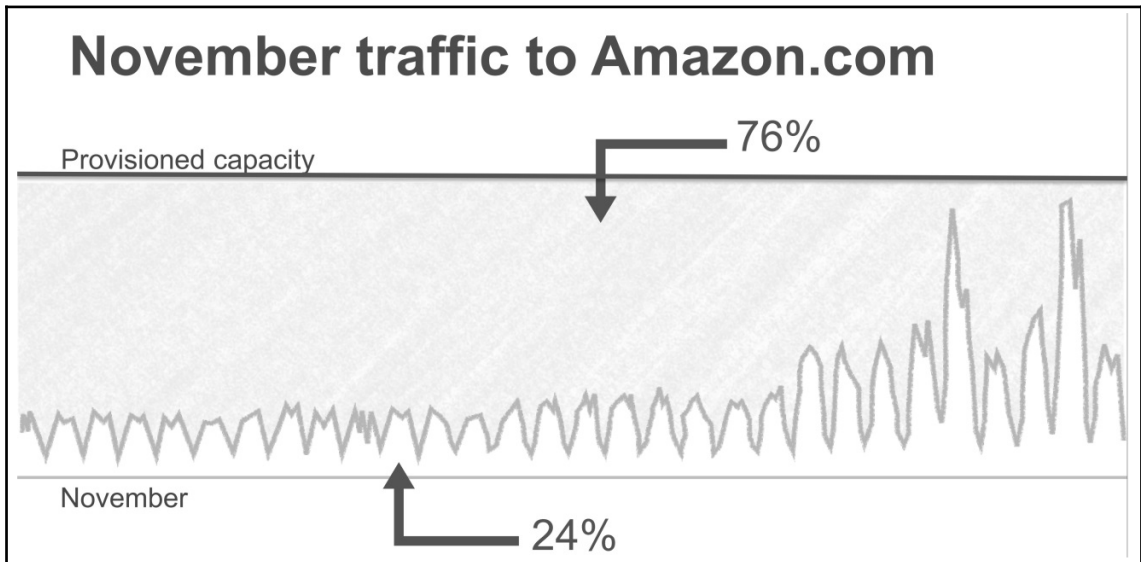
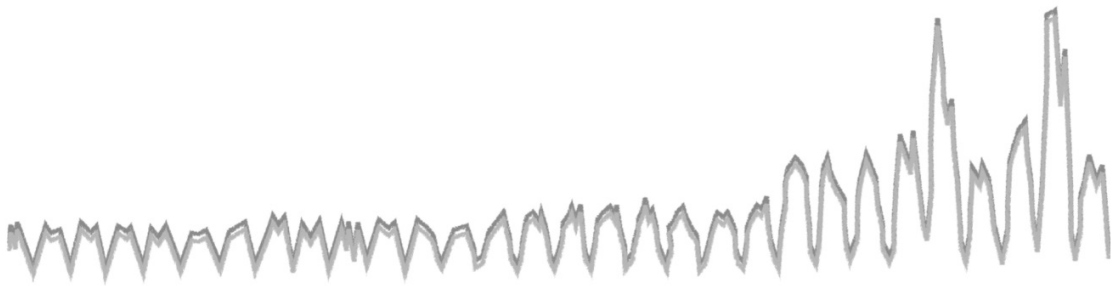


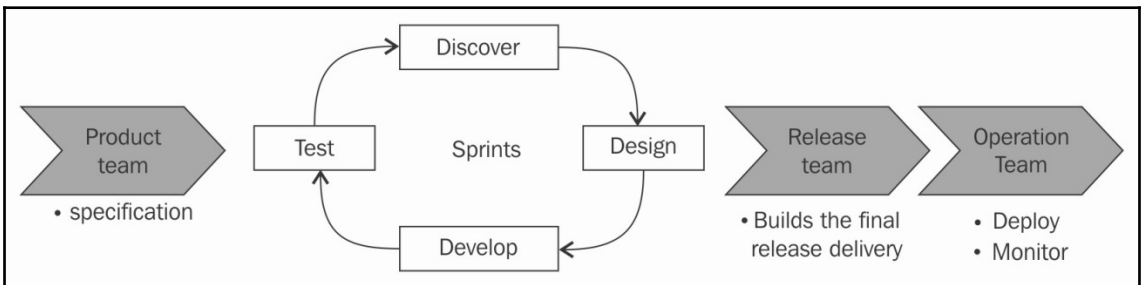
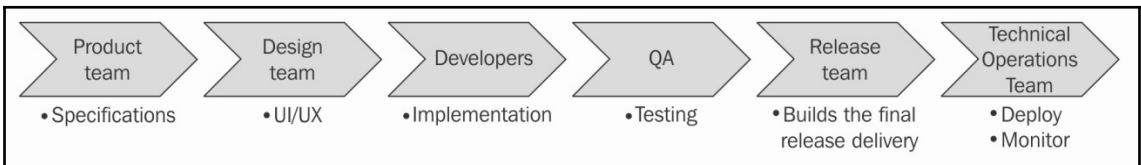
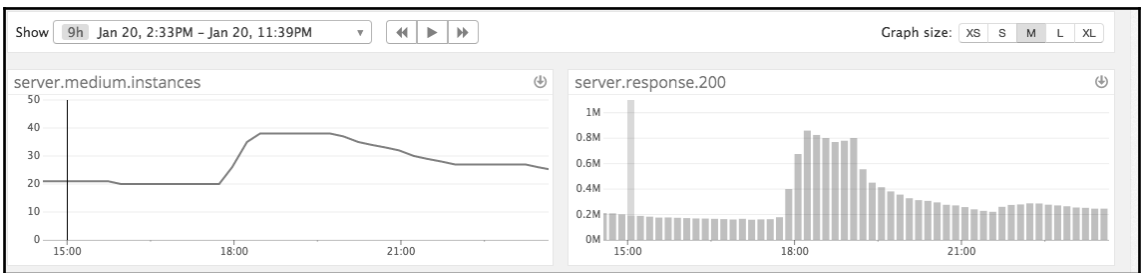
Chapter 1: The Cloud and DevOps Revolution

