2.micro      | us-east-1a        | running        | 2/2 checks ... | None         |

Select an instance above

EC2 Dashboard

Events

Tags

Reports

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INSTANCES

**Instances**

Launch Templates

Spot Requests

Reserved Instances

Dedicated Hosts

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Snapshots

Launch Instance Connect Actions

Filter by tags and attributes or search by keyword

1 to 8 of 8

| Name          | Instance ID         | Instance Type | Availability Zone | Instance State | Status Checks  | Alarm Status |
|---------------|---------------------|---------------|-------------------|----------------|----------------|--------------|
| marathon1     | i-005d34a68f7a885d7 | t2.micro      | us-east-1a        | running        | 2/2 checks ... | None         |
| marathon2     | i-01a7b3f49e4fc7ee0 | t2.micro      | us-east-1b        | running        | Initializing   | None         |
| mesos-master1 | i-0515e9d9fec5bf505 | t2.micro      | us-east-1a        | running        | 2/2 checks ... | None         |
| mesos-master3 | i-0a3cb68504d697e08 | t2.micro      | us-east-1b        | running        | Initializing   | None         |
| mesos-slave1  | i-0aafd3caf3a5f5882 | t2.micro      | us-east-1a        | running        | 2/2 checks ... | None         |
| mesos-slave2  | i-0ad5f98bafa383e39 | t2.micro      | us-east-1a        | running        | 2/2 checks ... | None         |
| mesos-slave3  | i-0c18cde69bc0d1060 | t2.micro      | us-east-1b        | running        | Initializing   | None         |
| mesos-master2 | i-0d75c8c81bee69474 | t2.micro      | us-east-1a        | running        | 2/2 checks ... | None         |

Instance: **i-0c18cde69bc0d1060 (mesos-slave3)** Public IP: 54.161.54.226

| Description    | Status Checks       | Monitoring | Tags | Usage Instructions                     |
|----------------|---------------------|------------|------|--|
| Instance ID    | i-0c18cde69bc0d1060 |            |      | Public DNS (IPv4) -                    |
| Instance state | running             |            |      | IPv4 Public IP 54.161.54.226           |
| Instance type  | t2.micro            |            |      | IPv6 IPs -                             |
| Elastic IPs    |                     |            |      | Private DNS ip-10-0-2-141.ec2.internal |

```
[centos@mesos ~]$ sudo rpm -Uvh http://repos.mesosphere.io/el/7/noarch/RPMS/mesosphere-el-repo-7-1.noarch.rpm
Retrieving http://repos.mesosphere.io/el/7/noarch/RPMS/mesosphere-el-repo-7-1.noarch.rpm
Preparing... ##### [100%]
Updating / installing...
  1:mesosphere-el-repo-7-1 ##### [100%]
[centos@mesos ~]$
```

```
[centos@mesos ~]$ sudo yum install mesosphere-zookeeper
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
 * base: mirrors.rit.edu
 * extras: linux.cc.lehigh.edu
 * updates: mirror.atlanticmetro.net
Resolving Dependencies
There are unfinished transactions remaining. You might consider running yum-complete-transaction, or "yum-complete-transaction --cleanup-only" and "yum history redo last", first to finish them. If those don't work you'll have to try removing/installing packages by hand (maybe package-cleanup can help).
--> Running transaction check
--> Package mesosphere-zookeeper.x86_64 0:3.4.6-0.1.20141204175332.centos7 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

=====
Package                Arch      Version                               Repository      Size
=====
Installing:
mesosphere-zookeeper   x86_64    3.4.6-0.1.20141204175332.centos7     mesosphere     2.8 M
=====
Transaction Summary
=====
Install 1 Package

Total download size: 2.8 M
Installed size: 3.5 M
Is this ok [y/d/N]: y
```

```
Downloading packages:
mesosphere-zookeeper-3.4.6-0.1.20141204175332.centos7.x86_64.rpm | 2.8 MB 00:00:00
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
Warning: RPMDB altered outside of yum.
Installing : mesosphere-zookeeper-3.4.6-0.1.20141204175332.centos7.x86_64 1/1
Verifying  : mesosphere-zookeeper-3.4.6-0.1.20141204175332.centos7.x86_64 1/1

Installed:
mesosphere-zookeeper.x86_64 0:3.4.6-0.1.20141204175332.centos7

Complete!
[centos@mesos ~]$
```

```
[centos@mesos ~]$ sudo yum install mesos
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
 * base: mirrors.rit.edu
 * extras: linux.cc.lehigh.edu
 * updates: mirror.cs.pitt.edu
Resolving Dependencies
There are unfinished transactions remaining. You might consider running yum-complete-transaction, or "yum-complete-transaction --cleanup-only" and "yum history redo last", first to finish them. If those don't work you'll have to try removing/installing packages by hand (maybe package-cleanup can help).
--> Running transaction check
--> Package mesos.x86_64 0:1.5.0-2.0.1 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

=====
Package                Arch          Version        Repository      Size
=====
Installing:
mesos                  x86_64        1.5.0-2.0.1    mesosphere      76 M

Transaction Summary
=====
Install 1 Package

Total download size: 76 M
Installed size: 244 M
Is this ok [y/d/N]: y
```

```
Downloading packages:
mesos-1.5.0-2.0.1.el7.x86_64.rpm | 76 MB 00:00:01
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Installing : mesos-1.5.0-2.0.1.x86_64                1/1
  Verifying  : mesos-1.5.0-2.0.1.x86_64                1/1

Installed:
mesos.x86_64 0:1.5.0-2.0.1

Complete!
[centos@mesos ~]$
```

```
[centos@mesos ~]$ sudo yum-config-manager --add-repo https://download.docker.com/linux/centos/docker-ce.repo
Loaded plugins: fastestmirror
adding repo from: https://download.docker.com/linux/centos/docker-ce.repo
grabbing file https://download.docker.com/linux/centos/docker-ce.repo to /etc/yum.repos.d/docker-ce.repo
repo saved to /etc/yum.repos.d/docker-ce.repo
[centos@mesos ~]$
```

```
[centos@mesos ~]$ sudo yum install docker -ce
```

---

Dependencies Resolved

```
=====
Package           Arch           Version                Repository              Size
=====
Installing:
docker-ce         x86_64         18.03.0.ce-1.el7.centos  docker-ce-stable       35 M
=====
```

Transaction Summary

```
=====
Install 1 Package
=====
```

Total download size: 35 M

Installed size: 151 M

Is this ok [y/d/N]: y

Downloading packages:

```
docker-ce-18.03.0.ce-1.el7.centos.x86_64.rpm | 35 MB 00:00:00
```

Running transaction check

Running transaction test

Transaction test succeeded

Running transaction

```
Installing : docker-ce-18.03.0.ce-1.el7.centos.x86_64 1/1
```

```
Verifying  : docker-ce-18.03.0.ce-1.el7.centos.x86_64 1/1
```

Installed:

```
docker-ce.x86_64 0:18.03.0.ce-1.el7.centos
```

Complete!

```
[centos@mesos ~]$ █
```





```
[centos@mesos mesos]$ ifconfig
docker0: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500
    inet 172.17.0.1 netmask 255.255.0.0 broadcast 172.17.255.255
    ether 02:42:73:ef:ab:38 txqueuelen 0 (Ethernet)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 9001
    inet 10.0.1.42 netmask 255.255.255.0 broadcast 10.0.1.255
    inet6 fe80::92:3ff:fe0d:74d8 prefixlen 64 scopeid 0x20<link>
    ether 02:92:03:0d:74:d8 txqueuelen 1000 (Ethernet)
    RX packets 215385 bytes 265091215 (252.8 MiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 100038 bytes 7227084 (6.8 MiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1 (Local Loopback)
    RX packets 6 bytes 416 (416.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 6 bytes 416 (416.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

```
[centos@mesos conf]$ cat zoo.cfg
# Licensed to the Apache Software Foundation (ASF) under one or more
# contributor license agreements.  See the NOTICE file distributed with
# this work for additional information regarding copyright ownership.
# The ASF licenses this file to You under the Apache License, Version 2.0
# (the "License"); you may not use this file except in compliance with
# the License.  You may obtain a copy of the License at
#
#     http://www.apache.org/licenses/LICENSE-2.0
#
# Unless required by applicable law or agreed to in writing, software
# distributed under the License is distributed on an "AS IS" BASIS,
# WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
# See the License for the specific language governing permissions and
# limitations under the License.

maxClientCnxns=50
# The number of milliseconds of each tick
tickTime=2000
# The number of ticks that the initial
# synchronization phase can take
initLimit=10
# The number of ticks that can pass between
# sending a request and getting an acknowledgement
syncLimit=5
# the directory where the snapshot is stored.
dataDir=/var/lib/zookeeper
# the port at which the clients will connect
clientPort=2181
[centos@mesos conf]$ █
```

```
[centos@mesos conf]$ sudo vi zoo.cfg █
```

```
server.1=10.0.1.42:2888:3888 █
```

```
[centos@mesos mesos-master]$ cd /etc/mesos-master/
[centos@mesos mesos-master]$ ls -rtl
total 16
-rw-rw-r--. 1 root root 15 Feb  8 16:22 work_dir
-rw-rw-r--. 1 root root  2 Feb  8 16:22 quorum
-rw-r--r--. 1 root root 10 Mar  3 06:49 ip
-rw-r--r--. 1 root root  6 Mar 28 04:55 hostname
drwxr-xr-x. 2 root root 67 Mar 28 05:00 bak
[centos@mesos mesos-master]$ █
```

```

[centos@mesos mesos-master]$ sudo service zookeeper start
Redirecting to /bin/systemctl start zookeeper.service
[centos@mesos mesos-master]$ sudo service zookeeper status
Redirecting to /bin/systemctl status zookeeper.service
● zookeeper.service - Apache ZooKeeper
   Loaded: loaded (/usr/lib/systemd/system/zookeeper.service; enabled; vendor preset: disabled)
   Active: active (running) since Wed 2018-03-28 05:05:42 UTC; 2s ago
     Main PID: 7497 (java)
        Memory: 34.7M
       CGroup: /system.slice/zookeeper.service
               └─7497 java -Dzookeeper.log.dir=. -Dzookeeper.root.logger=INFO,CONSOLE -cp /opt/mesospher...

Mar 28 05:05:43 mesos zookeeper[7497]: 2018-03-28 05:05:43,317 [myid:] - INFO [main:Environment...md64
Mar 28 05:05:43 mesos zookeeper[7497]: 2018-03-28 05:05:43,317 [myid:] - INFO [main:Environment...6_64
Mar 28 05:05:43 mesos zookeeper[7497]: 2018-03-28 05:05:43,317 [myid:] - INFO [main:Environment...root
Mar 28 05:05:43 mesos zookeeper[7497]: 2018-03-28 05:05:43,317 [myid:] - INFO [main:Environment...root
Mar 28 05:05:43 mesos zookeeper[7497]: 2018-03-28 05:05:43,317 [myid:] - INFO [main:Environment...eper
Mar 28 05:05:43 mesos zookeeper[7497]: 2018-03-28 05:05:43,326 [myid:] - INFO [main:ZooKeeperSe...2000
Mar 28 05:05:43 mesos zookeeper[7497]: 2018-03-28 05:05:43,326 [myid:] - INFO [main:ZooKeeperSe...o -1
Mar 28 05:05:43 mesos zookeeper[7497]: 2018-03-28 05:05:43,328 [myid:] - INFO [main:ZooKeeperSe...o -1
Mar 28 05:05:43 mesos zookeeper[7497]: 2018-03-28 05:05:43,340 [myid:] - INFO [main:NIOServerCn...2181
Mar 28 05:05:43 mesos zookeeper[7497]: 2018-03-28 05:05:43,362 [myid:] - INFO [main:FileSnap@83...00aa
Hint: Some lines were ellipsized, use -l to show in full.

```

```
[centos@mesos mesos-master]$ sudo service zookeeper status -l
```

```

└─7497 java -Dzookeeper.log.dir=. -Dzookeeper.root.logger=INFO,CONSOLE -cp /opt/mesosphere/z
ookeeper/bin/./build/classes:/opt/mesosphere/zookeeper/bin/./build/lib/*.jar:/opt/mesosphere/zookeepe
r/bin/./lib/slf4j-log4j12-1.6.1.jar:/opt/mesosphere/zookeeper/bin/./lib/slf4j-api-1.6.1.jar:/opt/meso
sphere/zookeeper/bin/./lib/netty-3.7.0.Final.jar:/opt/mesosphere/zookeeper/bin/./lib/log4j-1.2.16.jar
:/opt/mesosphere/zookeeper/bin/./lib/jline-0.9.94.jar:/opt/mesosphere/zookeeper/bin/./zookeeper-3.4.6
.jar:/opt/mesosphere/zookeeper/bin/./src/java/lib/*.jar:/etc/zookeeper/conf: -Dcom.sun.management.jmxr
emote -Dcom.sun.management.jmxremote.local.only=false org.apache.zookeeper.server.QuorumPeerMain
/etc/zookeeper/conf/zoo.cfg

Mar 28 05:05:43 mesos zookeeper[7497]: 2018-03-28 05:05:43,317 [myid:] - INFO [main:Environment@100] -
Server environment:os.arch=amd64
Mar 28 05:05:43 mesos zookeeper[7497]: 2018-03-28 05:05:43,317 [myid:] - INFO [main:Environment@100] -
Server environment:os.version=3.10.0-693.11.6.el7.x86_64
Mar 28 05:05:43 mesos zookeeper[7497]: 2018-03-28 05:05:43,317 [myid:] - INFO [main:Environment@100] -
Server environment:user.name=root
Mar 28 05:05:43 mesos zookeeper[7497]: 2018-03-28 05:05:43,317 [myid:] - INFO [main:Environment@100] -
Server environment:user.home=/root
Mar 28 05:05:43 mesos zookeeper[7497]: 2018-03-28 05:05:43,317 [myid:] - INFO [main:Environment@100] -
Server environment:user.dir=/opt/mesosphere/zookeeper
Mar 28 05:05:43 mesos zookeeper[7497]: 2018-03-28 05:05:43,326 [myid:] - INFO [main:ZooKeeperServer@75
5] - tickTime set to 2000
Mar 28 05:05:43 mesos zookeeper[7497]: 2018-03-28 05:05:43,326 [myid:] - INFO [main:ZooKeeperServer@76
4] - minSessionTimeout set to -1
Mar 28 05:05:43 mesos zookeeper[7497]: 2018-03-28 05:05:43,328 [myid:] - INFO [main:ZooKeeperServer@77
3] - maxSessionTimeout set to -1
Mar 28 05:05:43 mesos zookeeper[7497]: 2018-03-28 05:05:43,340 [myid:] - INFO [main:NIOServerCnxnFacto
ry@94] - binding to port 0.0.0.0/0.0.0.0:2181
Mar 28 05:05:43 mesos zookeeper[7497]: 2018-03-28 05:05:43,362 [myid:] - INFO [main:FileSnap@83] - Rea
ding snapshot /var/lib/zookeeper/version-2/snapshot.21000000aa
[centos@mesos mesos-master]$ █

```

```

[centos@mesos mesos-master]$ sudo service mesos-master start
Redirecting to /bin/systemctl start mesos-master.service
[centos@mesos mesos-master]$ sudo service mesos-master status
Redirecting to /bin/systemctl status mesos-master.service
● mesos-master.service - Mesos Master
   Loaded: loaded (/usr/lib/systemd/system/mesos-master.service; enabled; vendor preset: disabled)
   Active: active (running) since Wed 2018-03-28 05:06:08 UTC; 3s ago
   Main PID: 7576 (mesos-master)
   Memory: 7.0M
   CGroup: /system.slice/mesos-master.service
           └─7576 /usr/sbin/mesos-master --zk=zk://10.0.1.42:2181/mesos --port=5050 --log_dir=/var/l...
             └─7590 logger -p user.info -t mesos-master[7576]
               └─7591 logger -p user.err -t mesos-master[7576]

Mar 28 05:06:08 mesos mesos-master[7591]: I0328 05:06:08.446334 7596 registrar.cpp:495] Applied...stry
Mar 28 05:06:08 mesos mesos-master[7591]: I0328 05:06:08.446810 7596 coordinator.cpp:348] Coord... 661
Mar 28 05:06:08 mesos mesos-master[7591]: I0328 05:06:08.446943 7596 replica.cpp:541] Replica r...5050
Mar 28 05:06:08 mesos mesos-master[7591]: I0328 05:06:08.448894 7596 replica.cpp:695] Replica r...5050
Mar 28 05:06:08 mesos mesos-master[7591]: I0328 05:06:08.450116 7596 registrar.cpp:552] Success...92ms
Mar 28 05:06:08 mesos mesos-master[7591]: I0328 05:06:08.450194 7596 registrar.cpp:424] Success...trar
Mar 28 05:06:08 mesos mesos-master[7591]: I0328 05:06:08.450600 7596 master.cpp:1803] Recovered...ster
Mar 28 05:06:08 mesos mesos-master[7591]: I0328 05:06:08.450644 7596 coordinator.cpp:348] Coord... 662
Mar 28 05:06:08 mesos mesos-master[7591]: I0328 05:06:08.450721 7596 replica.cpp:541] Replica r...5050
Mar 28 05:06:08 mesos mesos-master[7591]: I0328 05:06:08.452381 7596 replica.cpp:695] Replica r...5050
Hint: Some lines were ellipsized, use -l to show in full.
[centos@mesos mesos-master]$

```

```
[centos@mesos mesos-master]$ sudo service mesos-master status -l
```

```

Mar 28 05:06:08 mesos mesos-master[7591]: I0328 05:06:08.446334 7596 registrar.cpp:495] Applied 1 oper
ations in 117568ns; attempting to update the registry
Mar 28 05:06:08 mesos mesos-master[7591]: I0328 05:06:08.446810 7596 coordinator.cpp:348] Coordinator
attempting to write APPEND action at position 661
Mar 28 05:06:08 mesos mesos-master[7591]: I0328 05:06:08.446943 7596 replica.cpp:541] Replica received
write request for position 661 from __req_res_(2)@10.0.1.42:5050
Mar 28 05:06:08 mesos mesos-master[7591]: I0328 05:06:08.448894 7596 replica.cpp:695] Replica received
learned notice for position 661 from log-network(1)@10.0.1.42:5050
Mar 28 05:06:08 mesos mesos-master[7591]: I0328 05:06:08.450116 7596 registrar.cpp:552] Successfully u
pdated the registry in 3.752192ms
Mar 28 05:06:08 mesos mesos-master[7591]: I0328 05:06:08.450194 7596 registrar.cpp:424] Successfully r
ecovered registrar
Mar 28 05:06:08 mesos mesos-master[7591]: I0328 05:06:08.450600 7596 master.cpp:1803] Recovered 6 agen
ts from the registry (1685B); allowing 10mins for agents to re-register
Mar 28 05:06:08 mesos mesos-master[7591]: I0328 05:06:08.450644 7596 coordinator.cpp:348] Coordinator
attempting to write TRUNCATE action at position 662
Mar 28 05:06:08 mesos mesos-master[7591]: I0328 05:06:08.450721 7596 replica.cpp:541] Replica received
write request for position 662 from __req_res_(3)@10.0.1.42:5050
Mar 28 05:06:08 mesos mesos-master[7591]: I0328 05:06:08.452381 7596 replica.cpp:695] Replica received
learned notice for position 662 from log-network(1)@10.0.1.42:5050

```

Apache MESOS Frameworks Agents Roles Offers Maintenance

Master eb32e316-18ad-4b7e-aff-9d40d1707b5

Cluster: (Unnamed)  
 Leader: mesos:5050  
 Version: 1.5.0  
 Built: 2 months ago by centos  
 Started: just now  
 Elected: just now

LOG

Agents

|             |    |
|-------------|----|
| Activated   | 0  |
| Deactivated | 0  |
| Unreachable | 10 |

Tasks

|             |   |
|-------------|---|
| Staging     | 0 |
| Starting    | 0 |
| Running     | 0 |
| Unreachable | 0 |
| Killing     | 0 |
| Finished    | 0 |

### Active Tasks

| Framework ID     | Task ID | Task Name | Role | State | Health | Started ▼ | Host |
|------------------|---------|-----------|------|-------|--------|-----------|------|
| No active tasks. |         |           |      |       |        |           |      |

### Unreachable Tasks

| Framework ID          | Task ID | Task Name | Role | Started ▼ | Agent ID |
|-----------------------|---------|-----------|------|-----------|----------|
| No unreachable tasks. |         |           |      |           |          |

### Completed Tasks

| Framework ID        | Task ID | Task Name | Role | State | Started ▼ | Stopped | Host |
|---------------------|---------|-----------|------|-------|-----------|---------|------|
| No completed tasks. |         |           |      |       |           |         |      |

```
[centos@marathon1 ~]$ sudo rpm -Uvh http://repos.mesosphere.io/el/7/noarch/RPMS/mesosphere-el-repo-7-1.noarch.rpm
Retrieving http://repos.mesosphere.io/el/7/noarch/RPMS/mesosphere-el-repo-7-1.noarch.rpm
Preparing... ##### [100%]
Updating / installing...
 1:mesosphere-el-repo-7-1 ##### [100%]
```

```
[centos@marathon1 ~]$ sudo yum install marathon
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
 * base: mirror.math.princeton.edu
 * extras: mirror.vtti.vt.edu
 * updates: centos.mirror.constant.com
Resolving Dependencies
--> Running transaction check
--> Package marathon.noarch 0:1.6.322.2bf46b341-SNAPSHOT will be installed
--> Finished Dependency Resolution

Dependencies Resolved

=====
Package           Arch             Version           Repository         Size
=====
Installing:
marathon          noarch           1.6.322.2bf46b341-SNAPSHOT mesosphere-noarch 75 M
Transaction Summary
-----
Install 1 Package

Total download size: 75 M
Installed size: 81 M
Is this ok [y/d/N]: y
Downloading packages:
systemd-marathon-1.6.322.2bf46b341-S 75% [=====] 36 MB/s | 57 MB 00:00:00 ETA
```

```

Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
Warning: RPMDB altered outside of yum.
Creating system group: marathon
Creating system user: marathon in marathon with marathon user-daemon and shell /bin/false
  Installing : marathon-1.6.322.2bf46b341-SNAPSHOT.noarch                1/1
Created symlink from /etc/systemd/system/multi-user.target.wants/marathon.service to /usr/lib/systemd/s
ystem/marathon.service.
  Verifying  : marathon-1.6.322.2bf46b341-SNAPSHOT.noarch                1/1

Installed:
  marathon.noarch 0:1.6.322.2bf46b341-SNAPSHOT

Complete!

```

```

[centos@marathon1 ~]$ sudo rpm -qa |grep marathon
marathon-1.6.322.2bf46b341-SNAPSHOT.noarch
[centos@marathon1 ~]$

```

```

[centos@marathon1 ~]$ cd /etc/systemd/system/multi-user.target.wants/
[centos@marathon1 multi-user.target.wants]$ ls -arlt
total 8
lrwxrwxrwx. 1 root root 40 Jan 8 16:27 remote-fs.target -> /usr/lib/systemd/system/remote-fs.target
lrwxrwxrwx. 1 root root 37 Jan 8 16:28 crond.service -> /usr/lib/systemd/system/crond.service
lrwxrwxrwx. 1 root root 41 Jan 8 16:28 nfs-client.target -> /usr/lib/systemd/system/nfs-client.targ
et
lrwxrwxrwx. 1 root root 44 Jan 8 16:29 cloud-config.service -> /usr/lib/systemd/system/cloud-config
.service
lrwxrwxrwx. 1 root root 43 Jan 8 16:29 cloud-final.service -> /usr/lib/systemd/system/cloud-final.s
ervice
lrwxrwxrwx. 1 root root 42 Jan 8 16:29 cloud-init.service -> /usr/lib/systemd/system/cloud-init.ser
vice
lrwxrwxrwx. 1 root root 48 Jan 8 16:29 cloud-init-local.service -> /usr/lib/systemd/system/cloud-in
it-local.service
lrwxrwxrwx. 1 root root 37 Jan 8 16:29 tuned.service -> /usr/lib/systemd/system/tuned.service
lrwxrwxrwx. 1 root root 38 Jan 8 16:29 auditd.service -> /usr/lib/systemd/system/auditd.service
lrwxrwxrwx. 1 root root 39 Jan 8 16:29 postfix.service -> /usr/lib/systemd/system/postfix.service
lrwxrwxrwx. 1 root root 42 Jan 8 16:29 irqbalance.service -> /usr/lib/systemd/system/irqbalance.ser
vice
lrwxrwxrwx. 1 root root 36 Jan 8 16:29 sshd.service -> /usr/lib/systemd/system/sshd.service
lrwxrwxrwx. 1 root root 39 Jan 8 16:29 chronyd.service -> /usr/lib/systemd/system/chronyd.service
lrwxrwxrwx. 1 root root 39 Jan 8 16:29 rsyslog.service -> /usr/lib/systemd/system/rsyslog.service
lrwxrwxrwx. 1 root root 37 Jan 8 16:32 kdump.service -> /usr/lib/systemd/system/kdump.service
drwxr-xr-x. 10 root root 4096 Jan 8 16:33 ..
lrwxrwxrwx. 1 root root 40 Apr 6 13:53 marathon.service -> /usr/lib/systemd/system/marathon.service
drwxr-xr-x. 2 root root 4096 Apr 6 13:53 .

```