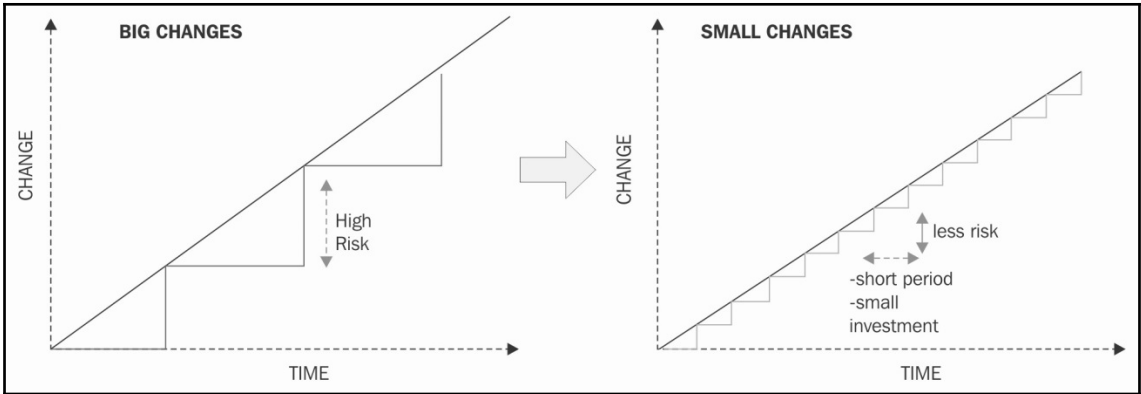


November traffic to Amazon.com

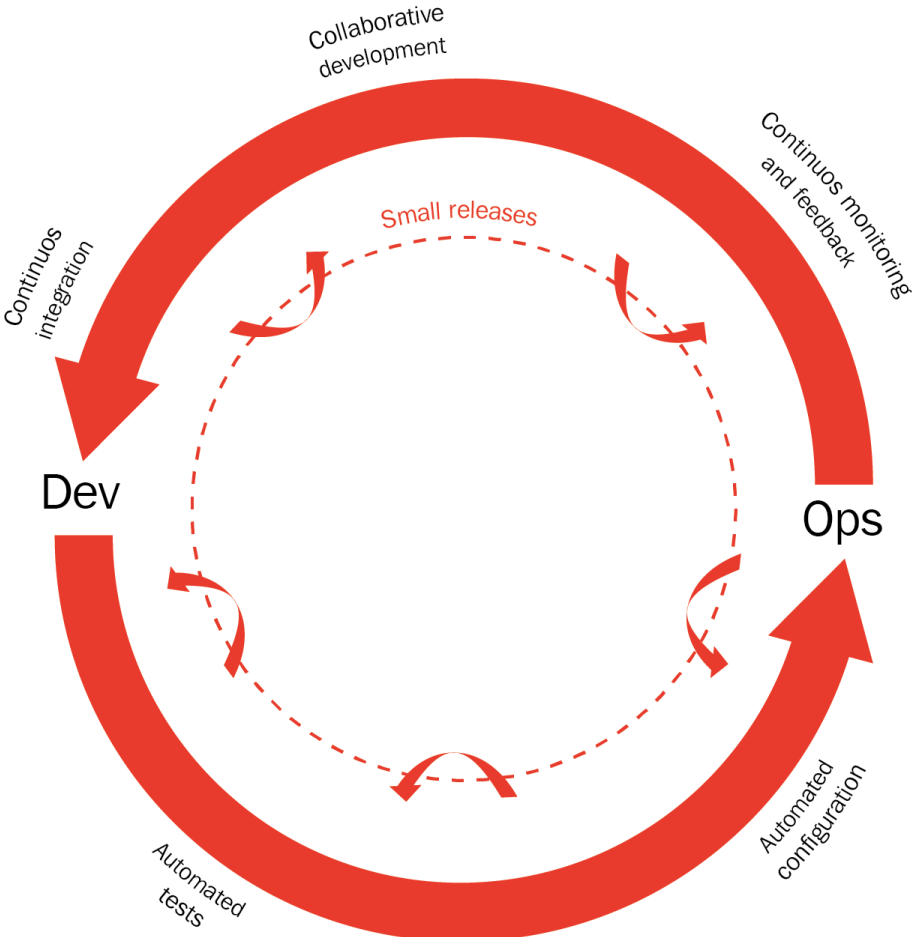


November





Central to the DevOps philosophy is a recurring flow of small releases facilitated by automated configuration, test, and a closer collaboration between developers and operations people.



AWS services

Find a service by name or feature (for example, EC2, S3 or VM, storage).



> Recently visited services

∨ All services



Compute

EC2
Lightsail [↗](#)
Elastic Container Service
EKS
Lambda
Batch
Elastic Beanstalk



Storage

S3
EFS
Glacier
Storage Gateway



Database

RDS
DynamoDB
ElastiCache
Neptune
Amazon Redshift



Migration

AWS Migration Hub
Application Discovery Service
Database Migration Service
Server Migration Service
Snowball



Networking & Content Delivery

VPC
CloudFront
Route 53
API Gateway



Management Tools

CloudWatch
AWS Auto Scaling
CloudFormation
CloudTrail
Config
OpsWorks
Service Catalog
Systems Manager
Trusted Advisor
Managed Services



Media Services

Elastic Transcoder
Kinesis Video Streams
MediaConvert
MediaLive
MediaPackage
MediaStore
MediaTailor



Machine Learning

Amazon SageMaker
Amazon Comprehend
AWS DeepLens
Amazon Lex
Machine Learning
Amazon Polly
Rekognition
Amazon Transcribe
Amazon Translate