```

[Unit]
Description=Scheduler for Apache Mesos
Requires=network.target

[Service]
Type=simple
WorkingDirectory=/usr/share/marathon
EnvironmentFile=/etc/default/marathon
ExecStart=/usr/share/marathon/bin/marathon --master zk://10.0.1.42:2181/mesos -zk zk://10.0.1.42:2181/marathon
ExecReload=/bin/kill -HUP $MAINPID
Restart=always
RestartSec=60
SuccessExitStatus=
User=marathon
ExecStartPre=/bin/mkdir -p /run/marathon
ExecStartPre=/bin/chown marathon:marathon /run/marathon
ExecStartPre=/bin/chmod 755 /run/marathon
PermissionsStartOnly=true
LimitNOFILE=1024

[Install]
WantedBy=multi-user.target

```

```

[centos@marathon1 multi-user.target.wants]$ sudo service marathon start
Redirecting to /bin/systemctl start marathon.service
[centos@marathon1 multi-user.target.wants]$ sudo service marathon status -l
Redirecting to /bin/systemctl status -l marathon.service
● marathon.service - Scheduler for Apache Mesos
   Loaded: loaded (/usr/lib/systemd/system/marathon.service; enabled; vendor preset: disabled)
   Active: active (running) since Fri 2018-04-06 14:07:07 UTC; 1min 14s ago
     Process: 5189 ExecStartPre=/bin/chmod 755 /run/marathon (code=exited, status=0/SUCCESS)
     Process: 5186 ExecStartPre=/bin/chown marathon:marathon /run/marathon (code=exited, status=0/SUCCESS)
     Process: 5184 ExecStartPre=/bin/mkdir -p /run/marathon (code=exited, status=0/SUCCESS)
    Main PID: 5191 (java)
      CGroup: /system.slice/marathon.service
              └─5191 java -cp /usr/share/marathon/lib/mesosphere.marathon.marathon-1.6.322.jar:/usr/share/marathon/lib/mesosphere.marathon.plugin-interface-2bf46b341ea2aac4e17ed9420cba5a9479559937.jar:/usr/share/marathon/lib/org.scala-lang.scala-reflect-2.12.4.jar:/usr/share/marathon/lib/commons-codec.commons-codec-1.9.jar:/usr/share/marathon/lib/net.liftweb.lift-markdown_2.12-3.1.1.jar:/usr/share/marathon/lib/net.logstash.logback.logstash-logback-encoder-4.9.jar:/usr/share/marathon/lib/org.apache.yetus.audience-annotations-0.5.0.jar:/usr/share/marathon/lib/io.reactivex.rxjava-1.2.4.jar:/usr/share/marathon/lib/io.

```

The screenshot shows the Marathon web interface. At the top left is the Marathon logo. The main header has 'Applications' and 'Deployments' tabs. A search bar on the right says 'Search all applications'. On the left sidebar, there are filter sections for 'STATUS' (Running, Deploying, Suspended, Delayed, Waiting), 'HEALTH' (Healthy, Unhealthy, Unknown), and 'RESOURCES' (Volumes). The main content area is titled 'Applications' and contains a message: 'No Applications Created. Do more with Marathon by creating and organizing your applications.' Below the message is a 'Create Application' button. At the top right of the main area are 'Create Group' and 'Create Application' buttons. A table header is visible with columns: Name, CPU, Memory, Status, Running Instances, and Health.

The screenshot shows the Mesos web interface. The top navigation bar includes 'Frameworks', 'Agents', 'Roles', 'Offers', and 'Maintenance'. The 'Agents' tab is selected. Below the navigation bar are 'Master' and 'Agents' buttons. The main content area is titled 'Agents' and features a search bar labeled 'Find...'. Below the search bar is a table with the following data:

| ID                 | Host  | CPUs (Allocated / Total) | GPUs (Allocated / Total) | Mem (Allocated / Total) | Disk (Allocated / Total) | Registered | Re-Registered |
|--------------------|-------|--------------------------|--------------------------|-------------------------|--------------------------|------------|---------------|
| ...6b13c2fe2dc4-S0 | mesos | 0 / 1                    | 0 / 0                    | 0 B / 495 MB            | 0 B / 4.0 GB             | just now   |               |



Mesos Frameworks Agents Roles Offers Maintenance totra

Master Frameworks

### Active Frameworks

| ID                   | Host      | User     | Name     | Roles | Principal | Active Tasks | CPUs | GPUs | Mem | Disk | Max Share | Registered  | Re-Registered |
|----------------------|-----------|----------|----------|-------|-----------|--------------|------|------|-----|------|-----------|-------------|---------------|
| ...c516489e0938-0000 | marathon1 | marathon | marathon | *     |           | 0            | 0    | 0    | 0 B | 0 B  | 0%        | an hour ago | just now      |

### Inactive Frameworks

| ID | Host | User | Name | Roles | Principal | Active Tasks | CPUs | GPUs | Mem | Disk | Max Share | Registered | Re-Registered |
|----|------|------|------|-------|-----------|--------------|------|------|-----|------|-----------|------------|---------------|
|----|------|------|------|-------|-----------|--------------|------|------|-----|------|-----------|------------|---------------|

### Completed Frameworks

| ID | Host | User | Name | Roles | Principal | Registered | Unregistered |
|----|------|------|------|-------|-----------|------------|--------------|
|----|------|------|------|-------|-----------|------------|--------------|

## New Application JSON Mode

General

Docker Container

Ports

Environment Variables

Labels

Health Checks

Volumes

Optional

ID

CPUs  Memory (MiB)  Disk Space (MiB)  Instances

Command

May be left blank if a container image is supplied

Cancel

New Application
JSON Mode

- General
- Docker Container
- Ports
- Environment Variables
- Labels
- Health Checks
- Volumes
- Optional

Image

Network

Force pull image on every launch

Extend runtime privileges

Parameters

| Key                                       | Value   |
|---|---|
| <input style="width: 100%;" type="text"/> | <input style="width: 100%;" type="text"/> <span style="float: right; border: 1px solid #007bff; border-radius: 50%; padding: 2px 5px;">+</span> |

You can configure your Docker volumes [in the Volumes section](#).  
You can configure your Docker ports [in the Ports section](#).

Cancel
Create Application

New Application
JSON Mode

- General
- Docker Container
- Ports
- Environment Variables
- Labels
- Health Checks
- Volumes
- Optional

Container Port ?


Protocol

Name  
 + -

Your Docker container will bind to the requested ports and they will be dynamically mapped to \$PORT0 on the host.

For more advanced port configuration options, including service ports, use [JSON mode](#).

Cancel
Create Application

| Applications  |     |         |                      |                   |                  |
|---|-----|---------|----------------------|-------------------|------------------|
| Name  | CPU | Memory  | Status               | Running Instances | Health           |
|  nginx | 0.2 | 128 MiB | <span>Running</span> | 1 of 1            | <span>...</span> |

**MARATHON** Applications Deployments

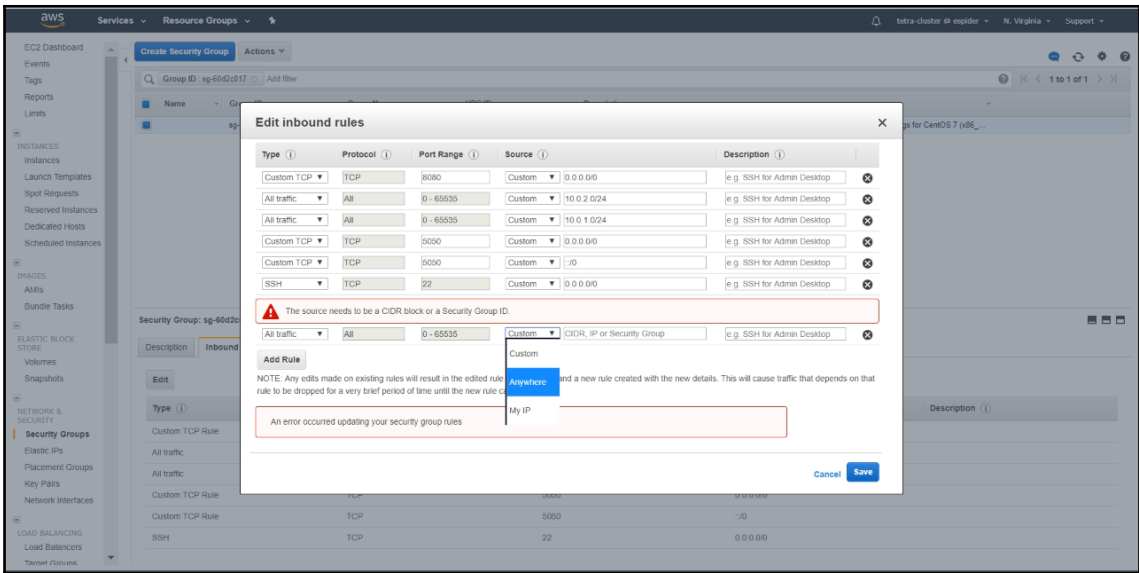
Applications > nginx > nginx.806108f7-39a5-11e8-947e-0234fcd7758

### nginx

Running (1 of 1 instances)

0 Healthy 0 Unhealthy 1 Unknown (100%)

- Host: mesos
- IP Addresses: 172.17.0.2
- Ports: [31544]
- Endpoints: mesos:31544
- Service Discovery: n/a
- Status: Started
- Staged at: 06/04/2018, 19:49:22
- Started at: 06/04/2018, 19:49:23
- Version: 2018-04-06T14:19:22.014Z
- Health: Unknown
- Mesos details: [link](#)



## Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to [nginx.org](http://nginx.org).  
Commercial support is available at [nginx.com](http://nginx.com).

*Thank you for using nginx.*

MESOS Frameworks Agents Roles Offers Maintenance tetra

Master d1c810fd-c711-4636-a4ad-6b13c2fe2dc4

**Cluster:** tetra  
**Leader:** mesos:5050  
**Version:** 1.5.0  
**Built:** 2 months ago by centos  
**Started:** an hour ago  
**Elected:** an hour ago

[LOG](#)

**Agents**

|             |   |
|-------------|---|
| Activated   | 1 |
| Deactivated | 0 |
| Unreachable | 6 |

**Tasks**

|             |   |
|-------------|---|
| Staging     | 0 |
| Starting    | 0 |
| Running     | 1 |
| Unreachable | 0 |
| Killing     | 0 |
| Finished    | 0 |

### Active Tasks

| Framework ID         | Task ID                                   | Task Name | Role | State   | Health | Started ▼ | Host          |
|----------------------|---|-----------|------|---------|--------|-----------|---------------|
| ...c516489e0936-0000 | nginx.8061087-39a5-11e8-947e-0234fcde7758 | nginx     | *    | RUNNING | -      | just now  | mesos Sandbox |

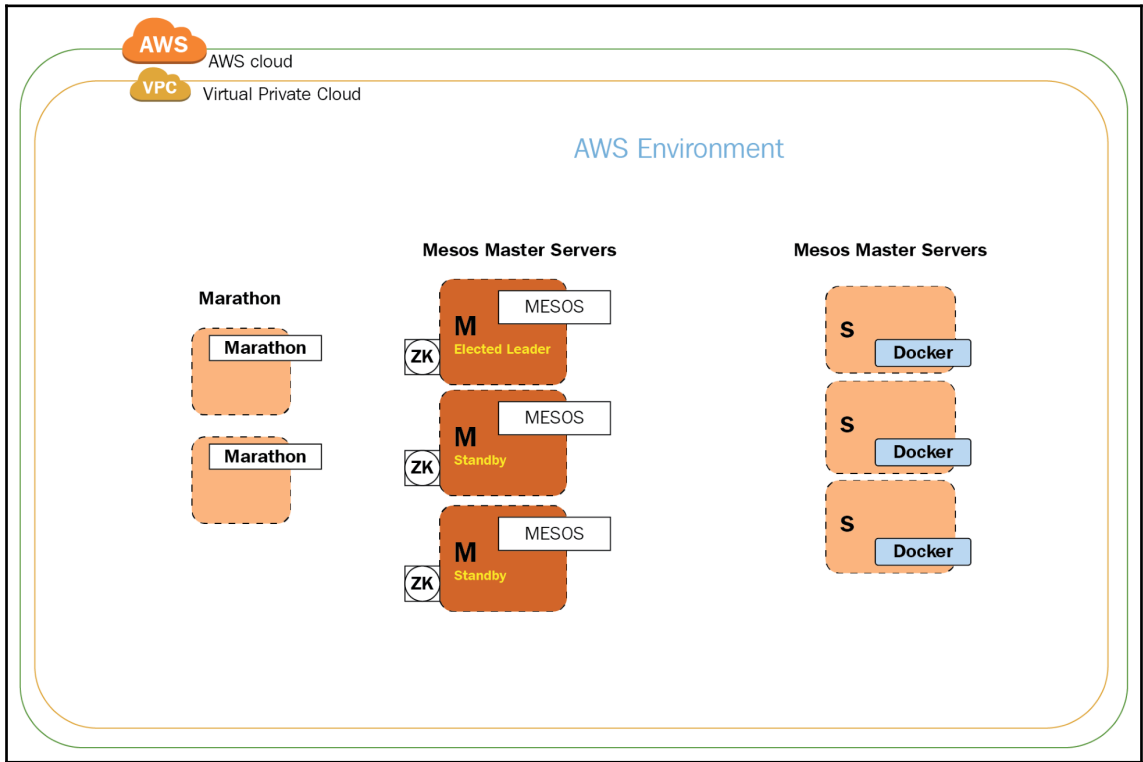
### Unreachable Tasks

| Framework ID          | Task ID | Task Name | Role | Started ▼ | Agent ID |
|-----------------------|---------|-----------|------|-----------|----------|
| No unreachable tasks. |         |           |      |           |          |

### Completed Tasks

| Framework ID         | Task ID                                    | Task Name | Role | State  | Started ▼ | Stopped  | Host          |
|----------------------|--|-----------|------|--------|-----------|----------|---------------|
| ...c516489e0936-0000 | nginx.40cf3b36-39a5-11e8-947e-0234fcde7758 | nginx     | *    | KILLED | just now  | just now | mesos Sandbox |

# Chapter 03: Installation of Mesosphere



```

marathon1 | marathon2 | master1 | master2 | master3 | slave1 | slave2 | slave3
Main PID: 1509 (mesos-master)
CGroup: /system.slice/mesos-master.service
├─1509 /usr/sbin/mesos-master --zk=zk://10.0.1.42:2181,10.0.1.203:2181,10.0.2.68:2181/mesos
--port=5050 --log_dir=/var/log/mesos --cluster=tetra --hostname=mesos-master3 --ip=10.0.2.68 --quorum=2
--work_dir=/var/lib/mesos
├─1525 logger -p user.info -t mesos-master[1509]
└─1526 logger -p user.err -t mesos-master[1509]

Apr 07 08:10:11 mesos-master3 mesos-master[1526]: I0407 08:10:11.622368 1534 group.cpp:700] Trying to
get '/mesos/log_replicas/0000000178' in ZooKeeper
Apr 07 08:10:11 mesos-master3 mesos-master[1526]: I0407 08:10:11.622705 1533 zookeeper.cpp:262] A new
leading master (UPID=master@10.0.1.42:5050) is detected
Apr 07 08:10:11 mesos-master3 mesos-master[1526]: I0407 08:10:11.622763 1533 master.cpp:2223] The newly
elected leader is master@10.0.1.42:5050 with id 5ee74673-e868-44c9-b057-126fdcf95852
Apr 07 08:10:11 mesos-master3 mesos-master[1526]: I0407 08:10:11.623827 1534 network.hpp:484] ZooKeeper
group PIDs: { log-replica(1)@10.0.1.42:5050, log-replica(1)@10.0.1.203:5050 }
Apr 07 08:10:11 mesos-master3 mesos-master[1526]: I0407 08:10:11.627089 1534 network.hpp:436] ZooKeeper
group memberships changed
Apr 07 08:10:11 mesos-master3 mesos-master[1526]: I0407 08:10:11.627138 1534 group.cpp:700] Trying to
get '/mesos/log_replicas/0000000177' in ZooKeeper
Apr 07 08:10:11 mesos-master3 mesos-master[1526]: I0407 08:10:11.627307 1529 contender.cpp:268] New candidate (id='127') has entered the contest for leadership!
Apr 07 08:10:11 mesos-master3 mesos-master[1526]: I0407 08:10:11.628298 1534 group.cpp:700] Trying to
get '/mesos/log_replicas/0000000178' in ZooKeeper
Apr 07 08:10:11 mesos-master3 mesos-master[1526]: I0407 08:10:11.629273 1534 group.cpp:700] Trying to
get '/mesos/log_replicas/0000000179' in ZooKeeper
Apr 07 08:10:11 mesos-master3 mesos-master[1526]: I0407 08:10:11.630460 1534 network.hpp:484] ZooKeeper
group PIDs: { log-replica(1)@10.0.1.42:5050, log-replica(1)@10.0.1.203:5050, log-replica(1)@10.0.2.68:5050 }

```

The screenshot shows the Mesos web interface for a cluster named 'tetra'. The URL is 'mesos:5050/'. The interface includes a navigation menu with 'MESOS', 'Frameworks', 'Agents', 'Roles', 'Offers', and 'Maintenance'. The current page displays cluster details for the master node '5ee74673-e868-44c9-b057-126fdcf95852'.

**Cluster Information:**

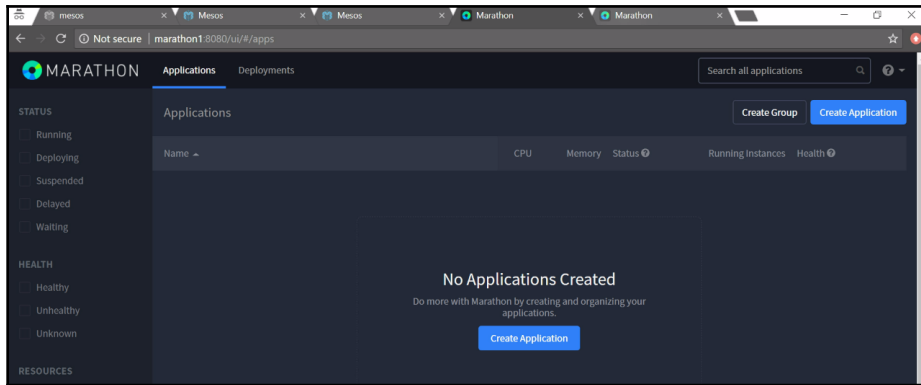
- Cluster: tetra
- Leader: [mesos:5050](#)
- Version: 1.5.0
- Built: 2 months ago by centos
- Started: 5 minutes ago
- Elected: 5 minutes ago

**Active Tasks:**

| Framework ID     | Task ID | Task Name | Role | State | Health | Started | Host |
|------------------|---------|-----------|------|-------|--------|---------|------|
| No active tasks. |         |           |      |       |        |         |      |

```
marathon1 | marathon2 | master1 | master2 | master3 | slave1 | slave2 | slave3
Package marathon-1.6.322.2bf46b341-SNAPSHOT.noarch already installed and latest version
Nothing to do
[centos@marathon1 ~]$ sudo service marathon status
The service command supports only basic LSB actions (start, stop, restart, try-restart, reload, force-reload, status). For other actions, please try to use systemctl.
[centos@marathon1 ~]$ sudo systemctl status marathon.service
Redirecting to /bin/systemctl status marathon.service
● marathon.service - Scheduler for Apache Mesos
   Loaded: loaded (/usr/lib/systemd/system/marathon.service; enabled; vendor preset: disabled)
   Active: active (running) since Sat 2018-04-07 08:14:20 UTC; 37min ago
   Process: 19289 ExecStartPre=/bin/chmod 755 /run/marathon (code=exited, status=0/SUCCESS)
   Process: 19287 ExecStartPre=/bin/chown marathon:marathon /run/marathon (code=exited, status=0/SUCCESS)
   Process: 19286 ExecStartPre=/bin/mkdir -p /run/marathon (code=exited, status=0/SUCCESS)
  Main PID: 19291 (java)
    CGroup: /system.slice/marathon.service
           └─19291 java -cp /usr/share/marathon/lib/mesosphere.marathon.marathon-1.6.322.jar:/usr/sh...

Apr 07 08:50:06 marathon1 marathon[19291]: [2018-04-07 08:50:06,233] INFO 10.0.2.200 - - [07/Apr...46]
Apr 07 08:50:35 marathon1 marathon[19291]: [2018-04-07 08:50:35,907] INFO 10.0.1.236 - - [07/Apr...46]
Apr 07 08:50:36 marathon1 marathon[19291]: [2018-04-07 08:50:36,258] INFO 10.0.2.200 - - [07/Apr...46]
Apr 07 08:51:05 marathon1 marathon[19291]: [2018-04-07 08:51:05,932] INFO 10.0.1.236 - - [07/Apr...46]
Apr 07 08:51:06 marathon1 marathon[19291]: [2018-04-07 08:51:06,283] INFO 10.0.2.200 - - [07/Apr...46]
Apr 07 08:51:10 marathon1 marathon[19291]: [2018-04-07 08:51:10,286] INFO Start processing offer...87)
Apr 07 08:51:10 marathon1 marathon[19291]: [2018-04-07 08:51:10,287] INFO Offer [d3fc8254-5568-4836...
Apr 07 08:51:10 marathon1 marathon[19291]: [2018-04-07 08:51:10,290] INFO Finished processing d3fc8...
Apr 07 08:51:35 marathon1 marathon[19291]: [2018-04-07 08:51:35,959] INFO 10.0.1.236 - - [07/Apr...46]
Apr 07 08:51:36 marathon1 marathon[19291]: [2018-04-07 08:51:36,307] INFO 10.0.2.200 - - [07/Apr...46]
Hint: Some lines were ellipsized, use -l to show in full.
```





Mesos Master Frameworks page. The 'Active Frameworks' table is as follows:

| ID                   | Host      | User     | Name     | Roles | Principal | Active Tasks | CPUs | GPUs | Mem | Disk | Max Share |
|----------------------|-----------|----------|----------|-------|-----------|--------------|------|------|-----|------|-----------|
| ...c516489e0936-0000 | marathon1 | marathon | marathon | *     |           | 0            | 0    | 0    | 0 B | 0 B  | 0%        |

Mesos Master Frameworks page showing details for framework `d3fc8254-5568-4836-8e39-dbbb01b1adb1`. The page includes a sidebar with cluster information and a main area with task status sections.

**Cluster:** tetra  
**Leader:** mesos-master2:5050  
**Version:** 1.5.0  
**Built:** 2 months ago by centos  
**Started:** 2 hours ago  
**Elected:** 2 hours ago

**Agents:**  
 Activated: 3  
 Deactivated: 0  
 Unreachable: 4

**Tasks:**  
 Staging: 0  
 Starting: 0  
 Running: 0  
 Unreachable: 0  
 Killing: 0  
 Finished: 0

**Active Tasks:**

| Framework ID     | Task ID | Task Name | Role | State | Health | Started | Host |
|------------------|---------|-----------|------|-------|--------|---------|------|
| No active tasks. |         |           |      |       |        |         |      |

**Unreachable Tasks:**

| Framework ID          | Task ID | Task Name | Role | Started | Agent ID |
|-----------------------|---------|-----------|------|---------|----------|
| No unreachable tasks. |         |           |      |         |          |

**Completed Tasks:**

| Framework ID         | Task ID  | Task Name | Role | State  | Started     | Stopped       | Host                 |
|----------------------|--|-----------|------|--------|-------------|---------------|----------------------|
| ...c516489e0936-0000 | wordpress.c2d30274-3a3b-11e8-8c43-0234fcde7758 | wordpress | *    | KILLED | 2 hours ago | an hour ago   | mesos-slave1 Sandbox |
| ...c516489e0936-0000 | wordpress.c2d30274-3a3b-11e8-8c43-0234fcde7758 | wordpress | *    | KILLED | 2 hours ago | an hour ago   | mesos-slave1 Sandbox |
| ...c516489e0936-0000 | wordpress.d2d3a78b-26e6-11e8-8023-12548da368a8 | wordpress | *    | FAILED | 4 weeks ago | 2 minutes ago | mesos-slave3 Sandbox |

```

master1  master2  master3  slave1  slave2  slave3  marathon1  marathon2
1 27.0.0.1 localhost localhost.localdomain localhost4 localhost4.localdomain
: :1 localhost localhost.localdomain localhost6 localhost6.localdomain
10.0.1.42 mesos-master1
10.0.1.203 mesos-master2
10.0.2.123 mesos-master3
10.0.1.85 mesos-slave1
10.0.1.174 mesos-slave2
10.0.2.141 mesos-slave3
10.0.1.191 marathon1
10.0.2.97 marathon2

```

```
master1 master2 master3 slave1 slave2 slave3 marathon1 marathon2
[centos@mesos-master1 ~]$ sudo rpm -Uvh http://repos.mesosphere.io/el/7/noarch/RPMS/mesosphere-el-repo-7-1.noarch.rpm
Retrieving http://repos.mesosphere.io/el/7/noarch/RPMS/mesosphere-el-repo-7-1.noarch.rpm
warning: /var/tmp/rpm-tmp.JcemM4: Header V4 RSA/SHA1 Signature, key ID e56151f: NOKEY
Preparing... ##### [100%]
Updating / installing...
 1:mesosphere-el-repo-7-1 ##### [100%]
[centos@mesos-master1 ~]$ cd /etc/yum.repos.d
[centos@mesos-master1 yum.repos.d]$ ls -rlt
total 32
-rw-r--r--. 1 root root 570 Nov 13 2014 mesosphere.repo
-rw-r--r--. 1 root root 3830 Aug 30 15:53 CentOS-Vault.repo
-rw-r--r--. 1 root root 1331 Aug 30 15:53 CentOS-Sources.repo
-rw-r--r--. 1 root root 630 Aug 30 15:53 CentOS-Media.repo
-rw-r--r--. 1 root root 314 Aug 30 15:53 CentOS-fasttrack.repo
-rw-r--r--. 1 root root 649 Aug 30 15:53 CentOS-Debuginfo.repo
-rw-r--r--. 1 root root 1309 Aug 30 15:53 CentOS-CR.repo
-rw-r--r--. 1 root root 1664 Aug 30 15:53 CentOS-Base.repo
```

```
master1 master2 master3 slave1 slave2 slave3 marathon1 marathon2
perl-Text-ParseWords.noarch 0:3.29-4.e17
perl-Time-HiRes.x86_64 4:1.9725-3.e17
perl-Time-Local.noarch 0:1.2300-2.e17
perl-constant.noarch 0:1.27-2.e17
perl-libs.x86_64 4:5.16.3-292.e17
perl-macros.x86_64 4:5.16.3-292.e17
perl-parent.noarch 1:0.225-244.e17
perl-podlators.noarch 0:2.5.1-3.e17
perl-threads.x86_64 0:1.87-4.e17
perl-threads-shared.x86_64 0:1.43-6.e17
subversion.x86_64 0:1.7.14-11.e17_4
subversion-libs.x86_64 0:1.7.14-11.e17_4
trousers.x86_64 0:0.3.14-2.e17

Complete!
[centos@mesos-master1 ~]$ service mesos-master status
Redirecting to /bin/systemctl status mesos-master.service
● mesos-master.service - Mesos Master
   Loaded: loaded (/usr/lib/systemd/system/mesos-master.service; enabled; vendor preset: disabled)
   Active: inactive (dead)
[centos@mesos-master1 ~]$ █
```

```
master1 master2 master3 slave1 slave2 slave3 marathon1 marat
libXcomposite.x86_64 0:0.4.4-4.1.e17
libXext.x86_64 0:1.3.3-3.e17
libXfont.x86_64 0:1.5.2-1.e17
libXi.x86_64 0:1.7.9-1.e17
libXrender.x86_64 0:0.9.10-1.e17
libXtst.x86_64 0:1.2.3-1.e17
libfontenc.x86_64 0:1.1.3-3.e17
libjpeg-turbo.x86_64 0:1.2.90-5.e17
libpng.x86_64 2:1.5.13-7.e17_2
libxcb.x86_64 0:1.12-1.e17
libxslt.x86_64 0:1.1.28-5.e17
lksctp-tools.x86_64 0:1.0.17-2.e17
python-javapackages.noarch 0:3.4.1-11.e17
python-lxml.x86_64 0:3.2.1-4.e17
stix-fonts.noarch 0:1.1.0-5.e17
ttmkfdir.x86_64 0:3.0.9-42.e17
tzdata-java.noarch 0:2018c-1.e17
xorg-x11-font-utils.x86_64 1:7.5-20.e17
xorg-x11-fonts-Type1.noarch 0:7.5-9.e17

Complete!
```

```
master1 master2 master3 slave1 slave2 slave3 marathon1 marathon2
[centos@marathon2 yum.repos.d]$ service marathon status
Redirecting to /bin/systemctl status marathon.service
● marathon.service - Scheduler for Apache Mesos
   Loaded: loaded (/usr/lib/systemd/system/marathon.service; enabled; vendor
  reset: disabled)
   Active: activating (auto-restart) (Result: exit-code) since Tue 2018-02-27
17:46:00 UTC; 9s ago
     Process: 8760 ExecStart=/usr/share/marathon/bin/marathon (code=exited, stat
s=1/FAILURE)
     Process: 8757 ExecStartPre=/bin/chmod 755 /run/marathon (code=exited, statu
s=0/SUCCESS)
     Process: 8753 ExecStartPre=/bin/chown marathon:marathon /run/marathon (code
exited, status=0/SUCCESS)
     Process: 8751 ExecStartPre=/bin/mkdir -p /run/marathon (code=exited, status
0/SUCCESS)
   Main PID: 8760 (code=exited, status=1/FAILURE)

Feb 27 17:46:00 marathon2 systemd[1]: marathon.service: main process exite...
Feb 27 17:46:00 marathon2 systemd[1]: Unit marathon.service entered failed...
Feb 27 17:46:00 marathon2 systemd[1]: marathon.service failed.
Hint: Some lines were ellipsized, use -l to show in full.
```

```
master1 master2 master3 slave1 slave2 slave3 marathon1 marathon2
Loaded: loaded (/usr/lib/systemd/system/mesos-master.service; enabled; ven
or preset: disabled)
Active: active (running) since Tue 2018-02-27 17:47:34 UTC; 4s ago
Main PID: 8551 (mesos-master)
Memory: 11.9M
CGroup: /system.slice/mesos-master.service
├─8551 /usr/sbin/mesos-master --zk=zk://localhost:2181/mesos --p..
├─8561 logger -p user.info -t mesos-master[8551]
└─8562 logger -p user.err -t mesos-master[8551]
```

```
master1 master2 master3 slave1 slave2 slave3 marathon1 marathon2
[centos@mesos-slave1 ~]$ sudo yum-config-manager --add-repo https://download.
docker.com/linux/centos/docker-ce.repo
Loaded plugins: fastestmirror
adding repo from: https://download.docker.com/linux/centos/docker-ce.repo
grabbing file https://download.docker.com/linux/centos/docker-ce.repo to /etc.
yum.repos.d/docker-ce.repo
repo saved to /etc/yum.repos.d/docker-ce.repo
```



---

```
zk://2181/mesos
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
-- INSERT -- W10: Warning: Changing a readonly file
```

```
~
:q!
```

```
master1  master2  master3  marathon1  marathon2  slave1  slave2
[centos@mesos-master1 mesos]$ cat zk
zk://localhost:2181/mesos
[centos@mesos-master1 mesos]$ vi zk
[centos@mesos-master1 mesos]$
```









```
master1 master2 master3 marathon1 marathon2 slave1 slave2 slave3
zk://10.0.1.42:2181,10.0.1.203:2181,10.0.2.123:2181/mesos
~
```

```
master1 master2 master3 marathon1 marathon2 slave1 slave2 slave3
[centos@mesos-master3 ~]$ cd /etc/mesos
[centos@mesos-master3 mesos]$ sudo vi zk
[centos@mesos-master3 mesos]$ cat zk
zk://10.0.1.42:2181,10.0.1.203:2181,10.0.2.123:2181/mesos
[centos@mesos-master3 mesos]$ █
```

```
[centos@mesos-master1 mesos]$ cd /var/lib/zookeeper/
[centos@mesos-master1 zookeeper]$ ls -rlt
total 0
drwxr-xr-x. 2 root root 32 Mar  1 04:03 version-2
[centos@mesos-master1 zookeeper]$ █
```

```
[centos@mesos-master1 zookeeper]$ sudo touch myid
```

```
[centos@mesos-master1 zookeeper]$ sudo vi myid █
```

```
[centos@mesos-master3 zookeeper]$ cd /etc/zookeeper/conf
[centos@mesos-master3 conf]$ clear █
```

```
[centos@mesos-master2 zookeeper]$ cd /etc/zookeeper/conf/
[centos@mesos-master2 conf]$ sudo vi zoo.cfg █
```

```
master1 master2 master3 marathon1 marathon2 slave1 slave2 slave3
# http://www.apache.org/licenses/LICENSE-2.0
#
# Unless required by applicable law or agreed to in writing, software
# distributed under the License is distributed on an "AS IS" BASIS,
# WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
# See the License for the specific language governing permissions and
# limitations under the License.

maxClientCnxns=50
# The number of milliseconds of each tick
tickTime=2000
# The number of ticks that the initial
# synchronization phase can take
initLimit=10
# The number of ticks that can pass between
# sending a request and getting an acknowledgement
syncLimit=5
# the directory where the snapshot is stored.
dataDir=/var/lib/zookeeper
# the port at which the clients will connect
clientPort=2181
-- INSERT -- W10: Warning: Changing a readonly file
```

```
master1 master2 master3 marathon1 marathon2 slave1 slave2 slave3
[centos@mesos-master3 conf]$ pwd
/etc/zookeeper/conf
[centos@mesos-master3 conf]$ vi zoo.cfg
[centos@mesos-master3 conf]$ sudo vi zoo.cfg
```

```
server.1=10.0.1.42:2888:3888
server.2=10.0.1.203:2888:3888
server.3=10.0.2.123:2888:3888
```

```
master1  master2  master3  marathon1  marathon2  slave1  slave2  slave3
[centos@mesos-master3 conf]$ pwd
/etc/zookeeper/conf
[centos@mesos-master3 conf]$ vi zoo.cfg
[centos@mesos-master3 conf]$ sudo vi zoo.cfg
[centos@mesos-master3 conf]$ cat zoo.cfg
```

```
server.1=10.0.1.42:2888:3888
server.2=10.0.1.203:2888:3888
server.3=10.0.2.123:2888:3888
[centos@mesos-master3 conf]$ pwd
/etc/zookeeper/conf
[centos@mesos-master3 conf]$
```

```
master1  master2  master3  marathon1  marathon2  slave1  slave2  slave3
[centos@mesos-master1 mesos]$ cat zk
zk://localhost:2181/mesos
[centos@mesos-master1 mesos]$ sudo vi zk
[centos@mesos-master1 mesos]$ cat zk
zk://10.0.1.42:2181,10.0.1.203:2181,10.0.2.123:2181/mesos
[centos@mesos-master1 mesos]$ cd /var/lib/zookeeper/
[centos@mesos-master1 zookeeper]$ ls -rlt
total 0
drwxr-xr-x. 2 root root 32 Mar  1 04:03 version-2
[centos@mesos-master1 zookeeper]$ touch myid
touch: cannot touch 'myid': Permission denied
[centos@mesos-master1 zookeeper]$ sudo touch myid
[centos@mesos-master1 zookeeper]$ vi myid
[centos@mesos-master1 zookeeper]$ sudo vi myid
[centos@mesos-master1 zookeeper]$ cd /etc/zookeeper/conf/
[centos@mesos-master1 conf]$ vi zoo.cfg
[centos@mesos-master1 conf]$ sudo vi zoo.cfg
```

---

```
[centos@mesos-master2 zookeeper]$ cd /etc/zookeeper/conf/
[centos@mesos-master2 conf]$ sudo vi zoo.cfg
```

```
# the directory where the snapshot is stored.
dataDir=/var/lib/zookeeper
# the port at which the clients will connect
clientPort=2181
server.1=10.0.1.42:2888:3888
server.2=10.0.1.203:2888:3888
server.3=10.0.2.123:2888:3888
```

```
master1 master2 master3 marathon1 marathon2 slave1 slave2 slave3
[centos@mesos-master1 zookeeper]$ sudo vi /etc/mesos-master/quorum
```

```
[centos@mesos-master1 mesos-master]$ ls -rlt
total 8
-rw-rw-r--. 1 root root 15 Feb  8 16:22 work_dir
-rw-rw-r--. 1 root root  2 Mar  1 04:54 quorum
[centos@mesos-master1 mesos-master]$
```

```
[centos@mesos-master1 mesos-master]$ sudo touch ip
```

```
[centos@mesos-master1 mesos-master]$ sudo vi ip
```

```
-- INSERT -- W10: Warning: Changing a readonly file
```

```
[centos@mesos-master1 mesos-master]$ sudo cp ip hostname
```

---

```
[centos@mesos-master1 mesos-master]$ ls -rlt
total 16
-rw-rw-r--. 1 root root 15 Feb  8 16:22 work_dir
-rw-rw-r--. 1 root root  2 Mar  1 04:54 quorum
-rw-r--r--. 1 root root 10 Mar  1 05:00 ip
-rw-r--r--. 1 root root 10 Mar  1 05:01 hostname
[centos@mesos-master1 mesos-master]$ clear
```

```
[centos@mesos-master1 mesos-master]$ cat ip
10.0.1.42
[centos@mesos-master1 mesos-master]$ cat hostname
10.0.1.42
[centos@mesos-master1 mesos-master]$
```

- Your VPCs
- Subnets
- Route Tables
- Internet Gateways
- Egress Only Internet Gateways
- DHCP Options Sets
- Elastic IPs
- Endpoints
- Endpoint Services
- NAT Gateways
- Peering Connections
- Security
- Network ACLs
- Security Groups
- VPN Connections
- Customer Gateways
- Virtual Private Gateways

## Resources ↻

Start VPC Wizard

Launch EC2 Instances

Note: Your Instances will launch in the US East (N. Virginia) region.

You are using the following Amazon VPC resources in the US East (N. Virginia) region:

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>4 VPCs</li> <li>0 Egress-only Internet Gateways</li> <li>6 Route Tables</li> <li>0 Elastic IPs</li> <li>0 Endpoints</li> <li>41 Security Groups</li> <li>0 VPN Connections</li> <li>1 Customer Gateway</li> </ul> | <ul style="list-style-type: none"> <li>4 Internet Gateways</li> <li>10 Subnets</li> <li>4 Network ACLs</li> <li>0 VPC Peering Connections</li> <li>0 Nat Gateways</li> <li>8 Running Instances</li> <li>1 Virtual Private Gateway</li> <li>9 DHCP Options Sets</li> </ul> |
|--|---|

### VPN Connections

Amazon VPC enables you to use your own isolated resources within the AWS cloud, and then connect those resources directly to your own datacenter using industry-standard encrypted IPsec VPN connections.

Create VPN Connection

Create Security Group

Security Group Actions ▾

↻
⚙️
?

Filter **All security groups** ▾

✕

<< 1 to 3 of 3 Security Groups >>

|                          | Name tag | Group ID    | Group Name | VPC                  | Description                               |
|--------------------------|----------|-------------|------------|----------------------|---|
| <input type="checkbox"/> |          | sg-0df5e77a | mesos1     | vpc-6066b51b   Mesos | This security group was generated by A... |
| <input type="checkbox"/> |          | sg-60d2c017 | mesos      | vpc-6066b51b   Mesos | This security group was generated by A... |
| <input type="checkbox"/> |          | sg-9b3b29ec | default    | vpc-6066b51b   Mesos | default VPC security group                |

Filter All security groups

| <input type="checkbox"/>            | Name tag | Group ID    | Group Name | VPC                  |
|-------------------------------------|----------|-------------|------------|----------------------|
| <input checked="" type="checkbox"/> |          | sg-0df5e77a | mesos1     | vpc-6066b51b   Mesos |
| <input type="checkbox"/>            |          | sg-60d2c017 | mesos      | vpc-6066b51b   Mesos |

**sg-0df5e77a**

Summary **Inbound Rules** Outbound Rules Tags

**Edit**

| Type        | Protocol | Port Range | Source      | Description |
|-------------|----------|------------|-------------|-------------|
| ALL Traffic | ALL      | ALL        | 10.0.1.0/24 |             |
| ALL Traffic | ALL      | ALL        | 10.0.2.0/24 |             |
| SSH (22)    | TCP (6)  | 22         | 0.0.0.0/0   |             |

| Type            | Protocol | Port Range | Source      |
|-----------------|----------|------------|-------------|
| ALL Traffic     | ALL      | ALL        | 10.0.1.0/24 |
| ALL Traffic     | ALL      | ALL        | 10.0.2.0/24 |
| Custom TCP Rule | TCP (6)  | 5050       | 0.0.0.0/0   |
| SSH (22)        | TCP (6)  | 22         | 0.0.0.0/0   |
| Custom TCP Rule | TCP (6)  | 8080       |             |



Master

Cluster: (Unnamed)  
 Leader: (Unknown)  
 Version:  
 Built: by  
 Started:  
 Elected:

LOG

Agents

Activated

Deactivated

Unreachable

Tasks

### Active Tasks

| Framework ID | Task ID | Task Name | Role | State | Health | Started ▼ | Host |
|--------------|---------|-----------|------|-------|--------|-----------|------|
|--------------|---------|-----------|------|-------|--------|-----------|------|

### Unreachable Tasks

| Framework ID | Task ID | Task Name | Role | Started ▼ | Agent ID |
|--------------|---------|-----------|------|-----------|----------|
|--------------|---------|-----------|------|-----------|----------|

### Completed Tasks

| Framework ID | Task ID | Task Name | Role | State | Started ▼ | Stopped | Host |
|--------------|---------|-----------|------|-------|-----------|---------|------|
|--------------|---------|-----------|------|-------|-----------|---------|------|

```

master1 master2 master3
[centos@mesos-master1 ~]$ cd /etc/mesos-master/
[centos@mesos-master1 mesos-master]$ ls -rlt

```

```

total 16
-rw-rw-r--. 1 root root 15 Feb  8 16:22 work_dir
-rw-rw-r--. 1 root root  2 Mar  1 04:54 quorum
drwxr-xr-x. 2 root root 45 Mar  3 06:28 bak
-rw-r--r--. 1 root root 10 Mar  3 06:49 ip
-rw-r--r--. 1 root root 10 Mar  9 14:01 hostname

```

```

[centos@mesos-master1 mesos-master]$ cat hostname
10.0.1.42
[centos@mesos-master1 mesos-master]$ █

```

```

[centos@mesos-master1 mesos-master]$ hostname

```

```

[centos@mesos-master1 mesos-master]$ sudo vi hostname █

```

```
127.0.0.1    localhost localhost.localdomain localhost4 localhost4.local
domain4
::1         localhost localhost.localdomain localhost6 localhost6.local
domain6
10.0.1.42   mesos-master1
10.0.1.203  mesos-master2
10.0.2.68   mesos-master3

[centos@mesos-master1 ~]$ █
```

```
master1 master2 master3
[centos@mesos-master2 mesos-master]$ cat /etc/hosts
127.0.0.1    localhost localhost.localdomain localhost4 localhost4.local
domain4
::1         localhost localhost.localdomain localhost6 localhost6.local
domain6
10.0.1.42   mesos-master1
10.0.1.203  mesos-master2
10.0.2.68   mesos-master3
[centos@mesos-master2 mesos-master]$ █
```

Redirecting to `/bin/systemctl start zookeeper.service`

```
Loaded: loaded (/usr/lib/systemd/system/zookeeper.service; enabled;
vendor preset: disabled)
Active: active (running) since Fri 2018-03-09 14:13:29 UTC; 4s ago
Main PID: 1829 (java)
Memory: 31.5M
CGroup: /system.slice/zookeeper.service
└─1829 java -Dzookeeper.log.dir=. -Dzookeeper.root.logger...

Mar 09 14:13:32 mesos-master1 zookeeper[1829]: at java.net.AbstractP...
Mar 09 14:13:32 mesos-master1 zookeeper[1829]: at java.net.AbstractP...
Mar 09 14:13:32 mesos-master1 zookeeper[1829]: at java.net.AbstractP...
Mar 09 14:13:32 mesos-master1 zookeeper[1829]: at java.net.SocksSock...
Mar 09 14:13:32 mesos-master1 zookeeper[1829]: at java.net.Socket.co...
Mar 09 14:13:32 mesos-master1 zookeeper[1829]: at org.apache.zookeep...
Mar 09 14:13:32 mesos-master1 zookeeper[1829]: at org.apache.zookeep...
Mar 09 14:13:32 mesos-master1 zookeeper[1829]: at org.apache.zookeep...
Mar 09 14:13:32 mesos-master1 zookeeper[1829]: at org.apache.zookeep...
Mar 09 14:13:32 mesos-master1 zookeeper[1829]: 2018-03-09 14:13:32,8...
```

---

```
94] - Processed session termination for sessionid: 0x1620ac11d970005
Mar 09 14:14:04 mesos-master2 zookeeper[2674]: 2018-03-09 14:14:04,002
[myid:2] - INFO [ProcessThread(sid:2 cport:-1)::PrepRequestProcessor@4
94] - Processed session termination for sessionid: 0x1620ac11d970002
Mar 09 14:14:04 mesos-master2 zookeeper[2674]: 2018-03-09 14:14:04,003
[myid:2] - INFO [ProcessThread(sid:2 cport:-1)::PrepRequestProcessor@4
94] - Processed session termination for sessionid: 0x3620ac05ddc0000
Mar 09 14:14:04 mesos-master2 zookeeper[2674]: 2018-03-09 14:14:04,003
[myid:2] - INFO [ProcessThread(sid:2 cport:-1)::PrepRequestProcessor@4
94] - Processed session termination for sessionid: 0x1620ac11d970003
Mar 09 14:14:04 mesos-master2 zookeeper[2674]: 2018-03-09 14:14:04,003
[myid:2] - INFO [ProcessThread(sid:2 cport:-1)::PrepRequestProcessor@4
94] - Processed session termination for sessionid: 0x1620aa7aade0001
Mar 09 14:14:04 mesos-master2 zookeeper[2674]: 2018-03-09 14:14:04,003
[myid:2] - INFO [ProcessThread(sid:2 cport:-1)::PrepRequestProcessor@4
94] - Processed session termination for sessionid: 0x3620ac6089f0000
Mar 09 14:14:04 mesos-master2 zookeeper[2674]: 2018-03-09 14:14:04,003
[myid:2] - INFO [ProcessThread(sid:2 cport:-1)::PrepRequestProcessor@4
```

```
er@162] - Created server with tickTime 2000 minSessionTimeout 4000 maxS
essionTimeout 40000 datadir /var/lib/zookeeper/version-2 snapdir /var/li
ib/zookeeper/version-2
Mar 09 14:13:55 mesos-master3 zookeeper[2122]: 2018-03-09 14:13:55,434
[myid:3] - INFO [QuorumPeer[myid=3]/0:0:0:0:0:0:0:0:2181:Follower@63]
- FOLLOWING - LEADER ELECTION TOOK - 34
Mar 09 14:13:55 mesos-master3 zookeeper[2122]: 2018-03-09 14:13:55,452
[myid:3] - INFO [QuorumPeer[myid=3]/0:0:0:0:0:0:0:0:2181:Learner@323]
- Getting a diff from the leader 0x160000004d
Mar 09 14:13:55 mesos-master3 zookeeper[2122]: 2018-03-09 14:13:55,457
[myid:3] - INFO [QuorumPeer[myid=3]/0:0:0:0:0:0:0:0:2181:FileTxnSnapLo
g@240] - Snapshotting: 0x160000004d to /var/lib/zookeeper/version-2/sna
pshot.160000004d
Mar 09 14:14:01 mesos-master3 zookeeper[2122]: 2018-03-09 14:14:01,168
[myid:3] - WARN [QuorumPeer[myid=3]/0:0:0:0:0:0:0:0:2181:Follower@118]
- Got zxid 0x1700000001 expected 0x1
Mar 09 14:14:01 mesos-master3 zookeeper[2122]: 2018-03-09 14:14:01,168
[myid:3] - INFO [SyncThread:3:FileTxnLog@199] - Creating new log file:
```

```
master1 master2 master3
-rw-----. 1 root root 4499 Mar 2 12:11 yum.log
-rw-r--r--. 1 root root 483 Mar 2 19:07 1
-rw-----. 1 root root 1424 Mar 8 17:33 maillog-20180308
-rw-----. 1 root root 17852263 Mar 8 18:46 messages-20180308
-rw-----. 1 root root 260800 Mar 8 18:46 secure-20180308
-rw-r--r--. 1 root root 12491 Mar 8 18:47 cron-20180308
-rw-----. 1 root root 0 Mar 8 18:47 spooler
-rw-r--r--. 1 root root 31863 Mar 9 11:40 dmesg.old
-rw-r--r--. 1 root root 31906 Mar 9 12:12 dmesg
-rw-r--r--. 1 root root 831 Mar 9 12:12 boot.log
-rw-----. 1 root root 412 Mar 9 12:12 maillog
-rw-----. 1 root root 827684 Mar 9 12:12 cloud-init.log
-rw-----. 1 root utmp 59904 Mar 9 13:54 bttmp
-rw-rw-r--. 1 root utmp 41088 Mar 9 13:58 wtmp
-rw-r--r--. 1 root root 292292 Mar 9 13:58 lastlog
drwxrwxr-x. 2 root root 28672 Mar 9 14:00 mesos
-rw-r--r--. 1 root root 3022 Mar 9 14:01 cron
```

zk://10.0.1.42:2181,10.0.1.203:2181,10.0.2.68:2181/mesos

/etc/mesos/zk

```
sudo service mesos-slave start
sudo service mesos-slave stop
```

```
master1 master2 master3
[centos@mesos-master1 ~]$ cd /etc/mesos-master/
[centos@mesos-master1 mesos-master]$ ls -rlt
```

---

```
total 16
-rw-rw-r--. 1 root root 15 Feb  8 16:22 work_dir
-rw-rw-r--. 1 root root  2 Mar  1 04:54 quorum
drwxr-xr-x. 2 root root 45 Mar  3 06:28 bak
-rw-r--r--. 1 root root 10 Mar  3 06:49 ip
-rw-r--r--. 1 root root 10 Mar  9 14:01 hostname
```

```
[centos@mesos-master1 mesos-master]$ cat hostname
10.0.1.42
[centos@mesos-master1 mesos-master]$ █
```

```
[centos@mesos-master1 mesos-master]$ hostname
mesos-master1
```

```
[centos@mesos-master1 mesos-master]$ sudo vi hostname █
```

```
127.0.0.1    localhost localhost.localdomain localhost4 localhost4.local
domain4
::1         localhost localhost.localdomain localhost6 localhost6.local
domain6
10.0.1.42   mesos-master1
10.0.1.203  mesos-master2
10.0.2.68   mesos-master3
[centos@mesos-master1 ~]$ █
```

```
master1 master2 master3
[centos@mesos-master2 mesos-master]$ cat /etc/hosts
127.0.0.1    localhost localhost.localdomain localhost4 localhost4.local
domain4
::1         localhost localhost.localdomain localhost6 localhost6.local
domain6
10.0.1.42   mesos-master1
10.0.1.203  mesos-master2
10.0.2.68   mesos-master3
[centos@mesos-master2 mesos-master]$ █
```

Redirecting to /bin/systemctl start zookeeper.service

```
Loaded: loaded (/usr/lib/systemd/system/zookeeper.service; enabled;
vendor preset: disabled)
Active: active (running) since Fri 2018-03-09 14:13:29 UTC; 4s ago
Main PID: 1829 (java)
Memory: 31.5M
CGroup: /system.slice/zookeeper.service
└─1829 java -Dzookeeper.log.dir=. -Dzookeeper.root.logger...