Analytics

Athena
EMR
CloudSearch



Mobile Services

Mobile Hub
AWS AppSync
Device Farm
Mobile Analytics



AR & VR

Amazon Sumerian



Application Integration

Step Functions
Amazon MQ
Simple Notification Service
Simple Queue Service
SWF



Customer Engagement

Amazon Connect
Pinpoint
Simple Email Service



Business Productivity

Alexa for Business
Amazon Chime [↗](#)
WorkDocs
WorkMail



Desktop & App Streaming

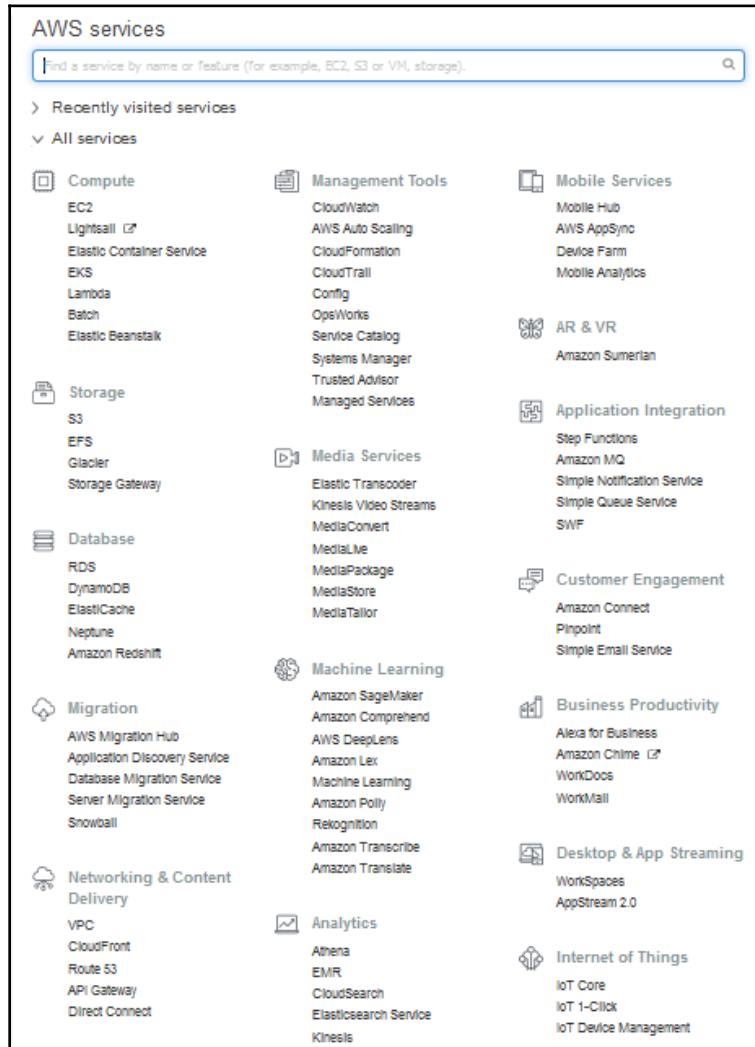
WorkSpaces
AppStream 2.0

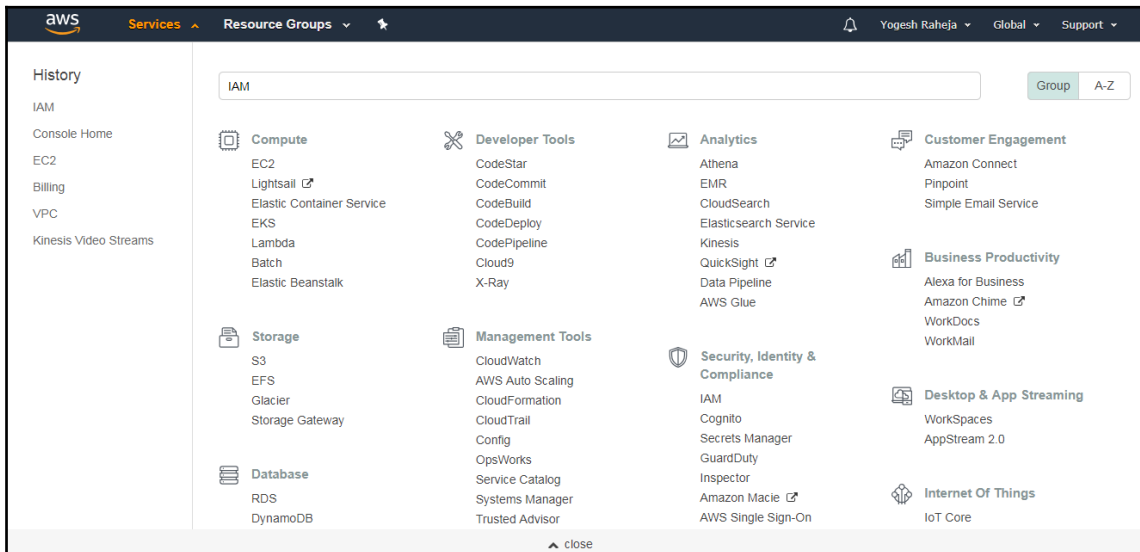
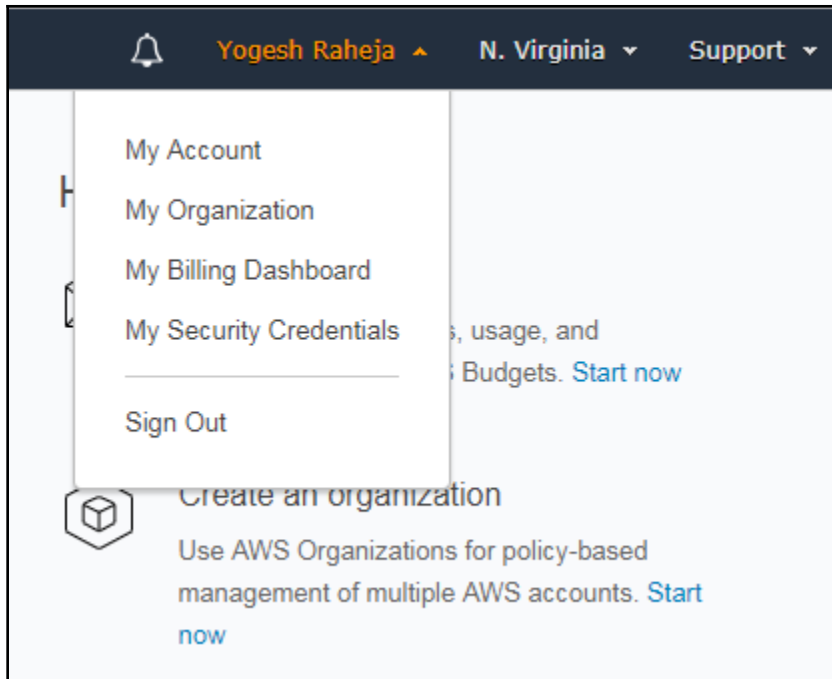