Mar 09 14:13:32 mesos-master1 zookeeper[1829]: at java.net.AbstractP...
Mar 09 14:13:32 mesos-master1 zookeeper[1829]: at java.net.AbstractP...
Mar 09 14:13:32 mesos-master1 zookeeper[1829]: at java.net.AbstractP...
Mar 09 14:13:32 mesos-master1 zookeeper[1829]: at java.net.SocksSock...
Mar 09 14:13:32 mesos-master1 zookeeper[1829]: at java.net.Socket.co...
Mar 09 14:13:32 mesos-master1 zookeeper[1829]: at org.apache.zookeep...
Mar 09 14:13:32 mesos-master1 zookeeper[1829]: at org.apache.zookeep...
Mar 09 14:13:32 mesos-master1 zookeeper[1829]: at org.apache.zookeep...
Mar 09 14:13:32 mesos-master1 zookeeper[1829]: at org.apache.zookeep...
Mar 09 14:13:32 mesos-master1 zookeeper[1829]: 2018-03-09 14:13:32,8...
```

---

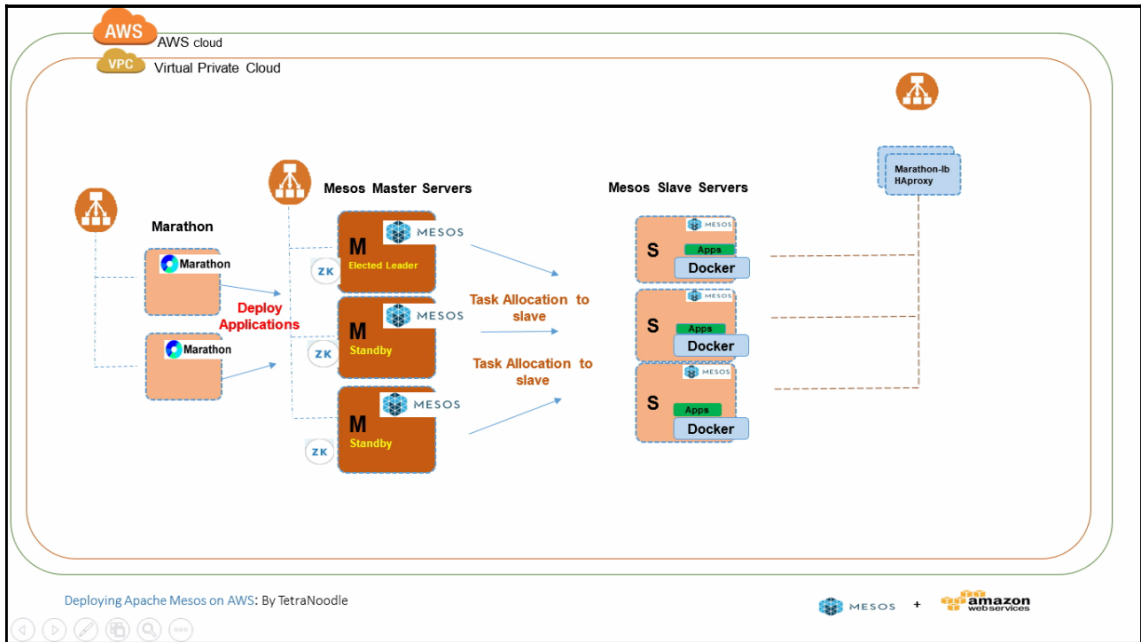
```
94] - Processed session termination for sessionid: 0x1620ac11d970005
Mar 09 14:14:04 mesos-master2 zookeeper[2674]: 2018-03-09 14:14:04,002
[myid:2] - INFO [ProcessThread(sid:2 cport:-1)::PrepRequestProcessor@4
94] - Processed session termination for sessionid: 0x1620ac11d970002
Mar 09 14:14:04 mesos-master2 zookeeper[2674]: 2018-03-09 14:14:04,003
[myid:2] - INFO [ProcessThread(sid:2 cport:-1)::PrepRequestProcessor@4
94] - Processed session termination for sessionid: 0x3620ac05ddc0000
Mar 09 14:14:04 mesos-master2 zookeeper[2674]: 2018-03-09 14:14:04,003
[myid:2] - INFO [ProcessThread(sid:2 cport:-1)::PrepRequestProcessor@4
94] - Processed session termination for sessionid: 0x1620ac11d970003
Mar 09 14:14:04 mesos-master2 zookeeper[2674]: 2018-03-09 14:14:04,003
[myid:2] - INFO [ProcessThread(sid:2 cport:-1)::PrepRequestProcessor@4
94] - Processed session termination for sessionid: 0x1620aa7aade0001
Mar 09 14:14:04 mesos-master2 zookeeper[2674]: 2018-03-09 14:14:04,003
[myid:2] - INFO [ProcessThread(sid:2 cport:-1)::PrepRequestProcessor@4
94] - Processed session termination for sessionid: 0x3620ac6089f0000
Mar 09 14:14:04 mesos-master2 zookeeper[2674]: 2018-03-09 14:14:04,003
[myid:2] - INFO [ProcessThread(sid:2 cport:-1)::PrepRequestProcessor@4
```

```
er@162] - Created server with tickTime 2000 minSessionTimeout 4000 maxS
essionTimeout 40000 datadir /var/lib/zookeeper/version-2 snapdir /var/l
ib/zookeeper/version-2
Mar 09 14:13:55 mesos-master3 zookeeper[2122]: 2018-03-09 14:13:55,434
[myid:3] - INFO [QuorumPeer[myid=3]/0:0:0:0:0:0:0:0:2181:Follower@63]
- FOLLOWING - LEADER ELECTION TOOK - 34
Mar 09 14:13:55 mesos-master3 zookeeper[2122]: 2018-03-09 14:13:55,452
[myid:3] - INFO [QuorumPeer[myid=3]/0:0:0:0:0:0:0:0:2181:Learner@323]
- Getting a diff from the leader 0x160000004d
Mar 09 14:13:55 mesos-master3 zookeeper[2122]: 2018-03-09 14:13:55,457
[myid:3] - INFO [QuorumPeer[myid=3]/0:0:0:0:0:0:0:0:2181:FileTxnSnapLo
g@240] - Snapshotting: 0x160000004d to /var/lib/zookeeper/version-2/sna
pshot.160000004d
Mar 09 14:14:01 mesos-master3 zookeeper[2122]: 2018-03-09 14:14:01,168
[myid:3] - WARN [QuorumPeer[myid=3]/0:0:0:0:0:0:0:0:2181:Follower@118]
- Got zxid 0x1700000001 expected 0x1
Mar 09 14:14:01 mesos-master3 zookeeper[2122]: 2018-03-09 14:14:01,168
[myid:3] - INFO [SyncThread:3:FileTxnLog@199] - Creating new log file:
```

|             | master1 | master2 | master3 |          |     |   |       |                   |  |  |
|-------------|---------|---------|---------|----------|-----|---|-------|-------------------|--|--|
| -rw-----.   | 1       | root    | root    | 4499     | Mar | 2 | 12:11 | yum.log           |  |  |
| -rw-r--r--. | 1       | root    | root    | 483      | Mar | 2 | 19:07 | 1                 |  |  |
| -rw-----.   | 1       | root    | root    | 1424     | Mar | 8 | 17:33 | maillog-20180308  |  |  |
| -rw-----.   | 1       | root    | root    | 17852263 | Mar | 8 | 18:46 | messages-20180308 |  |  |
| -rw-----.   | 1       | root    | root    | 260800   | Mar | 8 | 18:46 | secure-20180308   |  |  |
| -rw-r--r--. | 1       | root    | root    | 12491    | Mar | 8 | 18:47 | cron-20180308     |  |  |
| -rw-----.   | 1       | root    | root    | 0        | Mar | 8 | 18:47 | spooler           |  |  |
| -rw-r--r--. | 1       | root    | root    | 31863    | Mar | 9 | 11:40 | dmesg.old         |  |  |
| -rw-r--r--. | 1       | root    | root    | 31906    | Mar | 9 | 12:12 | dmesg             |  |  |
| -rw-r--r--. | 1       | root    | root    | 831      | Mar | 9 | 12:12 | boot.log          |  |  |
| -rw-----.   | 1       | root    | root    | 412      | Mar | 9 | 12:12 | maillog           |  |  |
| -rw-----.   | 1       | root    | root    | 827684   | Mar | 9 | 12:12 | cloud-init.log    |  |  |
| -rw-----.   | 1       | root    | utmp    | 59904    | Mar | 9 | 13:54 | btmp              |  |  |
| -rw-rw-r--. | 1       | root    | utmp    | 41088    | Mar | 9 | 13:58 | wtmp              |  |  |
| -rw-r--r--. | 1       | root    | root    | 292292   | Mar | 9 | 13:58 | lastlog           |  |  |
| drwxrwxr-x. | 2       | root    | root    | 28672    | Mar | 9 | 14:00 | mesos             |  |  |
| -rw-r--r--. | 1       | root    | root    | 3022     | Mar | 9 | 14:01 | cron              |  |  |



# Chapter 05: Deploying Services on Mesos Cluster



## Select load balancer type

Elastic Load Balancing supports three types of load balancers: Application Load Balancers, Network Load Balancers (new), and Classic Load Balancers. Choose the load balancer type that meets your needs. [Learn more about which load balancer is right for you](#)

### Application Load Balancer

HTTP  
HTTPS

Create

Choose an Application Load Balancer when you need a flexible feature set for your web applications with HTTP and HTTPS traffic. Operating at the request level, Application Load Balancers provide advanced routing, TLS termination and visibility features targeted at application architectures, including microservices and containers.

[Learn more >](#)

### Network Load Balancer

TCP

Create

Choose a Network Load Balancer when you need ultra-high performance and static IP addresses for your application. Operating at the connection level, Network Load Balancers are capable of handling millions of requests per second while maintaining ultra-low latencies.

[Learn more >](#)

### Classic Load Balancer

PREVIOUS GENERATION  
for HTTP, HTTPS, and TCP

Create

Choose a Classic Load Balancer when you have an existing application running in the EC2-Classical network.

[Learn more >](#)

Cancel

1. Configure Load Balancer 2. Configure Security Settings 3. Configure Security Groups 4. Configure Routing 5. Register Targets 6. Review

## Step 1: Configure Load Balancer

### Basic Configuration

To configure your load balancer, provide a name, select a scheme, specify one or more listeners, and select a network. The default configuration is an Internet-facing load balancer in the selected network with a listener that receives HTTP traffic on port 80.

Name ⓘ

Scheme ⓘ  internet-facing  internal

IP address type ⓘ

### Listeners

A listener is a process that checks for connection requests, using the protocol and port that you configured.

| Load Balancer Protocol                      | Load Balancer Port |
|---|--------------------|
| HTTP  | 80                 |
| <input type="button" value="Add listener"/> |                    |

Cancel

Next: Configure Security Settings

## Availability Zones

Specify the Availability Zones to enable for your load balancer. The load balancer routes traffic to the targets in these Availability Zones only. You can specify only one subnet per Availability Zone. You must specify subnets from at least two Availability Zones to increase the availability of your load balancer.

VPC (i)

| <input type="checkbox"/> Availability Zone | Subnet ID       | Subnet IPv4 CIDR | Name             |
|--|-----------------|------------------|------------------|
| <input type="checkbox"/> us-east-1a        | subnet-a91e1bcd | 10.0.1.0/24      | 10.0.1.0 - mesos |
| <input type="checkbox"/> us-east-1b        | subnet-cba7fae4 | 10.0.2.0/24      | 10.0.2.0 - mesos |

▶ Tags

[1. Configure Load Balancer](#) [2. Configure Security Settings](#) [3. Configure Security Groups](#) [4. Configure Routing](#) [5. Register Targets](#) [6. Review](#)

## Step 3: Configure Security Groups

A security group is a set of firewall rules that control the traffic to your load balancer. On this page, you can add rules to allow specific traffic to reach your load balancer. First, decide whether to create a new security group or select an existing one.

Assign a security group:  Create a **new** security group  
 Select an **existing** security group

Security group name:

Description:

| Type <span>(i)</span>     | Protocol <span>(i)</span> | Port Range <span>(i)</span> | Source <span>(i)</span>                             |
|---------------------------|---------------------------|-----------------------------|---|
| Custom TCP <span>▼</span> | TCP                       | 80                          | Anywhere <span>▼</span> 0.0.0.0, ::0 <span>✕</span> |

Add Rule

[Cancel](#) [Previous](#) [Next: Configure Routing](#)

1. Configure Load Balancer 2. Configure Security Settings 3. Configure Security Groups 4. Configure Routing 5. Register Targets 6. Review

### Step 4: Configure Routing

Name

Protocol

Port

Target type

#### Health checks

Protocol

Path

▼ Advanced health check settings

Port  traffic port  override

Healthy threshold

Unhealthy threshold

Timeout  seconds

Interval  seconds

Success codes

[Cancel](#) [Previous](#) [Next: Register Targets](#)

**Master** 100d8653-f8d3-4ce0-b12e-c826bd1275ac

**Cluster:** (Unnamed)  
**Leader:** mesos-master1:5050  
**Version:** 1.5.0  
**Built:** a month ago by centos  
**Started:** 26 minutes ago  
**Elected:** 25 minutes ago

LOG

**Agents**

|             |    |
|-------------|----|
| Activated   | 5  |
| Deactivated | 0  |
| Unreachable | 11 |

**Tasks**

|         |   |
|---------|---|
| Staging | 0 |
|---------|---|

### Active Tasks

| Framework ID     | Task ID | Task Name | Role | State | Health | Started ▼ | Host |
|------------------|---------|-----------|------|-------|--------|-----------|------|
| No active tasks. |         |           |      |       |        |           |      |

### Unreachable Tasks

| Framework ID          | Task ID | Task Name | Role | Started ▼ | Agent ID |
|-----------------------|---------|-----------|------|-----------|----------|
| No unreachable tasks. |         |           |      |           |          |

### Completed Tasks

▼ Find...

Master 100d8653-f8d3-4ce0-b12e-c826bd1275ac

**Cluster:** (Unnamed)  
**Leader:** mesos-master1:5050  
**Version:** 1.5.0  
**Built:** a month ago by centos  
**Started:** 26 minutes ago  
**Elected:** 25 minutes ago

LOG

Agents

|             |    |
|-------------|----|
| Activated   | 5  |
| Deactivated | 0  |
| Unreachable | 11 |

Tasks

|         |   |
|---------|---|
| Staging | 0 |
|---------|---|

### Active Tasks


| Framework ID     | Task ID | Task Name | Role | State | Health | Started ▼ | Host |
|------------------|---------|-----------|------|-------|--------|-----------|------|
| No active tasks. |         |           |      |       |        |           |      |

### Unreachable Tasks

| Framework ID          | Task ID | Task Name | Role | Started ▼ | Agent ID |
|-----------------------|---------|-----------|------|-----------|----------|
| No unreachable tasks. |         |           |      |           |          |

### Completed Tasks

Find...


Apache  
**MESOS**

Toggle navigation

- [Frameworks](#)
- [Agents](#)
- [Roles](#)
- [Offers](#)
- [Maintenance](#)
-

**No master is currently leading ...**

{{ alert.title }}

{{ alert.message }}

- {{ bullet }}

**STATUS**

- Running
- Deploying
- Suspended
- Delayed
- Waiting

**HEALTH**

- Healthy
- Unhealthy
- Unknown

**RESOURCES**

- Volumes

## Applications

Create Group   Create Application

| Name   | CPU | Memory | Status ? | Running Instances | Health ? |
|--|-----|--------|----------|-------------------|----------|
| <p><b>No Applications Created</b></p> <p>Do more with Marathon by creating and organizing your applications.</p> <p>Create Application</p> |     |        |          |                   |          |

Applications > nginx

## nginx

Running (1 of 1 instances)

0 Healthy   0 Unhealthy   1 Unknown (100%)

Scale Application   Restart   ⚙️

Instances   Configuration   Debug

Refresh

| ID  | Status  | Error Log | Output Log | Version       | Updated              |
|---|---------|-----------|------------|---------------|----------------------|
| nginx.5600e23c-2550-11e8-b422-12548da368a8<br>mesos-master2:31553 | Started | stderr    | stdout     | in 13 minutes | 11/03/2018, 22:49:21 |

### Edit inbound rules ✕

| Type <small>?</small> | Protocol <small>?</small> | Port Range <small>?</small> | Source <small>?</small> | Description <small>?</small> |   |
|-----------------------|---------------------------|-----------------------------|-------------------------|------------------------------|---|
| Custom TCP ▾          | TCP                       | 8080                        | Custom ▾ 0.0.0.0/0      | e.g. SSH for Admin Desktop   | ✕ |
| All traffic ▾         | All                       | 0 - 65535                   | Custom ▾ 10.0.1.0/24    | e.g. SSH for Admin Desktop   | ✕ |
| All traffic ▾         | All                       | 0 - 65535                   | Custom ▾ 10.0.2.0/24    | e.g. SSH for Admin Desktop   | ✕ |
| Custom TCP ▾          | TCP                       | 5050                        | Custom ▾ 0.0.0.0/0      | e.g. SSH for Admin Desktop   | ✕ |
| SSH ▾                 | TCP                       | 22                          | Custom ▾ 0.0.0.0/0      | e.g. SSH for Admin Desktop   | ✕ |
| All TCP ▾             | TCP                       | 0 - 65535                   | Anywhere ▾ 0.0.0.0, ::0 | e.g. SSH for Admin Desktop   | ✕ |

Add Rule

NOTE: Any edits made on existing rules will result in the edited rule being deleted and a new rule created with the new details. This will cause traffic that depends on that rule to be dropped for a very brief period of time until the new rule can be created.

Cancel Save

## Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to [nginx.org](http://nginx.org). Commercial support is available at [nginx.com](http://nginx.com).

*Thank you for using nginx.*

## Scale Application

How many instances would you like to scale to?

6
▾

Scale Application
Cancel

RDS > Launch DB instance

Step 1  
Select engine

Step 2  
**Choose use case**

Step 3  
Specify DB details

Step 4  
Configure advanced settings

## Choose use case

**Use case**  
Do you plan to use this database for production purposes?

Use case

- Production - Amazon Aurora** Recommended  
MySQL-compatible, enterprise-class database at 1/10th the cost of commercial databases.
- Production - MySQL**  
Use [Multi-AZ Deployment](#) and [Provisioned IOPS Storage](#) as defaults for high availability and fast, consistent performance.
- Dev/Test - MySQL**  
This instance is intended for use outside of production or under the [RDS Free Usage Tier](#).

Billing is based on [RDS pricing](#).

Cancel Previous Next

Choose use case

Step 3  
Specify DB details

Step 4  
**Configure advanced settings**

## Network & Security

**Virtual Private Cloud (VPC)** [info](#)  
VPC defines the virtual networking environment for this DB instance.

Mesos (vpc-6066b51b) ↻

Only VPCs with a corresponding DB subnet group are listed.

**Subnet group** [info](#)  
DB subnet group that defines which subnets and IP ranges the DB instance can use in the VPC you selected.

Create new DB Subnet Group

**Public accessibility** [info](#)

- Yes  
EC2 instances and devices outside of the VPC hosting the DB instance will connect to the DB instances. You must also select one or more VPC security groups that specify which EC2 instances and devices can connect to the DB instance.
- No  
DB instance will not have a public IP address assigned. No EC2 instance or devices outside of the VPC will be able to connect.

**Availability zone** [info](#)

No preference

**VPC security groups**  
Security groups have rules authorizing connections from all the EC2 instances and devices that need to access the DB instance.

- Create new VPC security group
- Choose existing VPC security groups



Database name

Note: if no database name is specified then no initial MySQL database will be created on the DB Instance.

Database port  
TCP/IP port the DB instance will use for application connections.

DB parameter group [info](#)

Option group [info](#)

Copy tags to snapshots

IAM DB authentication [info](#)

Enable IAM DB authentication  
Manage your database user credentials through AWS IAM users and roles.

Disable

**Amazon RDS** ×

- Dashboard
- Instances**
- Clusters
- Performance Insights review
- Snapshots
- Reserved instances

---

- Subnet groups
- Parameter groups
- Option groups

---

- Events
- Event subscriptions

---

- Notifications

RDS > Instances > wordpressmesosdatabase

## wordpressmesosdatabase

Instance actions ▼

**Summary**

|                        |   |                                 |                             |
|------------------------|---|---------------------------------|-----------------------------|
| Engine<br>MySQL 5.6.39 | DB instance class <a href="#">info</a><br>db.t2.micro | DB instance status<br>available | Pending maintenance<br>none |
|------------------------|---|---------------------------------|-----------------------------|

**CloudWatch (17)**

🔄
Add instance to compare
Monitoring ▼
Last Hour ▼

Legend: | wordpressmesosdatabase

< 1 2 3 > ⚙️

EC2 Dashboard

Create Security Group Actions

search: sg-3848cc4e Add filter

| Name        | Group ID | Group Name        | VPC ID       | Description             |
|-------------|----------|-------------------|--------------|-------------------------|
| sg-3848cc4e |          | rds-launch-wizard | vpc-6068b51b | Created from the RDS Ma |

### Edit inbound rules

| Type       | Protocol | Port Range | Source                            | Description                |
|------------|----------|------------|-----------------------------------|----------------------------|
| Custom TCP | TCP      | 3306       | Custom 27.96.89.235/32            | e.g. SSH for Admin Desktop |
| Custom TCP | TCP      | 0          | Custom CIDR, IP or Security Group | e.g. SSH for Admin Desktop |

Add Rule

NOTE: Any edits made on existing rules will result in the edited rule being deleted and a new rule created with the new details. This will cause traffic that depends on that rule to be dropped for a very brief period of time until the new rule can be created.

Cancel Save

ELASTIC BLOCK STORE  
Volumes

### Amazon RDS

- Dashboard
- Instances
- Clusters
- Performance Insights PREVIEW
- Snapshots
- Reserved instances
- Subnet groups
- Parameter groups
- Option groups
- Events
- Event subscriptions
- Notifications

#### CloudWatch (17)

Refresh Add instance to compare Monitoring Last Hour

Legend: wordpressmesosdatabase

Search

CPU Utilization (Percent)

| Time        | CPU Utilization (Percent) |
|-------------|---------------------------|
| 03/11 23:00 | ~0                        |
| 03/11 23:30 | ~14                       |

DB Connections (Count)

| Time        | DB Connections (Count) |
|-------------|------------------------|
| 03/11 23:00 | 0                      |
| 03/11 23:30 | 1                      |

**New Application** JSON Mode

**General**

Docker Container

Ports

Environment Variables

Labels

Health Checks

Volumes

Optional

ID

wordpress

| CPU | Memory (MiB) | Disk Space (MiB) | Instances |
|-----|--------------|------------------|-----------|
| 1   | 128          | 500              | 1         |

Command

May be left blank if a container image is supplied

Cancel Create Application

## New Application JSON Mode

- General
- Docker Container**
- Ports
- Environment Variables
- Labels
- Health Checks
- Volumes
- Optional

**Image**

Force pull image on every launch

**Network**

Extend runtime privileges

**Parameters**

| Key                  | Value                               |
|----------------------|-------------------------------------|
| <input type="text"/> | <input type="text"/> <span>+</span> |

You can configure your Docker volumes [in the Volumes section](#).  
You can configure your Docker ports [in the Ports section](#).

Cancel Create Application

**New Application**
JSON Mode

General

Docker Container

**Ports**

Environment Variables

Labels

Health Checks

Volumes

Optional

Container Port ?
Protocol
Name

tcp
▼

+
-

Your Docker container will bind to the requested ports and they will be dynamically mapped to \$PORT0 on the host.

For more advanced port configuration options, including service ports, use [JSON mode](#).

Cancel
Create Application

**MARATHON**
Applications 1 Deployments

?

Create Group
Create Application

|  | Name   | CPU | Memory  | Status  | Running Instances | Health  |
|--|--|-----|---------|---|-------------------|---|
| <p><b>STATUS</b></p> <p><input type="checkbox"/> Running</p> <p><input checked="" type="checkbox"/> <b>Deploying</b> <span style="font-size: 0.8em;">1</span></p> <p><input type="checkbox"/> Suspended</p> <p><input type="checkbox"/> Delayed</p> <p><input type="checkbox"/> Waiting</p> <p><b>HEALTH</b></p> <p><input type="checkbox"/> Healthy</p> | <div style="display: flex; align-items: center; margin-bottom: 5px;"> <span style="font-size: 1.5em; margin-right: 5px;">⚙️</span> <span>wordpress</span> </div> | 1.0 | 128 MiB | <span style="color: #ffc107;">●</span> <b>Deploying</b> | 0 of 1            | <div style="display: flex; align-items: center;"> <div style="width: 100px; height: 10px; background: linear-gradient(to right, #2c3e50, #2c3e50); border: 1px solid #ccc; margin-right: 5px;"></div> <span style="font-size: 0.8em;">...</span> </div> |