Internet of Things

IoT Core

Chapter 2: Deploying Your First Web Application





Secure | https://console.aws.amazon.com/iam/home?region=us-east-1#/users/yogeshraheja

aws Services Resource Groups

Yogesh Raheja Global Support

Users > yogeshraheja

Summary

User ARN: `arn:aws:iam::094507990803:user/yogeshraheja`

Path: `/`

Creation time: 2018-08-07 10:26 UTC+0530

Permissions Groups Security credentials Access Advisor

Permissions policies (1 policy applied)

Add permissions Add inline policy

Policy name	Policy type
AdministratorAccess	AWS managed policy

Attached directly

- AdministratorAccess (AWS managed policy)

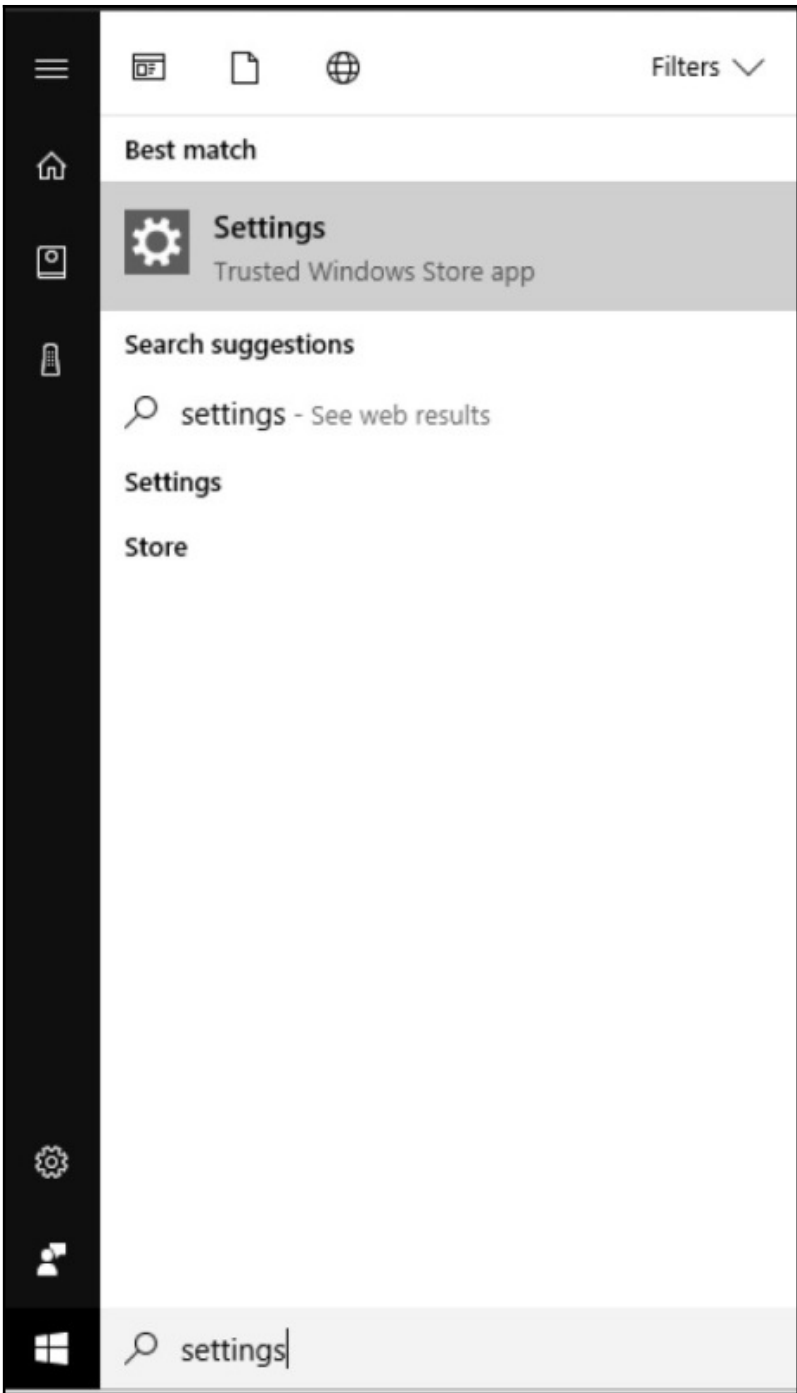
Permissions boundary (not set)

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Manage MFA Device

The MFA device was successfully associated with your account.

Finish



Settings

Windows Settings

X

- Windows Update settings
- Check for updates
- Advanced Windows Update options
- View your Update history

System
Display, notifications, power

Personalization
Background, lock screen, colors

Apps
Uninstall, defaults, optional features

Accounts
Your accounts, email, sync, work, family

Time & language
Speech, region, date

Gaming
Game bar, DVR, broadcasting, Game Mode

[Windows isn't activated. Activate Windows now.](#)

⚙️ Home

 ×

🖨️ Control Panel

🔒 update & security

🔄 Windows Update

🛡️ Windows Defender

↑ Backup

🔧 Troubleshoot

🕒 Recovery

✅ Activation

👤 Find My Device

🛠️ For developers

👤 Windows Insider Program

For developers

Use developer features

These settings are intended for development use only.

[Learn more](#)

Windows Store apps

Only install apps from the Windows Store.

Sideload apps

Install apps from other sources that you trust, like your workplace.

Developer mode

Install any signed and trusted app and use advanced development features.

Developer Mode package installed. Remote tooling for desktop is now enabled.

Enable Device Portal

Turn on remote diagnostics over local area network

Adjust your computer's settings

View by: Category ▾



System and Security

Review your computer's status
Save backup copies of your files with File History
Backup and Restore (Windows 7)



Network and Internet

View network status and tasks
Choose homegroup and sharing options



Hardware and Sound

View devices and printers
Add a device
Adjust commonly used mobility settings



Programs

Uninstall a program
Get programs



User Accounts

Change account type



Appearance and Personalization



Clock, Language, and Region

Add a language
Change input methods
Change date, time, or number formats



Ease of Access

Let Windows suggest settings
Optimize visual display



Programs and Features

Uninstall a program | Turn Windows features on or off | View installed updates |
Run programs made for previous versions of Windows | How to install a program



Default Programs

Change default settings for media or devices | Make a file type always open in a specific program |
Set your default programs



Java














Windows Features



Turn Windows features on or off



To turn a feature on, select its check box. To turn a feature off, clear its check box. A filled box means that only part of the feature is turned on.

-  SMB 1.0/CIFS File Sharing Support
-  Telnet Client
-  TFTP Client
-  Windows Identity Foundation 3.5
-  Windows PowerShell 2.0
-  Windows Process Activation Service
-  Windows Subsystem for Linux (Beta)
-  Windows TIFF IFilter
-  Work Folders Client
-  XPS Services
-  XPS Viewer

OK

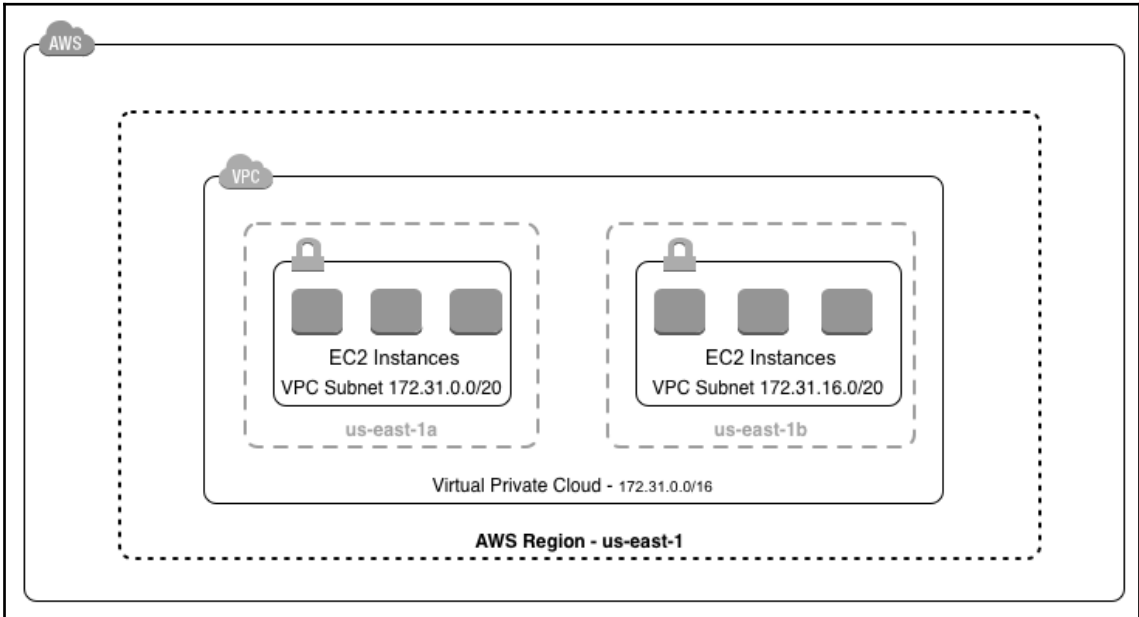
Cancel

```
Select C:\Windows\System32\bash.exe
-- Beta feature --
This will install Ubuntu on Windows, distributed by Canonical
and licensed under its terms available here:
https://aka.ms/uowterms

Type "y" to continue:

█
```

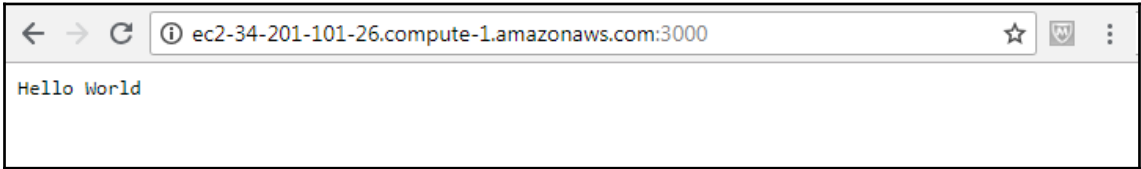
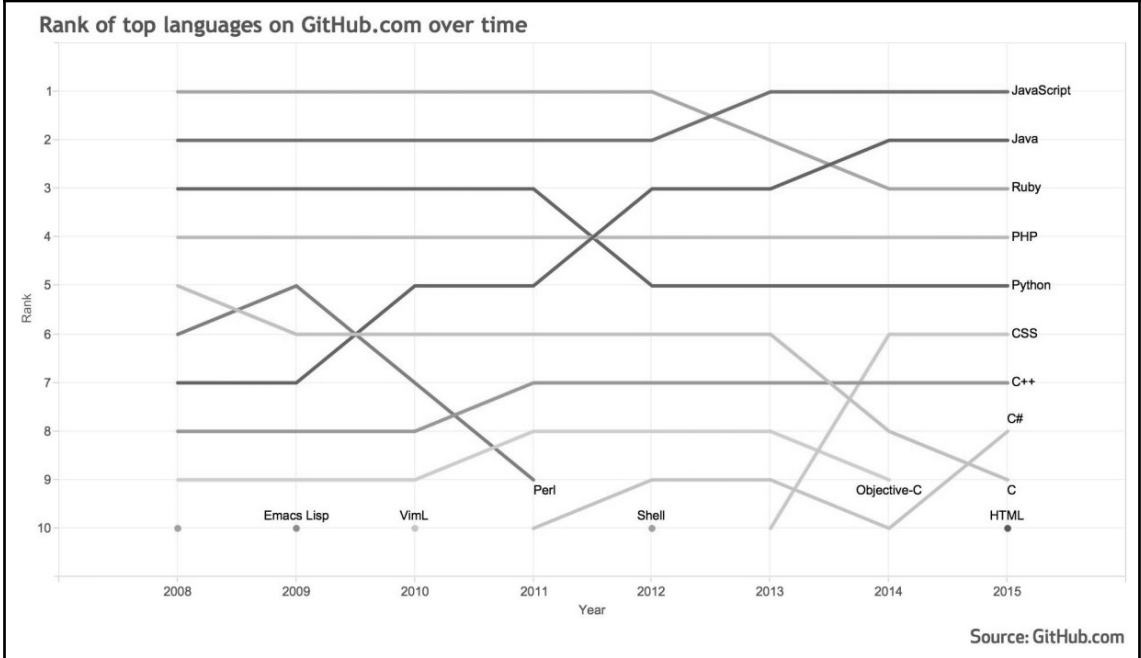
```
packt1@DESKTOP-0NTP3SR:/mnt/c/windows/System32$ aws ec2 describe-images --filters "Name=description,Values=Amazon Linux AMI * x86_64 HVM GP2" --query 'Images[*].[CreationDate, Description, ImageId]' -
-output text | sort -k 1 | tail
2018-01-08T18:43:48.000Z      Amazon Linux AMI 2017.09.1.20180108 x86_64 HVM GP2      ami-cb9ec1b1
2018-01-10T18:55:00.000Z      Amazon Linux AMI 2017.09.1.20180108 x86_64 HVM GP2      ami-ca1c47b0
2018-01-15T19:14:50.000Z      Amazon Linux AMI 2017.09.1.20180115 x86_64 HVM GP2      ami-97785bed
2018-01-18T23:05:02.000Z      Amazon Linux AMI 2017.09.1.20171120 x86_64 HVM GP2      ami-1ac9e760
2018-03-07T06:59:59.000Z      Amazon Linux AMI 2017.09.1.20180307 x86_64 HVM GP2      ami-1853ac65
2018-03-07T07:00:50.000Z      Amazon Linux AMI 2017.09.1-testlongids.20180307 x86_64 HVM GP2      ami-07
fc3cb791f32513e
2018-04-13T00:32:59.000Z      Amazon Linux AMI 2018.03.0.20180412 x86_64 HVM GP2      ami-467ca739
2018-05-08T18:06:53.000Z      Amazon Linux AMI 2018.03.0.20180508 x86_64 HVM GP2      ami-14c5486b
2018-06-22T22:26:53.000Z      Amazon Linux AMI 2018.03.0.20180622 x86_64 HVM GP2      ami-cfe4b2b0
```



```

root@yogesh# aws ec2 describe-subnets --output text
SUBNETS False us-east-1d 4091 172.31.32.0/20 True True available subnet-e67190bc vpc-4cddce2a
SUBNETS False us-east-1b 4090 172.31.64.0/20 True True available subnet-658b6149 vpc-4cddce2a
SUBNETS False us-east-1e 4091 172.31.48.0/20 True True available subnet-d890d3e4 vpc-4cddce2a
SUBNETS False us-east-1c 4090 172.31.16.0/20 True True available subnet-6fdd7927 vpc-4cddce2a
SUBNETS False us-east-1a 4091 172.31.0.0/20 True True available subnet-4c99c229 vpc-4cddce2a
SUBNETS False us-east-1f 4091 172.31.80.0/20 True True available subnet-b03baebc vpc-4cddce2a