```
Environment WORDPRESS_DB_HOST=wordpressmesosdatabase.czcaj5cmbwhu.us-east-1.rds.amazonaws.com:8080
WORDPRESS_DB_PASSWORD=tetra1234
WORDPRESS_DB_USER=tetrauser
```

**Edit Application** JSON Mode

|                              | Key                   | Value                 |   |
|------------------------------|-----------------------|-----------------------|---|
| General                      | WORDPRESS_DB_HOST     | wordpressmesosdatabas | <input type="button" value="+"/> <input type="button" value="-"/> |
| Docker Container             |                       |                       |   |
| Ports                        |                       |                       |   |
| <b>Environment Variables</b> | WORDPRESS_DB_USER     | tetrauser             | <input type="button" value="+"/> <input type="button" value="-"/> |
| Labels                       |                       |                       |   |
| Health Checks                | WORDPRESS_DB_PASSWORD | tetra1234             | <input type="button" value="+"/> <input type="button" value="-"/> |
| Volumes                      |                       |                       |   |
| Optional                     |                       |                       |   |

Amazon RDS ×

RDS > Instances > wordpressmesosdatabase

## wordpressmesosdatabase Instance actions ▾

**Summary**

|                        |   |                                 |                             |
|------------------------|---|---------------------------------|-----------------------------|
| Engine<br>MySQL 5.6.39 | DB instance class <a href="#">info</a><br>db.t2.micro | DB instance status<br>available | Pending maintenance<br>none |
|------------------------|---|---------------------------------|-----------------------------|

**CloudWatch (17)**

↻ Add instance to compare Monitoring ▾ Last Hour ▾

Legend: **wordpressmesosdatabase**

< 1 2 3 > ⚙

```
Unable to find image 'mesosphere/marathon-lb:latest' locally
latest: Pulling from mesosphere/marathon-lb
cc20a3251af5: Pull complete
b4e6692eb4b1: Pull complete
a807a2410082: Pull complete
533a024f7c0c: Pull complete
fc9f66b5d6e8: Pull complete
5d36f8939a25: Pull complete
Digest: sha256:a1bd967401686fdc3f86d3c6767e76bd6c79b7f4cce3f0e8a89da766
880e5279
Status: Downloaded newer image for mesosphere/marathon-lb:latest
d6f95d09d2def4986371003a0a5756a5b8713ee8655f0606fb6466a0cfd434fb
[centos@marathon1 ~]$
```

# HAProxy version 1.7.6, released 2017/06/16

## Statistics Report for pid 87

### > General process information

pid = 87 (process #1, nbproc = 1)

uptime = 0d 0h02m37s

system limits: memmax = unlimited; ulimit-n = 65536

maxsock = 100035; maxconn = 50000; maxpipes = 0

current conns = 1; current pipes = 0/0; conn rate = 1/sec

Running tasks: 1/9; idle = 100 %

■ active UP      ■ backup UP  
■ active UP, going down      ■ backup UP, going down  
■ active DOWN, going up      ■ backup DOWN, going up  
■ active or backup DOWN      ■ not checked  
■ active or backup DOWN for maintenance (MAINT)  
■ active or backup SOFT STOPPED for maintenance  
 Note: "NOLB"/"DRAIN" = UP with load-balancing disabled.

Display option:

- Scope :
- Hide 'DOWN' servers
- Refresh now
- CSV export

External resources:

- Primary site
- Updates (v1.7)
- Online manual

| stats    |       |     |              |     |          |       |       |       |        |    |        |     |        |        |          |      |        |       |        |         |       |     |     |     |     |        |   |
|----------|-------|-----|--------------|-----|----------|-------|-------|-------|--------|----|--------|-----|--------|--------|----------|------|--------|-------|--------|---------|-------|-----|-----|-----|-----|--------|---|
|          | Queue |     | Session rate |     | Sessions |       |       |       | Bytes  |    | Denied |     | Errors |        | Warnings |      | Server |       |        |         |       |     |     |     |     |        |   |
|          | Cur   | Max | Limit        | Cur | Max      | Limit | Total | LbTot | Last   | In | Out    | Req | Resp   | Req    | Conn     | Resp | Retr   | Redis | Status | LastChk | Wght  | Act | Bck | Chk | Dwn | Dwntme |   |
| Frontend |       |     |              | 1   | 2        | -     | 1     | 2     | 10 000 | 4  |        | 782 | 26 395 | 0      | 0        | 2    |        |       | OPEN   |         |       |     |     |     |     |        |   |
| Backend  | 0     | 0   |              | 0   | 1        |       | 0     | 1     | 1 000  | 1  | 0      | 0s  | 782    | 26 395 | 0        | 0    |        | 1     | 0      | 0       | 2m37s | UP  |     | 0   | 0   | 0      | 0 |

| marathon_http_in |       |     |              |     |          |       |       |       |        |    |        |     |        |     |          |      |        |       |        |         |      |     |     |     |     |        |        |  |
|------------------|-------|-----|--------------|-----|----------|-------|-------|-------|--------|----|--------|-----|--------|-----|----------|------|--------|-------|--------|---------|------|-----|-----|-----|-----|--------|--------|--|
|                  | Queue |     | Session rate |     | Sessions |       |       |       | Bytes  |    | Denied |     | Errors |     | Warnings |      | Server |       |        |         |      |     |     |     |     |        |        |  |
|                  | Cur   | Max | Limit        | Cur | Max      | Limit | Total | LbTot | Last   | In | Out    | Req | Resp   | Req | Conn     | Resp | Retr   | Redis | Status | LastChk | Wght | Act | Bck | Chk | Dwn | Dwntme | Thrtle |  |
| Frontend         |       |     |              | 0   | 0        | -     | 0     | 0     | 10 000 | 0  |        | 0   | 0      | 0   | 0        | 0    |        |       | OPEN   |         |      |     |     |     |     |        |        |  |

| marathon_http_appid_in |       |     |              |     |          |       |       |       |        |    |        |     |        |     |          |      |        |       |        |         |      |     |     |     |     |        |        |  |
|------------------------|-------|-----|--------------|-----|----------|-------|-------|-------|--------|----|--------|-----|--------|-----|----------|------|--------|-------|--------|---------|------|-----|-----|-----|-----|--------|--------|--|
|                        | Queue |     | Session rate |     | Sessions |       |       |       | Bytes  |    | Denied |     | Errors |     | Warnings |      | Server |       |        |         |      |     |     |     |     |        |        |  |
|                        | Cur   | Max | Limit        | Cur | Max      | Limit | Total | LbTot | Last   | In | Out    | Req | Resp   | Req | Conn     | Resp | Retr   | Redis | Status | LastChk | Wght | Act | Bck | Chk | Dwn | Dwntme | Thrtle |  |
| Frontend               |       |     |              | 0   | 0        | -     | 0     | 0     | 10 000 | 0  |        | 0   | 0      | 0   | 0        | 0    |        |       | OPEN   |         |      |     |     |     |     |        |        |  |

← → ↻ lb-marthon-1614119153.us-east-1.elb.amazonaws.com/ui/#/apps/%2Fwordpress

## wordpress

🔄 Running (4 of 4 instances)

● 0 Healthy    ● 0 Unhealthy    ● 4 Unknown (100%)

Scale Application

Restart

⚙️

Instances    Configuration    Debug

🔄 Refresh

| ID   | Status  | Error Log | Output Log | Version       | Updated              |
|--|---------|-----------|------------|---------------|----------------------|
| wordpress.d6d4d580-26c7-11e8-8023-12548da368a8<br><small>mesos-master2:31827</small> | Started |           |            | 3 hours ago   | 13/03/2018, 19:37:18 |
| wordpress.254ad0d4-26e0-11e8-8023-12548da368a8<br><small>mesos-slave2:31214</small>  | Started |           |            | a minute ago  | 13/03/2018, 22:31:18 |
| wordpress.254b1ef5-26e0-11e8-8023-12548da368a8<br><small>mesos-slave1:31125</small>  | Started |           |            | a minute ago  | 13/03/2018, 22:31:18 |
| wordpress.26298626-26e2-11e8-8023-12548da368a8<br><small>mesos-master1:31254</small> | Started |           |            | in 14 minutes | 13/03/2018, 22:45:38 |



### Edit Application JSON Mode

General

Docker Container

Ports

Environment Variables

**Labels**

Health Checks

Volumes

Optional

| Key           | Value    |   |
|---------------|----------|---|
| HAPROXY_GROUP | external | <input type="button" value="+"/> <input type="button" value="-"/> |

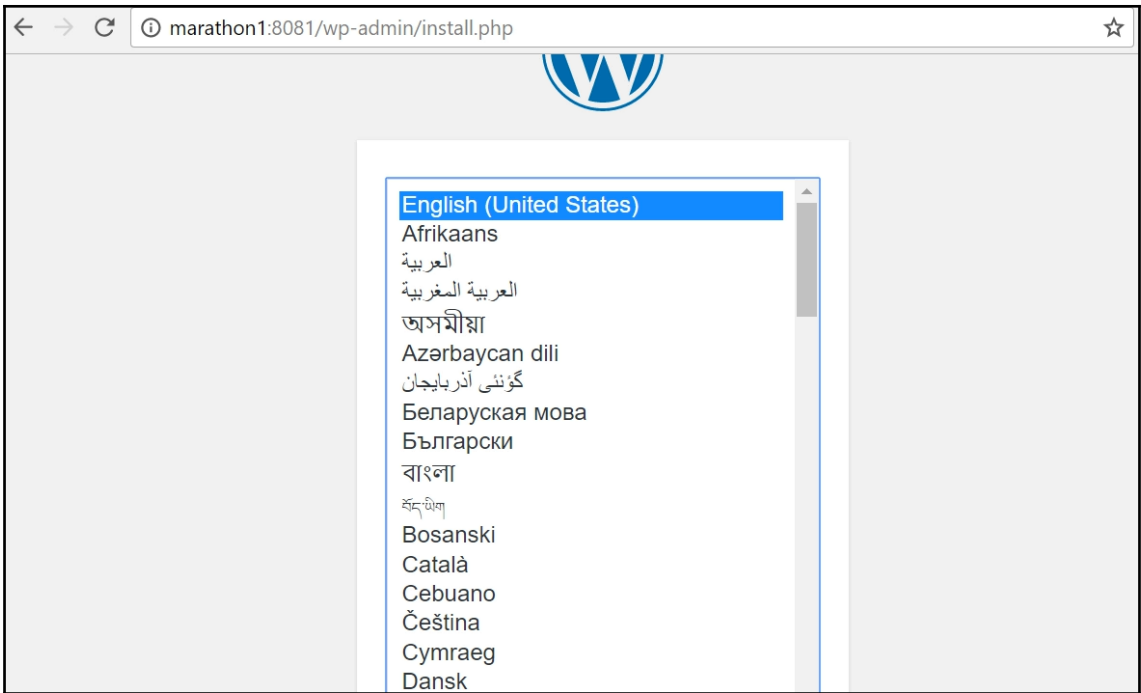
|                              | Queue |     | Session rate |     | Sessions |       |     | Bytes | Denied | Errors |       | Warnings |    | Server |     |      |     |      |      |      |       |          |         |      |     |     |     |
|------------------------------|-------|-----|--------------|-----|----------|-------|-----|-------|--------|--------|-------|----------|----|--------|-----|------|-----|------|------|------|-------|----------|---------|------|-----|-----|-----|
|                              | Cur   | Max | Limit        | Cur | Max      | Limit | Cur | Max   | Limit  | Total  | LbTot | Last     | In | Out    | Req | Resp | Req | Conn | Resp | Retr | Redis | Status   | LastChk | Wght | Act | Bck | Chk |
| mesos-slave1_10_0_1_85_31080 | 0     | 0   | -            | 0   | 0        | 0     | 0   | 0     | 0      | 0      | 0     | 0        | 0  | 0      | 0   | 0    | 0   | 0    | 0    | 0    | 0     | no check |         | 1    | Y   | -   |     |

### Edit Application JSON Mode

```

1 - {
2   "id": "/wordpress",
3   "cmd": null,
4   "cpus": 1,
5   "mem": 128,
6   "disk": 200,
7   "instances": 1,
8   "acceptedResourceRoles": [
9     "*"
10  ],
11  "container": {
12    "type": "DOCKER",
13    "docker": {
14      "forcePullImage": false,
15      "image": "wordpress",
16      "parameters": [],
17      "privileged": false
18    },
19    "volumes": [],
20    "portMappings": [
21      {
22        "containerPort": 80,
23        "hostPort": 0,
24        "labels": {},
25        "name": "wordpress",
26        "protocol": "tcp",
27        "servicePort": 1000
28      }
29    ]
30  },
31  "env": {

```



| wordpress_10001                | Queue |     |       | Session rate |     |       | Sessions |     |       |       |    | Bytes |       | Denied | Errors |     | Warnings |     | Ser |      |      |      |          |        |         |      |
|--------------------------------|-------|-----|-------|--------------|-----|-------|----------|-----|-------|-------|----|-------|-------|--------|--------|-----|----------|-----|-----|------|------|------|----------|--------|---------|------|
|                                | Cur   | Max | Limit | Cur          | Max | Limit | Cur      | Max | Limit | Total | Lb | Tot   | Last  | In     | Out    | Req | Resp     | Req |     | Conn | Resp | Retr | Redis    | Status | LastChk | Wght |
| mesos-master2_10_0_1_203_31417 | 0     | 0   | -     | 0            | 2   |       | 1        | 2   | -     | 2     | 2  | 9s    | 2 055 | 9 462  | 0      | 0   | 0        | 0   | 0   | 0    | 0    | 0    | no check |        | 1       | Y    |
| mesos-master3_10_0_2_68_31849  | 0     | 0   | -     | 0            | 2   |       | 2        | 2   | -     | 2     | 2  | 9s    | 0     | 0      | 0      | 0   | 0        | 0   | 0   | 0    | 0    | 0    | no check |        | 1       | Y    |
| mesos-slave3_10_0_2_141_31789  | 0     | 0   | -     | 0            | 2   |       | 2        | 2   | -     | 2     | 2  | 9s    | 0     | 0      | 0      | 0   | 0        | 0   | 0   | 0    | 0    | 0    | no check |        | 1       | Y    |

ELASTIC BLOCK STORE

- Volumes
- Snapshots

NETWORK & SECURITY

- Security Groups
- Elastic IPs
- Placement Groups
- Key Pairs
- Network Interfaces

LOAD BALANCING

- Load Balancers**
- Target Groups

AUTO SCALING

- Launch Configurations
- Auto Scaling Groups

SYSTEMS MANAGER SERVICES

- Run Command
- State Manager
- Configuration

Create Load Balancer Actions

search : arn:aws:elasticloadbalancing:us-east-1:... Add filter

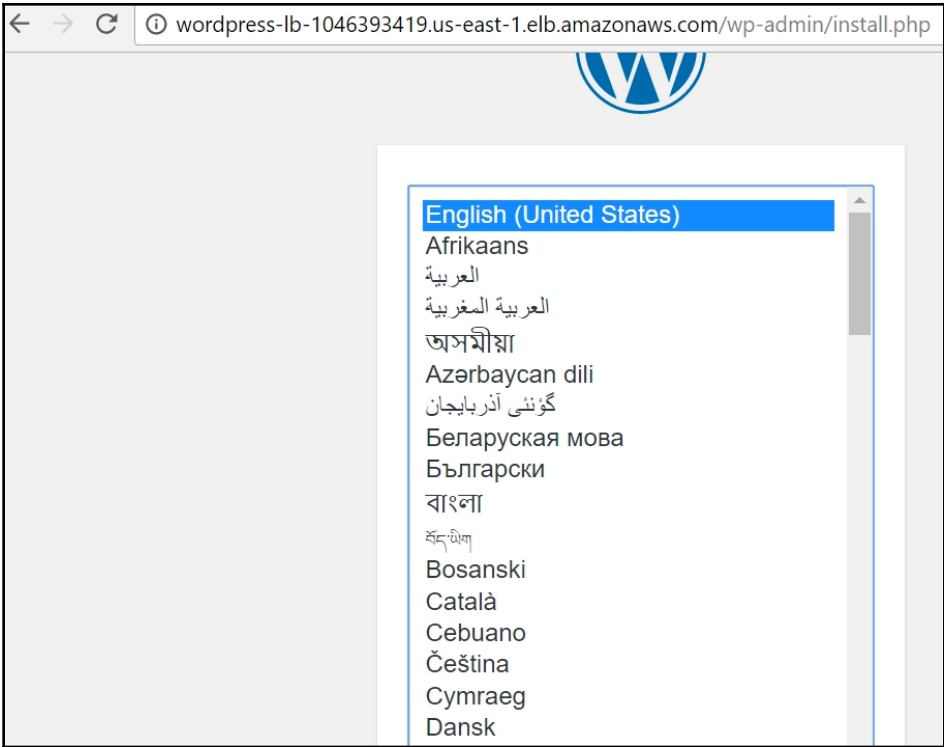
| Name         | DNS name                     | State        | VPC ID       | Availability Zones     | Type  |
|--------------|------------------------------|--------------|--------------|------------------------|-------|
| wordpress-lb | wordpress-lb-1046393419.u... | provisioning | vpc-6066b51b | us-east-1a, us-east-1b | appli |

Load balancer: wordpress-lb

Description Listeners Monitoring Tags

**Basic Configuration**

|                  |  |                         |  |
|------------------|--|-------------------------|--|
| <b>Name:</b>     | wordpress-lb   | <b>Creation time:</b>   | March 13, 2018 at 11:26:26 PM UTC+5:30 |
| <b>ARN:</b>      | arn:aws:elasticloadbalancing:us-east-1:133976391764:loadbalancer/app/wordpress-lb/7e141fb137aab25a | <b>Hosted zone:</b>     | Z35SXDOTRQ7X7K                         |
| <b>DNS name:</b> | wordpress-lb-1046393419.us-east-1.elb.amazonaws.com (A Record)                                     | <b>State:</b>           | provisioning                           |
| <b>Scheme:</b>   | internet-facing  | <b>VPC:</b>             | vpc-6066b51b                           |
|                  |  | <b>IP address type:</b> | ipv4                                   |
|                  |  | <b>AWS WAF Web</b>      |  |



aws Services Resource Groups tetra-cluster @ espider N. Virginia Support

Create target group Actions

Filter by tags and attributes or search by keyword 1 to 4 of 4

| <input type="checkbox"/>            | Name                | Port | Protocol | Target type | VPC ID       | Monitoring                          |
|-------------------------------------|---------------------|------|----------|-------------|--------------|-------------------------------------|
| <input type="checkbox"/>            | marthon-targetgroup | 8080 | HTTP     | instance    | vpc-6066b51b |                                     |
| <input type="checkbox"/>            | meso-master         | 5050 | HTTP     | instance    | vpc-6066b51b |                                     |
| <input type="checkbox"/>            | WebAppTargetGRP     | 8000 | HTTP     | instance    | vpc-520bf734 |                                     |
| <input checked="" type="checkbox"/> | wordpress-lb        | 8081 | HTTP     | instance    | vpc-6066b51b | <input checked="" type="checkbox"/> |

Edit

Registered targets

| Instance ID         | Name      | Port | Availability Zone | Status    |
|---------------------|-----------|------|-------------------|-----------|
| i-01a7b3f49e4fc7ee0 | marathon2 | 8081 | us-east-1b        | healthy ⓘ |
| i-005d34a68f7a885d7 | marathon1 | 8081 | us-east-1a        | healthy ⓘ |

Availability Zones

| Availability Zone | Target count | Healthy? |
|-------------------|--------------|----------|
|-------------------|--------------|----------|

---

## Chapter 06: Persistent Volumes

**New Application** JSON Mode

**General**

Docker Container

Ports

Environment Variables

Labels

Health Checks

Volumes

Optional

ID:

| CPUs                             | Memory (MiB)                    | Disk Space (MiB)               | Instances                      |
|----------------------------------|---------------------------------|--------------------------------|--------------------------------|
| <input type="text" value="0.2"/> | <input type="text" value="50"/> | <input type="text" value="0"/> | <input type="text" value="1"/> |

Command:

May be left blank if a container image is supplied

New Application
JSON Mode

General

Docker Container

Ports

Environment Variables

Labels

Health Checks

Volumes

Optional

Image

Force pull image on every launch

Network

Host
▼

Extend runtime privileges

Parameters

| Key                                      | : | Value                                    |   |
|--|---|--|---|
| <input style="width: 95%;" type="text"/> | : | <input style="width: 95%;" type="text"/> | + |

You can configure your Docker volumes [in the Volumes section](#).  
 You can configure your Docker ports [in the Ports section](#).

Cancel
Create Application

MARATHON
Applications Deployments

Search all applications

Applications > redis-test

## redis-test

Running (1 of 1 instances)

0 Healthy
  0 Unhealthy
  1 Unknown (100%)

Scale Application
Restart
⚙️

Instances
Configuration
Debug

Refresh

| ID  | Status  | Error Log   | Output Log  | Version           | Updated              |
|---|---------|---|---|-------------------|----------------------|
| <div style="display: flex; align-items: flex-start;"> <div style="width: 15px; height: 15px; background-color: #34495e; margin-right: 5px;"></div> <div> <p>redis-test.4fcd941-5078-11e8-b997-0234fcd7758</p> <p style="font-size: 0.7em; margin: 0;">mesos-master2-31090</p> </div> </div> | Started | <div style="display: flex; align-items: center;"> <span style="font-size: 0.8em; margin-right: 5px;">📄</span> <span style="font-size: 0.7em; margin: 0;">stderr</span> </div> | <div style="display: flex; align-items: center;"> <span style="font-size: 0.8em; margin-right: 5px;">📄</span> <span style="font-size: 0.7em; margin: 0;">stdout</span> </div> | a few seconds ago | 05/05/2018, 20:53:54 |