```




Chapter 3: Treating Your Infrastructure as Code

The screenshot displays the AWS CloudFormation Designer interface. The top navigation bar shows the AWS logo, 'Services', 'Resource Groups', and user information for 'yogeshraheja @ yoggan' in 'N. Virginia'. The main workspace shows a dependency graph with two resources: 'YOGESHEC2:SecurityGroup' (marked with a lock icon) and 'YOGESHEC2:Instance' (highlighted with a red box). A pink arrow points from the Instance resource to the SecurityGroup resource, indicating a dependency. The left sidebar lists resource types such as NetworkInterfacePermission, PlacementGroup, Route, RouteTable, SecurityGroup, SpotFleet, and Subnet. The bottom panel shows the 'Metadata' tab for the 'YOGESHEC2' resource, with a code editor displaying JSON template code. The code defines the resource type as 'AWS::EC2::Instance' and includes a metadata entry for the CloudFormation Designer with a specific ID. The footer contains 'Feedback', 'English (US)', and copyright information for Amazon Internet Services Private Ltd.

```
1 {
2   "Resources": {
3     "YOGESHEC2": {
4       "Type": "AWS::EC2::Instance",
5       "Metadata": {
6         "AWS::CloudFormation::Designer": {
7           "Id": "d09b1668-ae76-4352-9a40-340ed33e499"
8         }
9       }
10    }
11  }
```



YOGESHEC2SG 

```
31  "Resources": {
32    "YOGESHEC2": {
33      "Type": "AWS::EC2::Instance",
34      "Properties": { },
35      "Metadata": {
36        "AWS::CloudFormation::Init": {
37          "id": "YOGESHEC2SG"
38        }
39      }
40    }
  }
```

Components | **Template**

- KeyName
- AdditionalInfo
- AvailabilityZone
- BlockDeviceMappings
- CreditSpecification
- DisableApiTermination
- EbsOptimized
- ElasticGpuSpecifications

aws Services Resource Groups CloudFormation Stacks Create Stack

Create stack

Select Template

Specify Details
Options
Review

Select the template that describes the stack that you want to create. A stack is a group of related resources that you manage as a single unit.

Design a template Use AWS CloudFormation Designer to create or modify an existing template. [Learn more.](#)

Choose a template A template is a JSON/YAML-formatted text file that describes your stack's resources and their properties. [Learn more.](#)

- Select a sample template
 CloudFormer
- Upload a template to Amazon S3
 No file chosen
- Specify an Amazon S3 template URL

Secure | https://console.aws.amazon.com/cloudformation/home?region=us-east-1#/stacks?stackId=arn:aws:cloudformation:us-east-1:094507990803:stack%2FAWSCloudFormer%...

aws Services Resource Groups CloudFormation Stacks

Filter: Active By Stack Name Showing 1 stack

Stack Name	Created Time	Status	Description
<input checked="" type="checkbox"/> AWSCloudFormer	2018-09-01 18:29:34 UTC+0550	CREATE_IN_PROGRE...	AWS CloudFormer Beta - template creation prototype application. This tool allows you to create an A...