```

CONTAINER ID      IMAGE      COMMAND      CREATED      STATUS
PORTS            NAMES
9ff330e78c79    redis     "docker-ent... 59 seconds ago  Up 59 seconds
                  mesos-52a81f51-69ec-4dfd-b63a-b24d65adfaa7
[centos@mesos-master2 mesos-slave]$
```

MARATHON Applications Deployments Search all applications

Applications > redis-test

### redis-test

Running (1 of 1 instances)

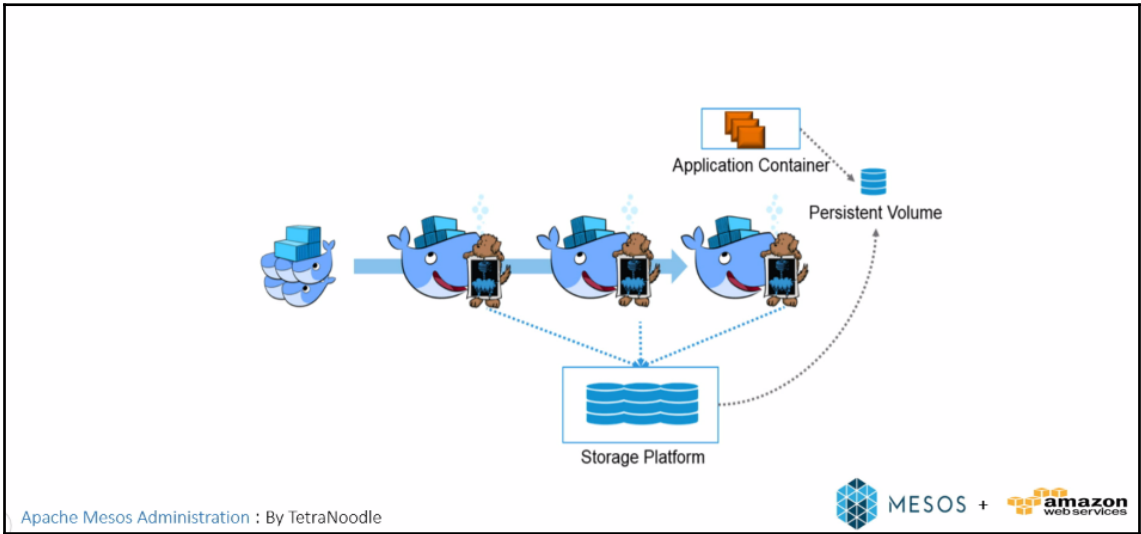
0 Healthy 0 Unhealthy 1 Unknown (100%)

Scale Application Restart

Instances Configuration Debug

Refresh

| ID  | Status  | Error Log | Output Log | Version       | Updated              |
|---|---------|-----------|------------|---------------|----------------------|
| redis-test_c038b724-5078-11e8-b997-0234fcde7758<br>mesos-slave1:31639 | Started | stderr    | stdout     | 3 minutes ago | 05/05/2018, 20:57:03 |





```
Plugin "rexray/ebs" is requesting the following privileges:
- network: [host]
- mount: [/dev]
- allow-all-devices: [true]
- capabilities: [CAP_SYS_ADMIN]
Do you grant the above permissions? [y/N] y
latest: Pulling from rexray/ebs
0bf0eb32c628: Download complete
Digest: sha256:a54e6ab53424f5921a713d14af62545a4b98c0efb6c0938076531050f38aed4f
Status: Downloaded newer image for rexray/ebs:latest
Installed plugin rexray/ebs
[centos@mesos-master2 mesos-slave]$
[centos@mesos-master2 mesos-slave]$
[centos@mesos-master2 mesos-slave]$
[centos@mesos-master2 mesos-slave]$
[centos@mesos-master2 mesos-slave]$
[centos@mesos-master2 mesos-slave]$
[centos@mesos-master2 mesos-slave]$
[centos@mesos-master2 mesos-slave]$
[centos@mesos-master2 mesos-slave]$
[centos@mesos-master2 mesos-slave]$
[centos@mesos-master2 mesos-slave]$
[centos@mesos-master2 mesos-slave]$
[centos@mesos-master2 mesos-slave]$
[centos@mesos-master2 mesos-slave]$
[centos@mesos-master2 mesos-slave]$
[centos@mesos-master2 mesos-slave]$
[centos@mesos-master2 mesos-slave]$
[centos@mesos-master2 mesos-slave]$
[centos@mesos-master2 mesos-slave]$
[centos@mesos-master2 mesos-slave]$
[centos@mesos-master2 mesos-slave]$
[centos@mesos-master2 mesos-slave]$
```

| DRIVER | VOLUME NAME  |
|--------|--|
| local  | 6dbb39063a3e6ddb66dcc8be0362d70db68fda5cc81d1f6268eb02dca756ffc7 |
| local  | b7ae8e5ee8c35eb59cd83cdb5a87de7400b18e7c1a3c2899c829dc97e89747e8 |

```
[centos@mesos-master2 mesos-slave]$ sudo docker plugin ls
```

| ID           | NAME              | DESCRIPTION            | ENABLED |
|--------------|-------------------|------------------------|---------|
| 0da7cb453fee | rexray/ebs:latest | REX-Ray for Amazon EBS | true    |

## New Application JSON Mode

- General
- Docker Container
- Ports
- Environment Variables
- Labels
- Health Checks
- Volumes
- Optional

ID

| CPU                              | Memory (MiB)                    | Disk Space (MiB)               | Instances                      |
|----------------------------------|---------------------------------|--------------------------------|--------------------------------|
| <input type="text" value="0.2"/> | <input type="text" value="50"/> | <input type="text" value="0"/> | <input type="text" value="1"/> |

Command

May be left blank if a container image is supplied

Cancel Create Application

### New Application JSON Mode

- General
- Docker Container**
- Ports
- Environment Variables
- Labels
- Health Checks
- Volumes
- Optional

**Image**

Force pull image on every launch

**Network**

Extend runtime privileges

**Parameters**

| Key  | Value   |
|--|---|
| <input type="text" value="volume-driver"/> | <input type="text" value="rexray/ebs"/> (+) (-)       |
| <input type="text" value="volume"/>        | <input type="text" value="vol_redis1:/data"/> (+) (-) |

You can configure your Docker volumes [in the Volumes section](#).  
You can configure your Docker ports [in the Ports section](#).

**MARATHON** Applications 1 Deployments

Search all applications

STATUS: Running, **Deploying** (1), Suspended, Delayed, Waiting

HEALTH: Healthy, Unhealthy, Unknown

RESOURCES: Volumes

| Name  | CPU | Memory | Status  | Running Instances | Health |
|-------|-----|--------|---|-------------------|--------|
| redis | 0.2 | 50 MIB | <span style="color: orange;">Deploying</span> | 0 of 1            | ////   |

Buttons: Create Group, Create Application

Services | Resource Groups | tetra-cluster @ espider | N. Virginia

https://console.aws.amazon.com/ec2/v2/home?region=us-east-1#Volumes:sort=desc:createTime

Filter by tags and attributes or search by keyword

| Name       | Volume ID             | Size   | Volume Type | IOPS       | Snapshot | Created                  | Availability Zone | State     | Alarm Status | Attachment Information |
|------------|-----------------------|--------|-------------|------------|----------|--------------------------|-------------------|-----------|--------------|------------------------|
| vol_redis1 | vol-0a2d61ea751c36087 | 16 GiB | standard    | -          | -        | May 5, 2018 at 9:32      | us-east-1a        | In-use    | None         | i-0aaf33ca35a595882... |
|            | vol-0f7433884e808641c | 8 GiB  | gp2         | 100 / 3000 | sna...   | April 26, 2018 at 11:... | us-east-1f        | In-use    | None         | i-4ac1d024a7944ac...   |
|            | vol-06680365338b84546 | 10 GiB | gp2         | 100 / 3000 | sna...   | April 19, 2018 at 8:2... | us-east-1b        | In-use    | None         | i-00a09599664a342...   |
|            | vol-0cd9202044302baa8 | 8 GiB  | gp2         | 100 / 3000 | sna...   | April 7, 2016 at 3:27    | us-east-1b        | In-use    | None         | i-080f141da02d896b...  |
|            | vol-062413ab957c48d65 | 8 GiB  | standard    | -          | sna...   | April 7, 2018 at 3:06    | us-east-1a        | available | None         |                        |
|            | vol-02b721f592636c044 | 20 GiB | gp2         | 100 / 3000 | sna...   | April 7, 2018 at 10:3... | us-east-1b        | In-use    | None         | i-031dc703c1d077d...   |
|            | vol-0ecdbdb0e7354ecc  | 8 GiB  | gp2         | 100 / 3000 | sna...   | April 4, 2018 at 7:46    | us-east-1d        | In-use    | None         | i-06abee10ab93da4e...  |
|            | vol-084fee145340c54c6 | 8 GiB  | gp2         | 100 / 3000 | sna...   | April 4, 2018 at 12:0... | us-east-1d        | In-use    | None         | i-0fceb59d66574352...  |
|            | vol-0cb551c5f1904267d | 8 GiB  | gp2         | 100 / 3000 | sna...   | March 9, 2018 at 5:...   | us-east-1b        | In-use    | None         | i-04d7a37b392c65c7...  |
|            | vol-0f08f62147c021413 | 8 GiB  | gp2         | 100 / 3000 | sna...   | February 25, 2018        | us-east-1b        | In-use    | None         | i-4c18c6d69bc0d106...  |
|            | vol-03c88fb3d7254b8   | 8 GiB  | gp2         | 100 / 3000 | sna...   | February 25, 2018        | us-east-1b        | available | None         |                        |
|            | vol-022d98072ed96e2d8 | 8 GiB  | gp2         | 100 / 3000 | sna...   | February 25, 2018        | us-east-1a        | In-use    | None         | i-0d75cd81bee0947...   |
|            | vol-0013f7e4367d7ef3  | 8 GiB  | gp2         | 100 / 3000 | sna...   | February 25, 2018        | us-east-1a        | In-use    | None         | i-0515e9d994c5b0505... |
|            | vol-06b9c4e8789af453  | 8 GiB  | gp2         | 100 / 3000 | sna...   | February 25, 2018        | us-east-1a        | In-use    | None         | i-0005d3a687a885d...   |
|            | vol-0563c38438716cb8b | 8 GiB  | gp2         | 100 / 3000 | sna...   | February 25, 2018        | us-east-1a        | In-use    | None         | i-0aaf33ca35a595882... |
|            | vol-0746fe4c4a1d8717  | 8 GiB  | gp2         | 100 / 3000 | sna...   | February 25, 2018        | us-east-1a        | In-use    | None         | i-0aaf33ca35a595882... |
|            | vol-0a22a24bcb2b8d854 | 8 GiB  | gp2         | 100 / 3000 | sna...   | June 27, 2017 at 10:     | us-east-1b        | available | None         | i-0ad5f98ba383a39...   |
|            | vol-00abd030a7c9634f  | 8 GiB  | gp2         | 100 / 3000 | sna...   | June 27, 2017 at 10:     | us-east-1b        | available | None         |                        |

Select a volume above

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redis

Running (1 of 1 Instances)

0 Healthy 0 Unhealthy 1 Unknown (100%)

Scale Application Restart

Instances Configuration Debug

Refresh

| ID  | Status  | Error Log | Output Log | Version           | Updated              |
|---|---------|-----------|------------|-------------------|----------------------|
| redis.b4717ad8-507d-11e8-b997-0234fcd7758<br>mesos-slave1:31934 | Started | stderr    | stdout     | a few seconds ago | 05/05/2018, 21:33:04 |

```

CONTAINER ID        IMAGE               COMMAND
NAME
e561754           redis              "docker-entrypoint.s..."
79/tcp, 0.0.0.0:31934->31934/tcp
mesos-8f4105e7-6887-45ce-9709-26de49b7154e
mesos-slave1 ~]$

```

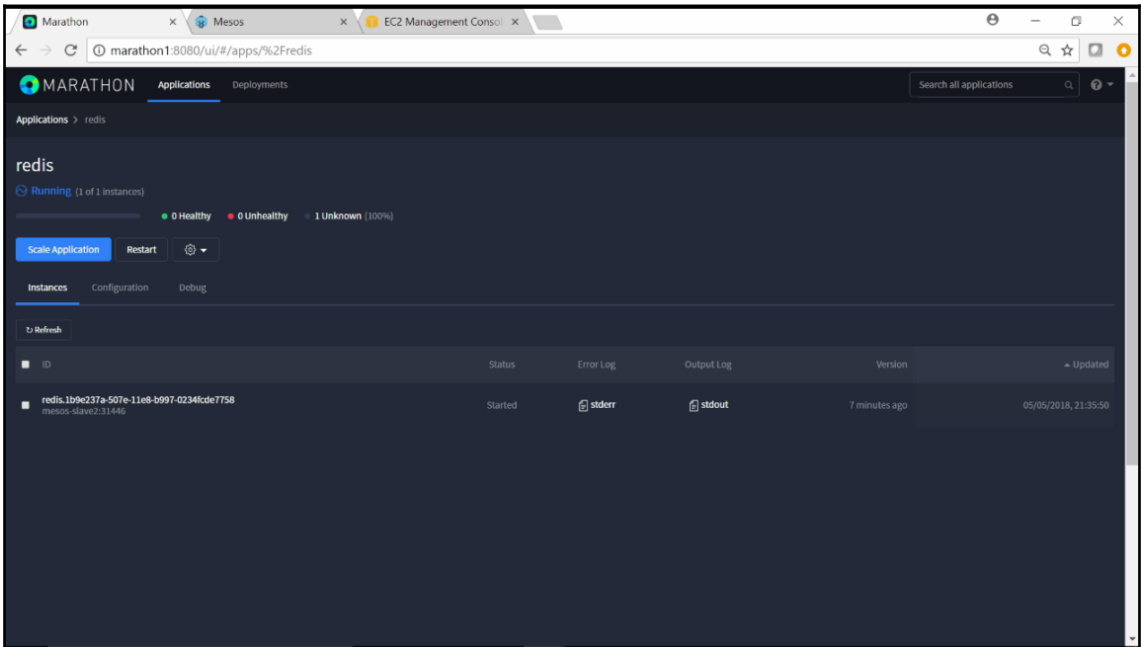
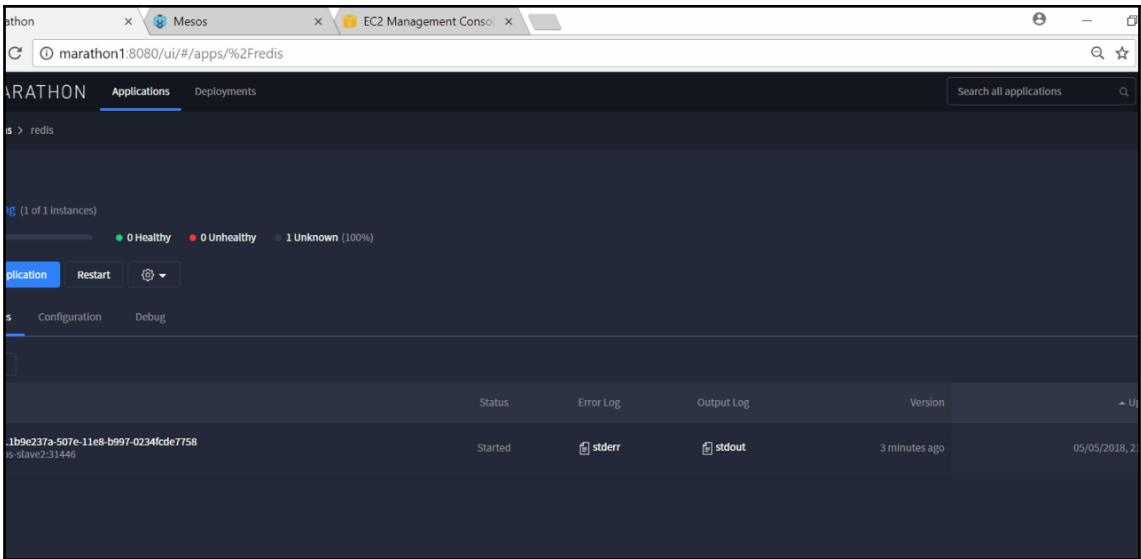
mesos Marathon

Applications Deployments

Search all applications

Create Group Create App

| Name  | CPU | Memory | Status  | Running Instances | Health   |
|-------|-----|--------|---------|-------------------|----------|
| redis | 0.2 | 50 MIB | Waiting | 0 of 1            | ████████ |



---

## Chapter 07: Securing Mesos



```

PuTTY Connection Manager - Connected to [centos@marathon1/etc/default/conf]
marathon1 | marathon2 | mesos | master2 | master3 | slave1 | slave2 | slave3
usr/share/marathon/lib/com.sun.jersey.contribs.jersey-multipart-1.18.6.jar:/usr/share/marathon/lib/org
eclipse.jetty.jetty-server-9.3.6.v20151106.jar:/usr/share/marathon/lib/org.aspectj.aspectjrt-1.8.13.ja
:/usr/share/marathon/lib/org.slf4j.jcl-over-slf4j-1.7.21.jar:/usr/share/marathon/lib/org.eclipse.jetty
jetty-util-9.3.6.v20151106.jar:/usr/share/marathon/lib/com.github.spullara.mustache.java.compiler-0.9
.jar:/usr/share/marathon/lib/com.google.protobuf.protobuf-java-3.5.0.jar:/usr/share/marathon/lib/javax
activation.activation-1.1.jar:/usr/share/marathon/lib/io.kamon.kamon-jmx-2.12-0.6.7.jar:/usr/share/mar
thon/lib/org.asynchttpclient.async-http-client-2.0.25.jar:/usr/share/marathon/lib/org.apache.curator.c
urator-client-4.0.0.jar:/usr/share/marathon/lib/io.netty.netty-codec-4.0.43.Final.jar:/usr/share/marath
n/lib/com.google.code.findbugs.jsr305-3.0.0.jar:/usr/share/marathon/lib/com.googlecode.libphonenumber
ibphonenumber-6.2.jar:/usr/share/marathon/lib/org.apache.httpcomponents.httpclient-4.5.2.jar:/usr/shar
e/marathon/lib/com.fasterxml.jackson.jaxrs.jackson-jaxrs-json-provider-2.8.9.jar:/usr/share/marathon/li
/org.eclipse.jetty.jetty-http-9.3.6.v20151106.jar:/usr/share/marathon/lib/com.google.inject.extensions
guice-servlet-4.1.0.jar:/usr/share/marathon/lib/io.reactivex.rxscala-2.12-0.26.5.jar:/usr/share/marath
n/lib/com.papertrail.profiler-1.0.2.jar:/usr/share/marathon/lib/com.fasterxml.xml.classmate-1.1.0.jar meso
phere.marathon.Main --master zk://10.0.1.42:2181,10.0.1.203:2181,10.0.2.68:2181/mesos --zk zk://10.0.1
42:2181,10.0.1.203:2181,10.0.2.68:2181/marathon --hostname=marathon1 --mesos_role=marathon

May 06 10:52:09 marathon1 marathon[2290]: at kamon.Kamon$Instance._start$lzycompute(Kamon.scala:64)
May 06 10:52:09 marathon1 marathon[2290]: at kamon.Kamon$Instance._start(Kamon.scala:58)
May 06 10:52:09 marathon1 marathon[2290]: at kamon.Kamon$Instance.start(Kamon.scala:74)
May 06 10:52:09 marathon1 marathon[2290]: at kamon.Kamon$.start(Kamon.scala:41)
May 06 10:52:09 marathon1 marathon[2290]: at mesosphere.marathon.MarathonApp.<init>(Main.scala:85)
May 06 10:52:09 marathon1 marathon[2290]: at mesosphere.marathon.Main$.main(Main.scala:209)
May 06 10:52:09 marathon1 marathon[2290]: at mesosphere.marathon.Main.main(Main.scala)
May 06 10:52:09 marathon1 marathon[2290]: [INFO] [05/06/2018 10:52:09.797] [main] [JMXExtension(akka://
kamon)] Starting the Kamon(JMX) extension
May 06 10:52:09 marathon1 marathon[2290]: [INFO] [05/06/2018 10:52:09.890] [main] [JMXMetricsExtension(
akka://kamon)] Starting the Kamon(JMXMetrics) extension
May 06 10:52:10 marathon1 marathon[2290]: registering jmx exporter
[centos@marathon1 conf]$ sudo service marathon status -l

```

```

marathon1 | marathon2 | mesos | master2 | master3 | slave1 | slave2 | slave3
terxml.jackson.dataformat.jackson-dataformat-cbor-2.6.7.jar:/usr/share/marathon/lib/com.typesafe.scala-
logging.scala-logging-2.12-3.7.2.jar:/usr/share/marathon/lib/org.typelevel.macro-compat-2.12-1.1.1.jar:/
usr/share/marathon/lib/mesosphere.marathon.api-console-3.0.8-accept.jar:/usr/share/marathon/lib/org.ap
ache.curator.curator-framework-4.0.0.jar:/usr/share/marathon/lib/io.dropwizard.metrics.metrics-json-3.2
.5.jar:/usr/share/marathon/lib/ch.gos.logback.logback-core-1.2.3.jar:/usr/share/marathon/lib/com.wix.ac
cord-core-2.12-0.7.1.jar:/usr/share/marathon/lib/com.google.inject.guice-4.1.0.jar:/usr/share/marathon/
lib/com.fasterxml.jackson.module.jackson-module-scala_2.12-2.8.9.jar:/usr/share/marathon/lib/io.kamon.k
amon-system-metrics-2.12-0.6.7.jar:/usr/share/marathon/lib/org.slf4j.log4j-over-slf4j-1.7.21.jar:/usr/s
hare/marathon/lib/com.sun.jersey.jersey-server-1.18.6.jar:/usr/share/marathon/lib/io.netty.netty-codec-
http-4.0.43.Final.jar:/usr/share/marathon/lib/org.hdrhistogram.HdrHistogram-2.1.9.jar:/usr/share/marath
on/lib/org.jboss.logging.jboss-logging-3.2.1.Final.jar:/usr/share/marathon/lib/org.eclipse.jetty.jetty-
servlets-9.3.6.v20151106.jar:/usr/share/marathon/lib/com.sun.jersey.contribs.jersey-multipart-1.18.6.ja
r:/usr/share/marathon/lib/org.eclipse.jetty.jetty-server-9.3.6.v20151106.jar:/usr/share/marathon/lib/or
g.aspectj.aspectjrt-1.8.13.jar:/usr/share/marathon/lib/org.slf4j.jcl-over-slf4j-1.7.21.jar:/usr/share/m
arathon/lib/org.eclipse.jetty.jetty-util-9.3.6.v20151106.jar:/usr/share/marathon/lib/com.github.spullar
a.mustache.java.compiler-0.9.0.jar:/usr/share/marathon/lib/com.google.protobuf.protobuf-java-3.5.0.jar:/
usr/share/marathon/lib/javax.activation.activation-1.1.jar:/usr/share/marathon/lib/io.kamon.kamon-jmx-
2.12-0.6.7.jar:/usr/share/marathon/lib/org.asynchttpclient.async-http-client-2.0.25.jar:/usr/share/marath
on/lib/org.apache.curator.curator-client-4.0.0.jar:/usr/share/marathon/lib/io.netty.netty-codec-4.0.4
3.Final.jar:/usr/share/marathon/lib/com.google.code.findbugs.jsr305-3.0.0.jar:/usr/share/marathon/lib/c
om.googlecode.libphonenumber.libphonenumber-6.2.jar:/usr/share/marathon/lib/org.apache.httpcomponents.h
tppclient-4.5.2.jar:/usr/share/marathon/lib/com.fasterxml.jackson.jaxrs.jackson-jaxrs-json-provider-2.8
.9.jar:/usr/share/marathon/lib/org.eclipse.jetty.jetty-http-9.3.6.v20151106.jar:/usr/share/marathon/lib
/com.google.inject.extensions.guice-servlet-4.1.0.jar:/usr/share/marathon/lib/io.reactivex.rxscala-2.12
-0.26.5.jar:/usr/share/marathon/lib/com.papertrail.profiler-1.0.2.jar:/usr/share/marathon/lib/com.faste
rxml.classmate-1.1.0.jar mesosphere.marathon.Main --master zk://10.0.1.42:2181,10.0.1.203:2181,10.0.2.6
8:2181/mesos --zk zk://10.0.1.42:2181,10.0.1.203:2181,10.0.2.68:2181/marathon --hostname=marathon1 --me
sos_role=marathon
centos 2476 1212 0 10:52 pts/0 00:00:00 grep --color=auto marathon
[centos@marathon1 conf]$

```



```
marathon1 | marathon2 | mesos | master2 | master3 | slave1 | slave2 | slave3
73 vi marathon.service
74 sudo vi marathon.service
91 vi marathon.service
116 vi marathon.service
117 sudo vi marathon.service
143 vi marathon.service
144 sudo vi marathon.service
649 find / -name marathon.service
651 sudo find . -name marathon.service
652 vi ./system/multi-user.target.wants/marathon.service
660 find . -name marathon.service
661 find / -name marathon.service
662 sudo find / -name marathon.service
663 cp /etc/systemd/system/multi-user.target.wants/marathon.service /tmp/marathon.service.bak
664 vi /etc/systemd/system/multi-user.target.wants/marathon.service
689 sudo vi marathon.service
711 sudo vi marathon.service
713 sudo vi marathon.service
775 cat marathon.service
777 vi marathon.service
778 sud vi marathon.service
779 sudo vi marathon.service
847 cat /tmp/marathon.service.bak
879 find / -name marathon.service
881 sudo vi /etc/systemd/system/multi-user.target.wants/marathon.service
883 sudo vi /etc/systemd/system/multi-user.target.wants/marathon.service
918 sudo vi /etc/systemd/system/multi-user.target.wants/marathon.service
1055 sudo vi /etc/systemd/system/multi-user.target.wants/marathon.service
1067 history |grep marathon.service
[centos@marathon1 conf]$
```

```
Putty Connection Manager - Connected to [centos@marathon1/etc/default/conf]
marathon1 | marathon2 | mesos | master2 | master3 | slave1 | slave2 | slave3
[Unit]
Description=Scheduler for Apache Mesos
Requires=network.target

[Service]
Type=simple
WorkingDirectory=/usr/share/marathon
EnvironmentFile=/etc/default/marathon
ExecStart=/usr/share/marathon/bin/marathon --master zk://10.0.1.42:2181,10.0.1.203:2181,10.0.2.68:2181/
mesos --zk zk://10.0.1.42:2181,10.0.1.203:2181,10.0.2.68:2181/marathon --hostname=marathon1 --mesos_rol
e=marathon
ExecReload=/bin/kill -HUP $MAINPID
Restart=always
RestartSec=60
SuccessExitStatus=
User=marathon
ExecStartPre=/bin/mkdir -p /run/marathon
ExecStartPre=/bin/chown marathon:marathon /run/marathon
ExecStartPre=/bin/chmod 755 /run/marathon
PermissionsStartOnly=true
LimitNOFILE=1024

[Install]
WantedBy=multi-user.target

-- INSERT --
```

```
marathon1 | marathon2 | mesos | master2 | master3 | slave1 | slave2 | slave3
[centos@marathon1 conf]$ sudo service marathon stop
Redirecting to /bin/systemctl stop marathon.service
Warning: marathon.service changed on disk. Run 'systemctl daemon-reload' to reload units.
[centos@marathon1 conf]$
```

```
marathon1 | marathon2 | mesos | master2 | master3 | slave1 | slave2 | slave3
/ch.qos.logback.logback-core-1.2.3.jar:/usr/share/marathon/lib/com.wix.accord-core_2.12-0.7.1.jar:/usr/share/marathon/lib/com.google.inject.guice-4.1.0.jar:/usr/share/marathon/lib/com.fasterxml.jackson.module.jackson-module-scala_2.12-2.8.9.jar:/usr/share/marathon/lib/io.kamon.kamon-system-metrics_2.12-0.6.7.jar:/usr/share/marathon/lib/org.slf4j.log4j-over-slf4j-1.7.21.jar:/usr/share/marathon/lib/com.sun.jersey.jersey-server-1.18.6.jar:/usr/share/marathon/lib/io.netty.netty-codec-http-4.0.43.Final.jar:/usr/share/marathon/lib/org.hdrhistogram.HdrHistogram-2.1.9.jar:/usr/share/marathon/lib/org.jboss.logging.jboss-logging-3.2.1.Final.jar:/usr/share/marathon/lib/org.eclipse.jetty.jetty-servlets-9.3.6.v20151106.jar:/usr/share/marathon/lib/com.sun.jersey.contribs.jersey-multipart-1.18.6.jar:/usr/share/marathon/lib/org.eclipse.jetty.jetty-server-9.3.6.v20151106.jar:/usr/share/marathon/lib/org.aspectj.aspectjrt-1.8.13.jar:/usr/share/marathon/lib/org.slf4j.jcl-over-slf4j-1.7.21.jar:/usr/share/marathon/lib/org.eclipse.jetty.jetty-util-9.3.6.v20151106.jar:/usr/share/marathon/lib/com.github.spullara.mustache.java.compiler-0.9.0.jar:/usr/share/marathon/lib/com.google.protobuf.protobuf-java-3.5.0.jar:/usr/share/marathon/lib/javax.activation.activation-1.1.jar:/usr/share/marathon/lib/io.kamon.kamon-jmx_2.12-0.6.7.jar:/usr/share/marathon/lib/org.asynchttpclient.async-http-client-2.0.25.jar:/usr/share/marathon/lib/org.apache.curator.curator-client-4.0.0.jar:/usr/share/marathon/lib/io.netty.netty-codec-4.0.43.Final.jar:/usr/share/marathon/lib/com.google.code.findbugs.jsr305-3.0.0.jar:/usr/share/marathon/lib/com.googlecode.libphonenumber.libphonenumber-6.2.jar:/usr/share/marathon/lib/org.apache.httpcomponents.httpclient-4.5.2.jar:/usr/share/marathon/lib/com.fasterxml.jackson.jaxrs.jackson-jaxrs-json-provider-2.8.9.jar:/usr/share/marathon/lib/org.eclipse.jetty.jetty-http-9.3.6.v20151106.jar:/usr/share/marathon/lib/com.google.inject.extensions.guice-servlet-4.1.0.jar:/usr/share/marathon/lib/io.reactivex.rxscala_2.12-0.26.5.jar:/usr/share/marathon/lib/com.papertrail.profiler-1.0.2.jar:/usr/share/marathon/lib/com.fasterxml.classmate-1.1.0.jar mesosphere.marathon.Main --master zk://10.0.1.42:2181,10.0.1.203:2181,10.0.2.68:2181/mesos --zk zk://10.0.1.42:2181,10.0.1.203:2181,10.0.2.68:2181/marathon --hostname=marathon1 --mesos role=marathon --mesos_authentication_secret_file=/etc/default/mesos_authentication_secret
May 06 10:55:06 marathon1 systemd[1]: Starting Scheduler for Apache Mesos...
May 06 10:55:06 marathon1 systemd[1]: Started Scheduler for Apache Mesos.
May 06 10:55:06 marathon1 marathon[2727]: No start hook file found ($HOOK_MARATHON_START). Proceeding with the start script.
[centos@marathon1 conf]$
```

```

PuTTY Connection Manager - Connected to [centos@marathon1/etc/default/conf]
marathon1  marathon2  mesos  master2  master3  slave1  slave2  slave3

May 06 10:55:21 marathon1 marathon[2727]: [2018-05-06 10:55:21,837] INFO Binding mesosphere.marathon.a
pi.v2.SchemaResource to GuiceManagedComponentProvider with the scope "Singleton" (com.sun.jersey.guice.
spi.container.GuiceComponentProviderFactory:$anon$1 STARTING)
May 06 10:55:21 marathon1 marathon[2727]: [2018-05-06 10:55:21,840] INFO Binding mesosphere.marathon.a
pi.v2.PluginsResource to GuiceManagedComponentProvider with the scope "Singleton" (com.sun.jersey.guice
spi.container.GuiceComponentProviderFactory:$anon$1 STARTING)
May 06 10:55:21 marathon1 marathon[2727]: [2018-05-06 10:55:21,840] INFO Loading plugins implementing
'mesosphere.marathon.plugin.http.HttpRequestHandler' from these urls: [] (mesosphere.marathon.core.plug
in.impl.PluginManagerImpl:$anon$1 STARTING)
May 06 10:55:21 marathon1 marathon[2727]: [2018-05-06 10:55:21,840] INFO Found 0 plugins. (mesosphere.
marathon.core.plugin.impl.PluginManagerImpl:$anon$1 STARTING)
May 06 10:55:21 marathon1 marathon[2727]: [2018-05-06 10:55:21,890] INFO Started o.e.j.s.ServletContex
tHandler@1181e34f{/,null,AVAILABLE} (org.eclipse.jetty.server.handler.ContextHandler:$anon$1 STARTING)
May 06 10:55:21 marathon1 marathon[2727]: [2018-05-06 10:55:21,937] INFO Started ServerConnector@2df5
e75[HTTP/1.1,[http/1.1]]{0.0.0.0:8080} (org.eclipse.jetty.server.ServerConnector:$anon$1 STARTING)
May 06 10:55:21 marathon1 marathon[2727]: [2018-05-06 10:55:21,937] INFO Started @15772ms (org.eclips
e.jetty.server.Server:$anon$1 STARTING)
May 06 10:55:21 marathon1 marathon[2727]: [2018-05-06 10:55:21,938] INFO All services up and running.
(mesosphere.marathon.MarathonApp:JMX exporting thread)
May 06 10:55:22 marathon1 marathon[2727]: [2018-05-06 10:55:22,319] INFO Proxying request to GET http:
//marathon2:8080/v2/groups?embed=group.groups&embed=group.apps.deployments&embed=group
.apps.counts&embed=group.apps.readiness from marathon1:8080 (mesosphere.marathon.api.JavaURLConnectionR
equestForwarder:qtpl1395872552-44)
May 06 10:55:22 marathon1 marathon[2727]: [2018-05-06 10:55:22,485] INFO 27.96.89.224 -- [06/May/2018
:10:55:22 +0000] "GET //marathon1:8080/v2/groups?embed=group.groups&embed=group.apps&embed=group.d
eployments&embed=group.apps.counts&embed=group.apps.readiness HTTP/1.1" 200 660 "http://marathon1:8080/
ui/" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/66.0.3359
.117 Safari/537.36" 18 (mesosphere.chaos.http.ChaosRequestLog:qtpl1395872552-44)
[centos@marathon1 conf]$ sudo service marathon status -l

```

```

marathon1  marathon2  master2  master3  mesos / slave1  slave2  slave3

-rw-r--r--. 1 root root 26912 May 6 10:56 mesos-slave.mesos-slave1.invalid-user.log.INFO.20180506-105
645.2215
-rw-r--r--. 1 root root 258 May 6 10:56 mesos-slave.mesos-slave1.invalid-user.log.ERROR.20180506-10
5646.2215
-rw-r--r--. 1 root root 464 May 6 10:57 mesos-slave.mesos-slave1.invalid-user.log.WARNING.20180506-
105706.2249
-rw-r--r--. 1 root root 26909 May 6 10:57 mesos-slave.mesos-slave1.invalid-user.log.INFO.20180506-105
706.2249
-rw-r--r--. 1 root root 258 May 6 10:57 mesos-slave.mesos-slave1.invalid-user.log.ERROR.20180506-10
5707.2249
-rw-r--r--. 1 root root 464 May 6 10:57 mesos-slave.mesos-slave1.invalid-user.log.WARNING.20180506-
105728.2285
-rw-r--r--. 1 root root 26909 May 6 10:57 mesos-slave.mesos-slave1.invalid-user.log.INFO.20180506-105
727.2285
-rw-r--r--. 1 root root 258 May 6 10:57 mesos-slave.mesos-slave1.invalid-user.log.ERROR.20180506-10
5728.2285
lrwxrwxrwx. 1 root root 67 May 6 10:57 mesos-slave.INFO -> mesos-slave.mesos-slave1.invalid-user.l
og.INFO.20180506-105748.2341
lrwxrwxrwx. 1 root root 70 May 6 10:57 mesos-slave.WARNING -> mesos-slave.mesos-slave1.invalid-use
r.log.WARNING.20180506-105749.2341
-rw-r--r--. 1 root root 464 May 6 10:57 mesos-slave.mesos-slave1.invalid-user.log.WARNING.20180506-
105749.2341
-rw-r--r--. 1 root root 26910 May 6 10:57 mesos-slave.mesos-slave1.invalid-user.log.INFO.20180506-105
748.2341
-rw-r--r--. 1 root root 258 May 6 10:57 mesos-slave.mesos-slave1.invalid-user.log.ERROR.20180506-10
5750.2341
lrwxrwxrwx. 1 root root 68 May 6 10:57 mesos-slave.ERROR -> mesos-slave.mesos-slave1.invalid-user.
log.ERROR.20180506-105750.2341
[centos@mesos-slave1 mesos]$ vi mesos-slave1.invalid-user.log.ERROR.20180506-105750.2341
[centos@mesos-slave1 mesos]$

```



```

[centos@marathon1 ssl]$ sudo keytool -keystore marathon.jks -deststorepass 123456 -alias marathon -genkey -keyalg RSA
What is your first and last name?
  [Unknown]: marathon
What is the name of your organizational unit?
  [Unknown]: tutorial
What is the name of your organization?
  [Unknown]: tetra
What is the name of your City or Locality?
  [Unknown]: NY
What is the name of your State or Province?
  [Unknown]: NY
What is the two-letter country code for this unit?
  [Unknown]: US
Is CN=marathon, OU=tutorial, O=tetra, L=NY, ST=NY, C=US correct?
[no]: yes

Enter key password for <marathon>
(RETURN if same as keystore password):

Warning:
The JKS keystore uses a proprietary format. It is recommended to migrate to PKCS12 which is an industry
standard format using "keytool -importkeystore -srckeystore marathon.jks -destkeystore marathon.jks -d
eststoretype pkcs12".
[centos@marathon1 ssl]$ ls -rlt
total 4
-rw-r--r--. 1 root root 2214 May  7 10:22 marathon.jks
[centos@marathon1 ssl]$

```

```

PuTTY Connection Manager - Connected to [centos@marathon1:/etc/default]
marathon1
# For a description of the format, see: `man systemd.exec`, section
# `EnvironmentFile`.

# Available replacements
# see http://www.scala-sbt.org/sbt-native-packager/archetypes/systemloaders.html#override-start-script
# -----
# Name                Contains                Current value
# (remove space)
# $ {{author}}        debian author           Mesosphere Package Builder <support@mesosphere.io>
# $ {{descr}}         debian package description Scheduler for Apache Mesos
# $ {{exec}}          startup script name     marathon
# $ {{chdir}}         app directory           /usr/share/marathon
# $ {{retries}}       retries for startup     0
# $ {{retryTimeout}}  retry timeout           60
# $ {{app_name}}      normalized app name     marathon
# $ {{app_main_class}} main class/entry point  ${{app_main_class}}
# $ {{daemon_user}}   daemon user             marathon
# $ {{daemon_group}}  daemon group            marathon
# -----

# Setting JAVA_OPTS
# -----
# JAVA_OPTS="-Dpidfile.path=/var/run/marathon/play.pid"

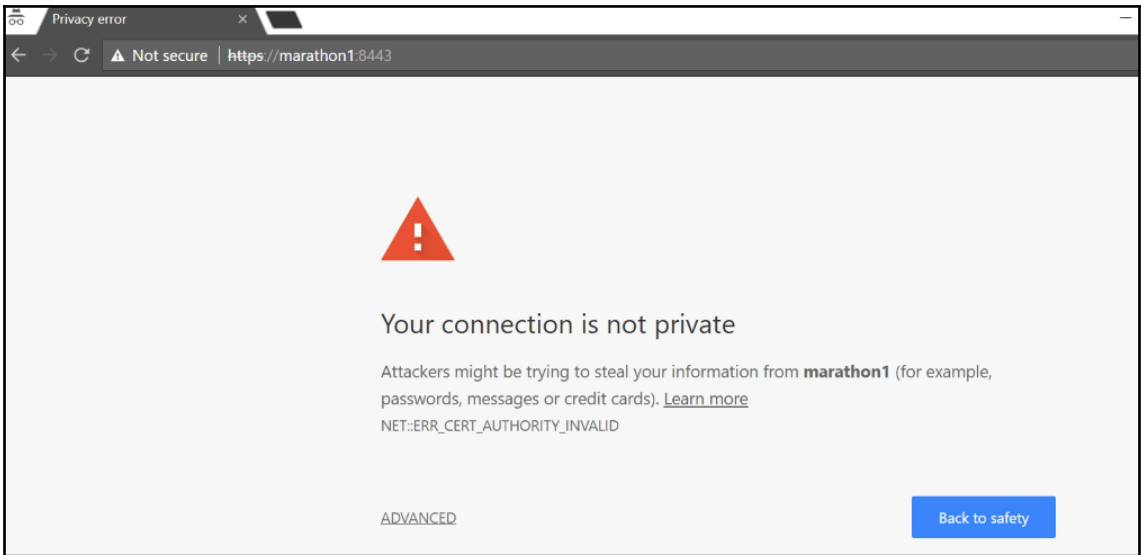
# Setting PIDFILE
# -----
# PIDFILE="/var/run/marathon/play.pid"
-- INSERT --

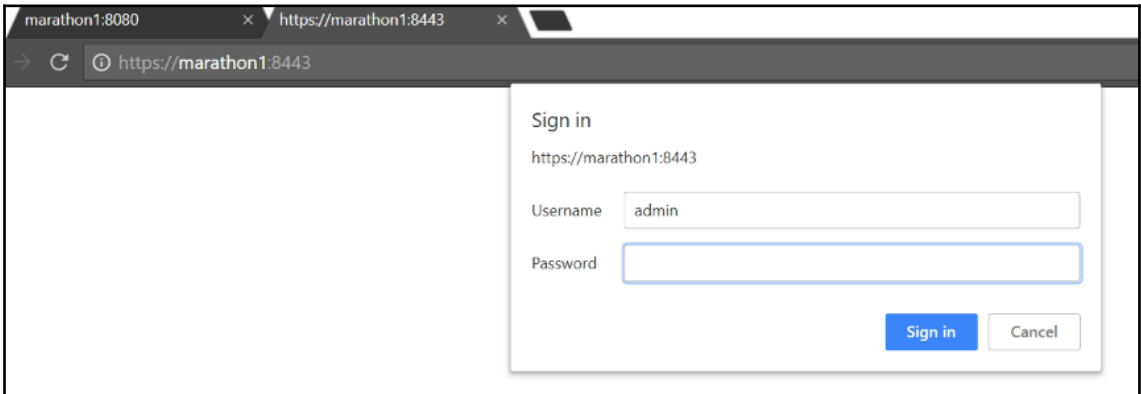
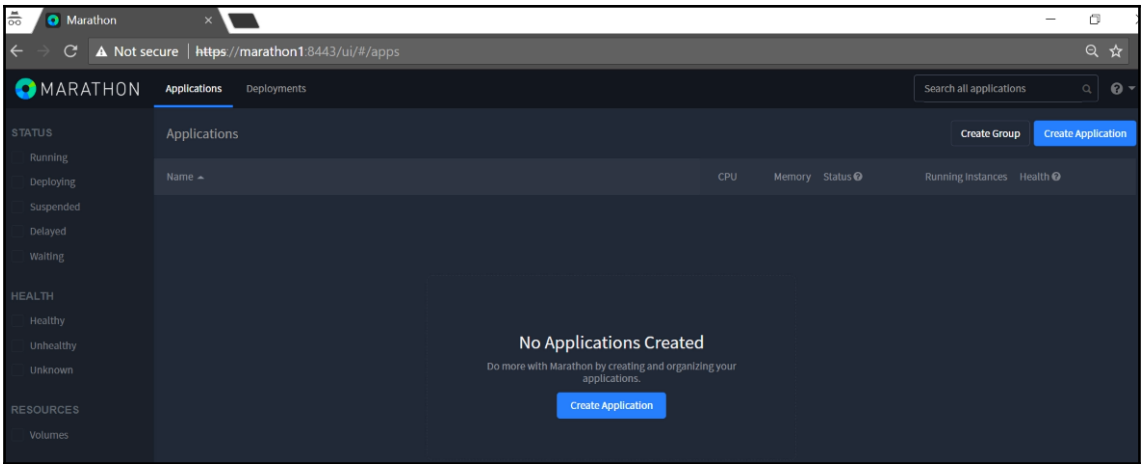
```

```

PuTTY Connection Manager - Connected to [centos@marathon1/etc/default]
marathon1
n/lib/com.papertrail.profiler-1.0.2.jar:/usr/share/marathon/lib/com.fasterxml.classmate-1.1.0.jar mesosphere.marathon.Main --ssl_keystore_path /etc/marathon/ssl/marathon.jks --http_credentials admin:password --ssl_keystore_password 123456 --master zk://10.0.1.42:2181,10.0.1.203:2181,10.0.2.68:2181/mesos --zk zk://10.0.1.42:2181,10.0.1.203:2181,10.0.2.68:2181/marathon --hostname=marathon1

May 07 10:23:57 marathon1 marathon[5320]: [I0507 10:23:57.061751 5498 sched.cpp:751] Framework registered with 3a56afd7-a98c-44f7-a3aa-c516489e0936-0000
May 07 10:23:57 marathon1 marathon[5320]: [2018-05-07 10:23:57,098] INFO Started ServerConnector@65f2198f{HTTP/1.1,[http/1.1]}{0.0.0.0:8080} (org.eclipse.jetty.server.ServerConnector:$anon$1 STARTING)
May 07 10:23:57 marathon1 marathon[5320]: [2018-05-07 10:23:57,132] INFO x509=X509@631a2ed5(marathon,hostname=[],w=[]) for SslContextFactory@55d4c4c4(file:///etc/marathon/ssl/marathon.jks,null) (org.eclipse.jetty.util.ssl.SslContextFactory:$anon$1 STARTING)
May 07 10:23:57 marathon1 marathon[5320]: [2018-05-07 10:23:57,149] INFO Registered as 3a56afd7-a98c-44f7-a3aa-c516489e0936-0000 to master 'cb341c35-354e-4da7-9e6b-18362b4a864f' (mesosphere.marathon.MarathonScheduler:Thread-14)
May 07 10:23:57 marathon1 marathon[5320]: [2018-05-07 10:23:57,149] INFO Mesos Master version 1.5.0 (mesosphere.marathon.MarathonScheduler:Thread-14)
May 07 10:23:57 marathon1 marathon[5320]: [2018-05-07 10:23:57,175] INFO Started ServerConnector@4cf330dc{SSL,[ssl, http/1.1]}{0.0.0.0:8443} (org.eclipse.jetty.server.ServerConnector:$anon$1 STARTING)
May 07 10:23:57 marathon1 marathon[5320]: [2018-05-07 10:23:57,175] INFO Started @16952ms (org.eclipse.jetty.server.Server:$anon$1 STARTING)
May 07 10:23:57 marathon1 marathon[5320]: [2018-05-07 10:23:57,179] INFO All services up and running. (mesosphere.marathon.MarathonApp:JMX exporting thread)
May 07 10:23:57 marathon1 marathon[5320]: [2018-05-07 10:23:57,185] INFO Received reviveOffers notification: SchedulerRegisteredEvent (mesosphere.marathon.core.flow.impl.ReviveOffersActor:marathon-akka.actor.default-dispatcher-3)
May 07 10:23:57 marathon1 marathon[5320]: [2018-05-07 10:23:57,185] INFO => Next revive already scheduled at 2018-05-07T10:24:01.361Z not yet due for 4176 milliseconds (mesosphere.marathon.core.flow.impl.ReviveOffersActor:marathon-akka.actor.default-dispatcher-3)
[centos@marathon1 default]$
```





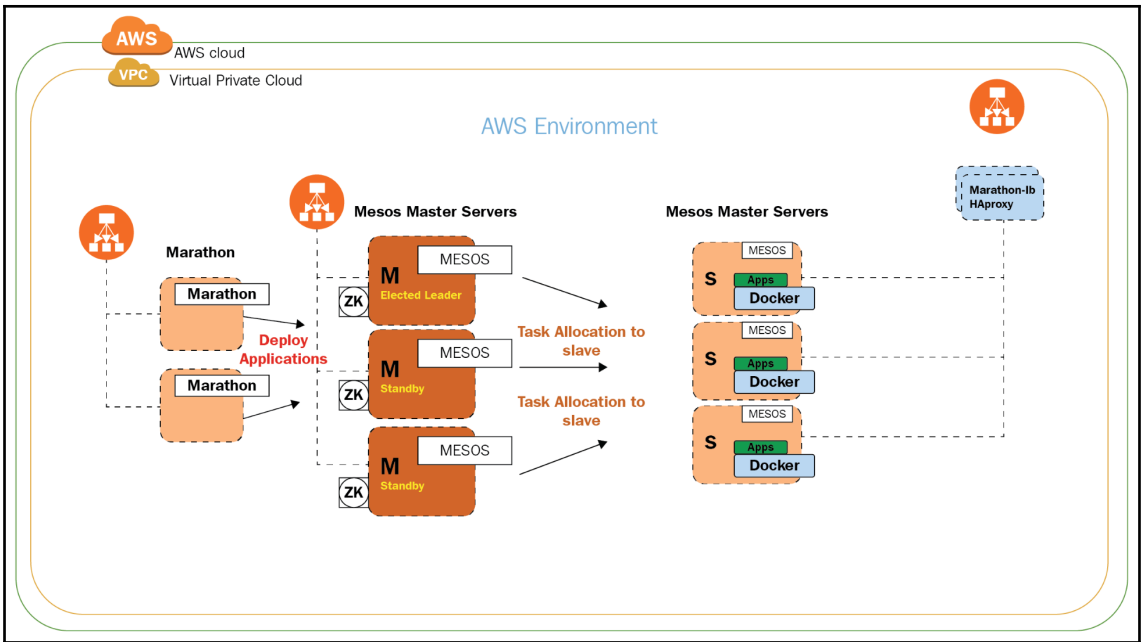
# Chapter 08: Managing Resources in Mesos