Overview Outputs Resources **Events** Template Parameters Tags Stack Policy Change Sets Rollback Triggers

Filter by: Status Search events

2018-09-01	Status	Type	Logical ID	Status Reason
18:29:34 UTC+0550	CREATE_IN_PROGRESS	AWS::CloudFormation::Stack	AWSCloudFormer	User Initiated

https://ec2-18-214-40-102.compute-1.amazonaws.com/newtemplate

AWS CloudFormer

Region us-east-1

Intro DNS VPC VPC Network Security Network Managed Services Managed Config Compute Storage Storage Config App Services Security Operational Summary Done

Cancel **Continue**

Template Information

Select the AWS region to introspect. The description is optional but will be displayed in the AWS Management console when the template is used to create a stack. You can optionally enter a filter for the resources. If you specify a filter, all resources with a name or a tag value that contains the filter text will be selected automatically. Note that the filter is a case-insensitive match.

Template Description

Enter template description

Resource Name Filter

Select resources matching filter

Select all resources in your account

Secure | https://console.aws.amazon.com/cloudformation/home?region=us-east-1#/stacks?stackId=arn:aws:cloudformation:us-east-1:094507990803:stack%2FHelloWorld%2F5eb6...

Services Resource Groups yogeshraheja @ yoggan N. Virginia Support

CloudFormation Stacks

Create Stack Actions Design template

Filter: Active By Stack Name Showing 1 stack


Stack Name	Created Time	Status	Description
<input checked="" type="checkbox"/> HelloWorld	2018-08-09 12:48:10 UTC+0550	CREATE_COMPLETE	Effective DevOps in AWS: HelloWorld web application

Overview Outputs Resources Events Template Parameters Tags Stack Policy Change Sets Rollback Triggers

Key	Value	Description	Export Name
InstancePublicIp	34.207.153.209	Public IP of our instance.	
WebUrl	http://ec2-34-207-153-209.compute-1.amazonaws.com:3000	Application endpoint	

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Owner **Repository name**

 yogeshraheja / EffectiveDevOpsTemplates ✓

Great repository names are short and memorable. Need inspiration? How about **sturdy-pancake**.

Description (optional)

Public
Anyone can see this repository. You choose who can commit.

Private
You choose who can see and commit to this repository.

Initialize this repository with a README
This will let you immediately clone the repository to your computer. Skip this step if you're importing an existing repository.

Add .gitignore: **None** | Add a license: **None** ⓘ

Create repository

Update HelloWorld stack

Review

Review the information that AWS CloudFormation will use to update your stack. If you need to change a value, return to the page that contains the value that you want to change.

Template

Template URL: <https://s3.amazonaws.com/efectivedevops/1/stacks/HelloWorld-v2.template>
Description: Effective DevOps in AWS: HelloWorld web application

Details

Stack name: HelloWorld
KeyPair: EffectiveDevOps

Options

Tags
No tags provided

Rollback Triggers
No monitoring time provided
No rollback triggers provided

Advanced
Notification

Preview your changes

Based on your input, CloudFormation will change the following resources. For more information, choose [View change set details](#).

Action	Logical ID	Physical ID	Resource type	Replacement
Modify	SecurityGroup	HelloWorldSecurityGroup1X73J2U74R0X	AWS::EC2::SecurityGroup	Force

Cancel Preview Update

Preview your changes

Based on your input, CloudFormation will change the following resources. For more information, choose [View change set details](#).

Action	Logical ID	Physical ID	Resource type	Replacement
Modify	SecurityGroup	HelloWorld-SecurityGroup-1XTG3J074MXX	AWS::EC2::SecurityGroup	False

Cancel Previous Update

aws Services Resource Groups

CloudFormation Stacks Stack Detail Change Set Detail

updatinghelloworld

Other Actions Execute

Overview

Change set ID: `arn:aws:cloudformation:us-east-1:094507990803:changeSet/updatinghelloworld/9dfe1fd2-0141-440b-bb92-7b176f6fc280`

Description:

Created time: 2018-08-09 15:30:42 UTC+0550

Status: **CREATE_COMPLETE**

Stack name: [HelloWorld](#)

Change set input

Changes

The changes CloudFormation will make if you execute this change set.

Filter Viewing 1 of 1

Action	Logical ID	Physical ID	Resource Type	Replacement
Modify	SecurityGroup	HelloWorld-SecurityGroup-1XTG3J074MXX	AWS::EC2::SecurityGroup	False

aws Services Resource Groups

CloudFormation Stacks

Create Stack Actions Design template

Filter: Active By Stack Name Showing 1 stack

Stack Name	Created Time	Status	Description
✓ HelloWorld	2018-08-09 12:48:10 UTC+0550	DELETE_IN_PROGRESS	Effective DevOps in AWS: HelloWorld web application

Overview Outputs Resources Events Template Parameters Tags Stack Policy Change Sets Rollback Triggers

Filter by: Status Search events

2018-08-09	Status	Type	Logical ID	Status Reason
▶ 15:35:43 UTC+0550	DELETE_IN_PROGRESS	AWS::EC2::Instance	instance	
▶ 15:35:42 UTC+0550	DELETE_IN_PROGRESS	AWS::CloudFormation::Stack	HelloWorld	User Initiated
▶ 15:11:37 UTC+0550	UPDATE_COMPLETE	AWS::CloudFormation::Stack	HelloWorld	
▶ 15:11:37 UTC+0550	UPDATE_COMPLETE_CLEANUP_IN_PROGRESS	AWS::CloudFormation::Stack	HelloWorld	
▶ 15:11:33 UTC+0550	UPDATE_COMPLETE	AWS::EC2::SecurityGroup	SecurityGroup	
▶ 15:11:16 UTC+0550	UPDATE_IN_PROGRESS	AWS::EC2::SecurityGroup	SecurityGroup	
▶ 15:11:08 UTC+0550	UPDATE_IN_PROGRESS	AWS::CloudFormation::Stack	HelloWorld	User Initiated
▶ 12:48:59 UTC+0550	CREATE_COMPLETE	AWS::CloudFormation::Stack	HelloWorld	

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GitHub, Inc. [US] | https://github.com/new

Search or jump to... Pull requests Issues Marketplace Explore

Create a new repository

A repository contains all the files for your project, including the revision history.

Owner: yogeshraheja / Repository name: ansible ✓

Great repository names are short and memorable. Need inspiration? How about sturdy-invention.

Description (optional)

Public
Anyone can see this repository. You choose who can commit.

Private
You choose who can see and commit to this repository.