```
[centos@marathon1 ~]$ sudo docker ps -a
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS               PO
RTS
8d41f336afb0       mesosphere/marathon-lb   "tini -g -- /marathoâ!"   12 seconds ago     Up 11 seconds           8
0/tcp, 443/tcp, 9091/tcp, 0.0.0.0:9090->9090/tcp, 0.0.0.0:8081->10000/tcp   clever_dubinsky
18b782a385cb       mesosphere/marathon-lb   "tini -g -- /marathoâ!"   22 hours ago       Exited (143) 21 hours ago
flamboyant_borg
9d7e1ff012e1       mesosphere/marathon-lb   "tini -g -- /marathoâ!"   22 hours ago       Exited (143) 22 hours ago
borino_leakev
```

```
[centos@marathon1 ~]$ sudo docker rm 18b782a385cb 9d7e1ff012e1
18b782a385cb
9d7e1ff012e1
```

| stats                  |       |     |       |              |     |       |          |     |        |       |       |      |        |        |        |      |          |      |        |      |       |          |         |      |     |      |     |      |          |        |  |  |
|------------------------|-------|-----|-------|--------------|-----|-------|----------|-----|--------|-------|-------|------|--------|--------|--------|------|----------|------|--------|------|-------|----------|---------|------|-----|------|-----|------|----------|--------|--|--|
|                        | Queue |     |       | Session rate |     |       | Sessions |     |        |       | Bytes |      | Denied |        | Errors |      | Warnings |      | Server |      |       |          |         |      |     |      |     |      |          |        |  |  |
|                        | Cur   | Max | Limit | Cur          | Max | Limit | Cur      | Max | Limit  | Total | LbTot | Last | In     | Out    | Req    | Resp | Req      | Conn | Resp   | Retr | Redis | Status   | LastChk | Wght | Act | Back | Chk | Down | Downtime | Thrtts |  |  |
| Frontend               |       |     |       | 1            | 2   | -     | 1        | 2   | 10 000 | 5     |       |      | 1 542  | 19 599 | 0      | 0    | 1        |      |        |      |       | OPEN     |         |      |     |      |     |      |          |        |  |  |
| Backend                | 0     | 0   | 0     | 0            | 1   | -     | 0        | 1   | 1 000  | 3     | 0     | 0s   | 1 542  | 19 599 | 0      | 0    | 0        | 0    | 0      | 0    | 0     | 6m10s UP |         | 0    | 0   | 0    | 0   | 0    |          |        |  |  |
| marathon_http_in       |       |     |       |              |     |       |          |     |        |       |       |      |        |        |        |      |          |      |        |      |       |          |         |      |     |      |     |      |          |        |  |  |
| Frontend               |       |     |       | 0            | 0   | -     | 0        | 0   | 10 000 | 0     |       |      | 0      | 0      | 0      | 0    | 0        | 0    | 0      | 0    | 0     | OPEN     |         |      |     |      |     |      |          |        |  |  |
| marathon_http_spool_in |       |     |       |              |     |       |          |     |        |       |       |      |        |        |        |      |          |      |        |      |       |          |         |      |     |      |     |      |          |        |  |  |
| Frontend               |       |     |       | 0            | 0   | -     | 0        | 0   | 10 000 | 0     |       |      | 0      | 0      | 0      | 0    | 0        | 0    | 0      | 0    | 0     | OPEN     |         |      |     |      |     |      |          |        |  |  |
| marathon_https_in      |       |     |       |              |     |       |          |     |        |       |       |      |        |        |        |      |          |      |        |      |       |          |         |      |     |      |     |      |          |        |  |  |
| Frontend               |       |     |       | 0            | 0   | -     | 0        | 0   | 10 000 | 0     |       |      | 0      | 0      | 0      | 0    | 0        | 0    | 0      | 0    | 0     | OPEN     |         |      |     |      |     |      |          |        |  |  |





```
marathon1  marathon2  master1  master2  master3  slave1
{
  "id": "web",
  "container": {
    "type": "DOCKER",
    "docker": {
      "image": "nginx",
      "network": "BRIDGE",
      "portMappings": [
        {
          "hostPort": 0,
          "containerPort": 80,
          "servicePort": 10000
        }
      ],
      "forcePullImage": true
    }
  },
  "instances": 4,
  "cpus": 0.1,
  "mem": 65,
  "healthChecks": [
    {
      "protocol": "MESOS_HTTP",
      "path": "/",
      "portIndex": 0,
      "timeoutSeconds": 15,
      "gracePeriodSeconds": 15,
      "intervalSeconds": 3,
      "maxConsecutiveFailures": 10
    }
  ],
  "labels": {
    "HAPROXY_DEPLOYMENT_GROUP": "web",
    -- INSERT --
  }
}
```

```
marathon1 | marathon2 | master1 | master2 | master3
[centos@marathon1 ~]$ sudo pip install pycurl --global-option="--with-nss"
/usr/lib/python2.7/site-packages/pip/_internal/commands/install.py:199: UserWarning: Disabling all use of wheels due to the use of --build-options / --global-options / --install-options.
  cmdoptions.check_install_build_global(options)
Requirement already satisfied: pycurl in /usr/lib64/python2.7/site-packages (7.19.0)
mesos-interface 1.5.0 requires google-common=0.0.1, which is not installed.
mesos-interface 1.5.0 requires protobuf<4,>=3.5.0, which is not installed.
[centos@marathon1 ~]$ git clone https://github.com/mesosphere/marathon-lb.git
fatal: destination path 'marathon-lb' already exists and is not an empty directory.
[centos@marathon1 ~]$ ls -rlt
total 116
-rw-rw-r--. 1 centos centos 18605 Mar 13 11:04 haproxy?stats
-rw-rw-r--. 1 centos centos 18605 Mar 13 11:15 haproxy?stats.1
-rw-rw-r--. 1 centos centos 18724 Mar 13 11:23 haproxy?stats.2
-rw-rw-r--. 1 centos centos 18622 Mar 13 12:43 haproxy?stats.3
-rw-rw-r--. 1 centos centos 18603 Mar 13 12:50 haproxy?stats.4
-rwxrwxrwx. 1 root root 4226 May 5 18:13 cassandra.json
-rw-r--r--. 1 root root 717 May 21 18:49 nginx.json
drwxrwxr-x. 10 centos centos 4096 May 21 19:00 marathon-lb
[centos@marathon1 ~]$ cd marathon-lb/
```

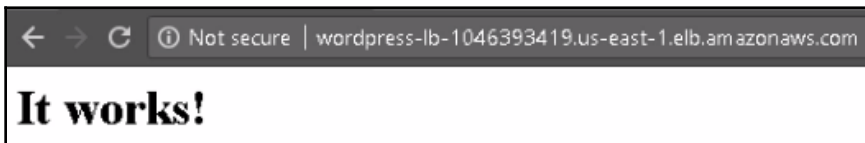
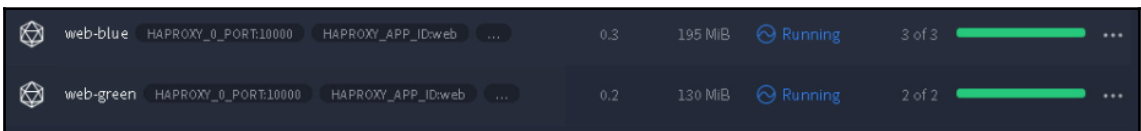
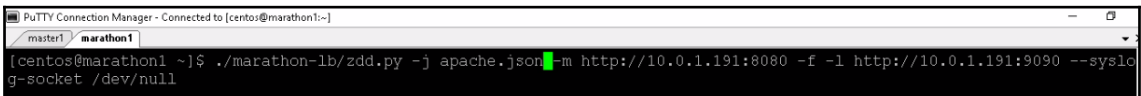
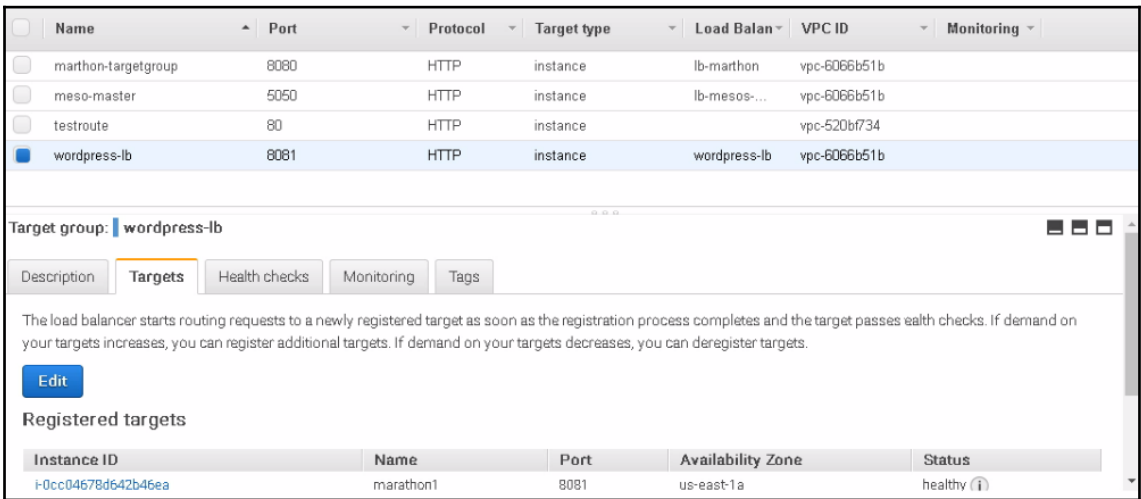
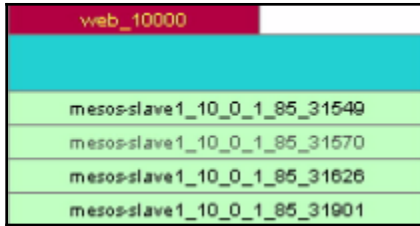
```
],
  "id": "/web-blue",
  "instances": 4,
  "labels": {
    "HAPROXY_0_PORT": "10000",
    "HAPROXY_APP_ID": "web",
    "HAPROXY_DEPLOYMENT_ALT_PORT": "10001",
    "HAPROXY_DEPLOYMENT_COLOUR": "blue",
    "HAPROXY_DEPLOYMENT_GROUP": "web",
    "HAPROXY_DEPLOYMENT_NEW_INSTANCES": "0",
    "HAPROXY_DEPLOYMENT_STARTED_AT": "2018-05-21T19:52:56.904999",
    "HAPROXY_DEPLOYMENT_TARGET_INSTANCES": "4",
    "HAPROXY_GROUP": "external"
  },
  "mem": 65
```

web-blue

Running (4 of 4 instances)

4 Healthy (100%) 0 Unhealthy 0 Unknown







Scale Application Restart Settings



← → ↻ ⓘ Not secure | wordpress-lb-1046393419.us-east-1.elb.amazonaws.com

**It works!**

```
],  
"id": "/web-blue",  
"instances": 1,  
"labels": {  
  "HAPROXY_0_PORT": "10000",  
  "HAPROXY_APP_ID": "web",  
  "HAPROXY_DEPLOYMENT_ALT_PORT": "10001",  
  "HAPROXY_DEPLOYMENT_COLOUR": "blue",  
  "HAPROXY_DEPLOYMENT_GROUP": "web",  
  "HAPROXY_DEPLOYMENT_NEW_INSTANCES": "0",  
  "HAPROXY_DEPLOYMENT_STARTED_AT": "2018-05-21T20:42:00.463650",  
  "HAPROXY_DEPLOYMENT_TARGET_INSTANCES": "4",  
  "HAPROXY_GROUP": "external"  
},  
},
```

|   |           |                      |                    |     |     |         |   |        |   |     |
|---|-----------|----------------------|--------------------|-----|-----|---------|---|--------|---|-----|
|  | web-blue  | HAPROXY_0_PORT:10000 | HAPROXY_APP_ID:web | ... | 0.1 | 65 MiB  |  Running | 1 of 1 |  | ... |
|  | web-green | HAPROXY_0_PORT:10000 | HAPROXY_APP_ID:web | ... | 0.4 | 260 MiB |  Running | 4 of 4 |  | ... |

```

"id": "/web-green",
"instances": 1,
"labels": {
  "HAProxy_0_PORT": "10000",
  "HAProxy_APP_ID": "web",
  "HAProxy_DEPLOYMENT_ALT_PORT": "10001",
  "HAProxy_DEPLOYMENT_COLOUR": "green",
  "HAProxy_DEPLOYMENT_GROUP": "web",
  "HAProxy_DEPLOYMENT_NEW_INSTANCES": "2",
  "HAProxy_DEPLOYMENT_STARTED_AT": "2018-05-21T20:56:41.777843",
  "HAProxy_DEPLOYMENT_TARGET_INSTANCES": "4",
  "HAProxy_GROUP": "external"
},
"mem": 65

```

|                             | Queue |     |       | Session rate |     |       | Sessions |       |       |       | Bytes |       | Denied |       | Errors |      |     | Warnings |      |      | Status | Server   |         |        |     |     |     |      |       |        |   |
|-----------------------------|-------|-----|-------|--------------|-----|-------|----------|-------|-------|-------|-------|-------|--------|-------|--------|------|-----|----------|------|------|--------|----------|---------|--------|-----|-----|-----|------|-------|--------|---|
|                             | Cur   | Max | Limit | Cur          | Max | Limit | Cur      | Max   | Limit | Total | LbTot | Last  | In     | Out   | Req    | Resp | Req | Conn     | Resp | Retr |        | Redis    | LastChk | Wght   | Act | Bck | Chk | Down | Dvrtm | Thrtle |   |
| mesoslave1_10_0_1_85_31783  | 0     | 0   | -     | 0            | 1   | 1     | 1        | 1     | -     | 7     | 7     | 2s    | 4 598  | 2 177 | 0      | 0    | 0   | 0        | 0    | 0    | 0      | 7m27s UP | L4OK    | in 0ms | 1   | Y   | -   | 0    | 0     | 0s     | - |
| mesoslave2_10_0_1_174_31226 | 0     | 0   | -     | 1            | 1   | 0     | 1        | 0     | -     | 7     | 7     | 0s    | 1 438  | 1 856 | 0      | 0    | 0   | 0        | 0    | 0    | 0      | 7m14s UP | L4OK    | in 0ms | 1   | Y   | -   | 0    | 0     | 0s     | - |
| mesoslave2_10_0_1_174_31556 | 0     | 0   | -     | 1            | 1   | 1     | 2        | -     | 7     | 7     | 0s    | 780   | 5 078  | 0     | 0      | 0    | 0   | 0        | 0    | 0    | 0      | 7m27s UP | L4OK    | in 0ms | 1   | Y   | -   | 0    | 0     | 0s     | - |
| mesoslave2_10_0_1_174_31716 | 0     | 0   | -     | 0            | 1   | 1     | 1        | 1     | -     | 6     | 6     | 5s    | 650    | 4 230 | 0      | 0    | 0   | 0        | 0    | 0    | 0      | 2m1s UP  | L4OK    | in 0ms | 1   | Y   | -   | 0    | 0     | 0s     | - |
| Backend                     | 0     | 0   | -     | 2            | 2   | 3     | 5        | 1 000 | 27    | 27    | 0s    | 7 466 | 13 339 | 0     | 0      | 0    | 0   | 0        | 0    | 0    | 0      | 2m1s UP  |         |        | 4   | 4   | 0   | 0    | 0     | 0s     | - |

← → ↻ marathont1-9090/haproxy/stats ☆

system limits: memmax = unlimited; ulimit = 65536  
 maxconn = 100039; maxconn = 50000; maxpipes = 0  
 current conn = 1; current pipes = 0; conn rate = 1/sec  
 Running tasks: 112; idle = 100 %

■ active DOWN, going up    ■ backup DOWN, going up  
■ active or backup DOWN    ■ not checked  
■ active or backup DOWN for maintenance (MAINT)  
■ active or backup SOFT STOPPED for maintenance  
 Note: "NOLOADDRAIN" = UP with load balancing disabled.

- [Hide DOWN servers](#)
- [Refresh now](#)
- [CSV export](#)
- [Online manual](#)

|          | Queue |     |       | Session rate |     |        | Sessions |     |       |        | Bytes   |      | Denied |     | Errors |      |     | Warnings |      |      | Status | Server   |         |      |     |     |     |      |       |        |   |
|----------|-------|-----|-------|--------------|-----|--------|----------|-----|-------|--------|---------|------|--------|-----|--------|------|-----|----------|------|------|--------|----------|---------|------|-----|-----|-----|------|-------|--------|---|
|          | Cur   | Max | Limit | Cur          | Max | Limit  | Cur      | Max | Limit | Total  | LbTot   | Last | In     | Out | Req    | Resp | Req | Conn     | Resp | Retr |        | Redis    | LastChk | Wght | Act | Bck | Chk | Down | Dvrtm | Thrtle |   |
| Frontend | 1     | 3   | -     | 1            | 2   | 10 000 | 88       |     |       | 21 551 | 176 228 | 0    | 0      | 2   |        |      |     |          |      |      |        | OPEN     |         |      |     |     |     |      |       |        |   |
| Backend  | 0     | 0   | -     | 0            | 1   | 1 000  | 6        | 0   | 0s    | 21 551 | 176 228 | 0    | 0      |     | 6      | 0    | 0   | 0        | 0    | 0    | 0      | 6m31s UP |         |      | 0   | 0   | 0   | 0    | 0     | 0s     | - |

|          | Queue |     |       | Session rate |     |        | Sessions |     |       |       | Bytes |      | Denied |     | Errors |      |     | Warnings |      |      | Status | Server |         |      |     |     |     |      |       |        |  |
|----------|-------|-----|-------|--------------|-----|--------|----------|-----|-------|-------|-------|------|--------|-----|--------|------|-----|----------|------|------|--------|--------|---------|------|-----|-----|-----|------|-------|--------|--|
|          | Cur   | Max | Limit | Cur          | Max | Limit  | Cur      | Max | Limit | Total | LbTot | Last | In     | Out | Req    | Resp | Req | Conn     | Resp | Retr |        | Redis  | LastChk | Wght | Act | Bck | Chk | Down | Dvrtm | Thrtle |  |
| Frontend | 0     | 0   | -     | 0            | 0   | 10 000 | 0        |     |       | 0     | 0     | 0    | 0      | 0   |        |      |     |          |      |      |        | OPEN   |         |      |     |     |     |      |       |        |  |

|          | Queue |     |       | Session rate |     |        | Sessions |     |       |       | Bytes |      | Denied |     | Errors |      |     | Warnings |      |      | Status | Server |         |      |     |     |     |      |       |        |  |
|----------|-------|-----|-------|--------------|-----|--------|----------|-----|-------|-------|-------|------|--------|-----|--------|------|-----|----------|------|------|--------|--------|---------|------|-----|-----|-----|------|-------|--------|--|
|          | Cur   | Max | Limit | Cur          | Max | Limit  | Cur      | Max | Limit | Total | LbTot | Last | In     | Out | Req    | Resp | Req | Conn     | Resp | Retr |        | Redis  | LastChk | Wght | Act | Bck | Chk | Down | Dvrtm | Thrtle |  |
| Frontend | 0     | 0   | -     | 0            | 0   | 10 000 | 0        |     |       | 0     | 0     | 0    | 0      | 0   |        |      |     |          |      |      |        | OPEN   |         |      |     |     |     |      |       |        |  |

|          | Queue |     |       | Session rate |     |        | Sessions |     |       |        | Bytes  |      | Denied |     | Errors |      |     | Warnings |      |      | Status | Server |         |      |     |     |     |      |       |        |  |
|----------|-------|-----|-------|--------------|-----|--------|----------|-----|-------|--------|--------|------|--------|-----|--------|------|-----|----------|------|------|--------|--------|---------|------|-----|-----|-----|------|-------|--------|--|
|          | Cur   | Max | Limit | Cur          | Max | Limit  | Cur      | Max | Limit | Total  | LbTot  | Last | In     | Out | Req    | Resp | Req | Conn     | Resp | Retr |        | Redis  | LastChk | Wght | Act | Bck | Chk | Down | Dvrtm | Thrtle |  |
| Frontend | 0     | 2   | -     | 0            | 5   | 10 000 | 71       |     |       | 14 853 | 39 611 | 0    | 0      | 0   |        |      |     |          |      |      |        | OPEN   |         |      |     |     |     |      |       |        |  |

|                             | Queue |     |       | Session rate |     |       | Sessions |       |       |       | Bytes |        | Denied |     | Errors |      |     | Warnings |      |      | Status | Server    |         |        |     |     |     |      |       |        |   |
|-----------------------------|-------|-----|-------|--------------|-----|-------|----------|-------|-------|-------|-------|--------|--------|-----|--------|------|-----|----------|------|------|--------|-----------|---------|--------|-----|-----|-----|------|-------|--------|---|
|                             | Cur   | Max | Limit | Cur          | Max | Limit | Cur      | Max   | Limit | Total | LbTot | Last   | In     | Out | Req    | Resp | Req | Conn     | Resp | Retr |        | Redis     | LastChk | Wght   | Act | Bck | Chk | Down | Dvrtm | Thrtle |   |
| mesoslave1_10_0_1_85_31783  | 0     | 0   | -     | 0            | 1   | 0     | 1        | -     | 18    | 18    | 14s   | 6 393  | 5 626  | 0   | 0      | 0    | 0   | 0        | 0    | 0    | 0      | 11m67s UP | L4OK    | in 0ms | 1   | Y   | -   | 0    | 0     | 0s     | - |
| mesoslave2_10_0_1_174_31226 | 0     | 0   | -     | 0            | 1   | 0     | 1        | -     | 18    | 18    | 10s   | 2 866  | 5 035  | 0   | 0      | 0    | 0   | 0        | 0    | 0    | 0      | 11m44s UP | L4OK    | in 0ms | 1   | Y   | -   | 0    | 0     | 0s     | - |
| mesoslave2_10_0_1_174_31556 | 0     | 0   | -     | 0            | 1   | 0     | 2        | -     | 18    | 18    | 10s   | 2 866  | 15 233 | 0   | 0      | 0    | 0   | 0        | 0    | 0    | 0      | 11m67s UP | L4OK    | in 0ms | 1   | Y   | -   | 0    | 0     | 0s     | - |
| mesoslave2_10_0_1_174_31716 | 0     | 0   | -     | 0            | 1   | 0     | 2        | -     | 17    | 17    | 14s   | 2 734  | 13 717 | 0   | 0      | 0    | 0   | 0        | 0    | 0    | 0      | 6m31s UP  | L4OK    | in 0ms | 1   | Y   | -   | 0    | 0     | 0s     | - |
| Backend                     | 0     | 0   | -     | 0            | 2   | 0     | 5        | 1 000 | 71    | 71    | 10s   | 14 853 | 39 611 | 0   | 0      | 0    | 0   | 0        | 0    | 0    | 0      | 6m31s UP  |         |        | 4   | 4   | 0   | 0    | 0     | 0s     | - |

```
{
  "id": "/cassandra1",
  "cmd": null,
  "cpus": 1,
  "mem": 8000,
  "disk": 0,
  "instances": 1,
  "constraints": [
    [
      "hostname",
      "UNIQUE"
    ]
  ],
  "acceptedResourceRoles": [
    "*"
  ],
  "container": {
    "type": "DOCKER",
    "docker": {
      "forcePullImage": true,
      "image": "cassandra",
      "parameters": [
        {
          "key": "env",
          "value": "CASSANDRA_CLUSTERNAME=cassandra-cluster"
        },
        {
          "key": "env",
          "value": "CASSANDRA_SEEDS=10.0.1.85,10.0.1.174,10.0.1.203"
        },
        {
          "key": "volume-driver",
          "value": "rexray/ebs"
        }
      ]
    }
  }
}
```