Initialize this repository with a README
This will let you immediately clone the repository to your computer. Skip this step if you're importing an existing repository.

Add .gitignore: None Add a license: None ⓘ

Chapter 4: Infrastructure as Code with Terraform

```
[root@yogeshraheja ~]# curl -O https://releases.hashicorp.com/terraform/0.11.8/terraform_0.11.8_linux_amd64.zip
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload  Total   Spent    Left   Speed
100 17.0M  100 17.0M    0     0  34.5M    0  --:--:--  --:--:--  --:--:--  34.6M
[root@yogeshraheja ~]#
[root@yogeshraheja ~]# ls -lrt terraform_0.11.8_linux_amd64.zip
-rw-r--r--. 1 root root 17871447 Sep 12 06:40 terraform_0.11.8_linux_amd64.zip
[root@yogeshraheja ~]#
```

The screenshot shows the AWS Management Console interface for configuring a security group. The breadcrumb trail indicates the current step is '6. Configure Security Group'. The main heading is 'Step 6: Configure Security Group', with a sub-heading 'Assign a security group:'. Two radio buttons are present: 'Create a new security group' (unselected) and 'Select an existing security group' (selected). Below this is a table of existing security groups:

Security Group ID	Name	Description	Actions
<input type="checkbox"/> sg-07a9a699332704db4	chefsecuritygroup	launch-wizard-1 created 2018-08-14T12:05:45.506+05:30	Copy to new
<input type="checkbox"/> sg-e4434d9b	default	default VPC security group	Copy to new
<input type="checkbox"/> sg-c6a0e3b0	devops-conference	launch-wizard-3 created 2018-03-21T10:28:43.941+05:30	Copy to new
<input checked="" type="checkbox"/> sg-01864b4c	HelloWorld	Hello World Demo	Copy to new

Below the table, it shows 'Inbound rules for sg-01864b4c (Selected security groups: sg-01864b4c)'. A table of inbound rules is displayed:

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	0.0.0.0/0	
Custom TCP Rule	TCP	3000	0.0.0.0/0	

At the bottom right, there are three buttons: 'Cancel', 'Previous', and 'Review and Launch'.

The screenshot shows the AWS Management Console interface. The top navigation bar includes the AWS logo, 'Services', 'Resource Groups', and user information for 'yogeshraheja @ yoggan' in 'N. Virginia'. The left sidebar lists navigation options like 'EC2 Dashboard', 'Events', 'Tags', 'Reports', 'Limits', 'INSTANCES', 'Launch Templates', 'Spot Requests', 'Reserved Instances', 'Dedicated Hosts', 'Scheduled Instances', 'IMAGES', 'AMIs', 'Bundle Tasks', 'ELASTIC BLOCK STORE', 'Volumes', 'Snapshots', 'Lifecycle Manager', 'NETWORK & SECURITY', and 'Security Groups'. The main content area displays a table of EC2 instances. A search filter is applied: 'search: i-03005a5404e09dcde'. The table has columns for Name, Instance ID, Availability Zone, Instance State, Status Checks, Alarm Status, Public DNS (IPv4), and IPv4 Public IP. One instance is visible with ID 'i-03005a5404e09dcde' in the 'us-east-1b' zone, with a state of 'running' and '2/2 checks...'. A context menu is open over this instance, showing options: 'Connect', 'Get Windows Password', 'Launch More Like This', 'Instance State' (with sub-options: Start, Stop, Reboot, Terminate), 'Instance Settings', 'Image', 'Networking', and 'CloudWatch Monitoring'. Below the table, the details for the selected instance are shown, including its ID, state, type, and various DNS and IP addresses.

Name	Instance ID	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)	IPv4 Public IP
	i-03005a5404e09dcde	us-east-1b	running	2/2 checks...	None	ec2-34-201-116-2.com...	34.201.116.2

Instance: i-03005a5404e09dcde Public DNS: ec2-34-201-116-2.compute-1.amazonaws.com

Description		Status Checks	Monitoring	Tags
Instance ID	i-03005a5404e09dcde	Public DNS (IPv4)	ec2-34-201-116-2.compute-1.amazonaws.com	
Instance state	running	IPv4 Public IP	34.201.116.2	
Instance type	t2.micro	IPv6 IPs	-	
Elastic IPs		Private DNS	ip-172-31-73-209.ec2.internal	
Availability zone	us-east-1b	Private IPs	172.31.73.209	

The screenshot shows the GitHub 'Create a new repository' page. The browser address bar shows 'https://github.com/new'. The page header includes the GitHub logo, a search bar, and navigation links for 'Pull requests', 'Issues', 'Marketplace', and 'Explore'. The main content area is titled 'Create a new repository' and includes the text: 'A repository contains all the files for your project, including the revision history.' Below this, there are input fields for 'Owner' (yogeshraheja) and 'Repository name' (EffectiveDevOpsTerraform). A message states: 'Great repository names are short and memorable. Need inspiration? How about `literate-train`.' There is a 'Description (optional)' text area. Under 'Visibility', the 'Public' option is selected, with the text: 'Anyone can see this repository. You choose who can commit.' The 'Private' option is also visible, with the text: 'You choose who can see and commit to this repository.' At the bottom, there is a checked checkbox for 'Initialize this repository with a README' and the text: 'This will let you immediately clone the repository to your computer. Skip this step if you're importing an existing repository.' There are also dropdown menus for 'Add .gitignore: None' and 'Add a license: None'.

```
[root@yogeshraheja firstproject]# terraform init
```

Initializing provider plugins...

- Checking for available provider plugins on <https://releases.hashicorp.com>...
- Downloading plugin for provider "aws" (1.36.0)...

The following providers do not have any version constraints in configuration, so the latest version was installed.

To prevent automatic upgrades to new major versions that may contain breaking changes, it is recommended to add `version = "..."` constraints to the corresponding provider blocks in configuration, with the constraint strings suggested below.

```
* provider.aws: version = "~> 1.36"
```

Terraform has been successfully initialized!

You may now begin working with Terraform. Try running `"terraform plan"` to see any changes that are required for your infrastructure. All Terraform commands should now work.

If you ever set or change modules or backend configuration for Terraform, rerun this command to reinitialize your working directory. If you forget, other commands will detect it and remind you to do so if necessary.

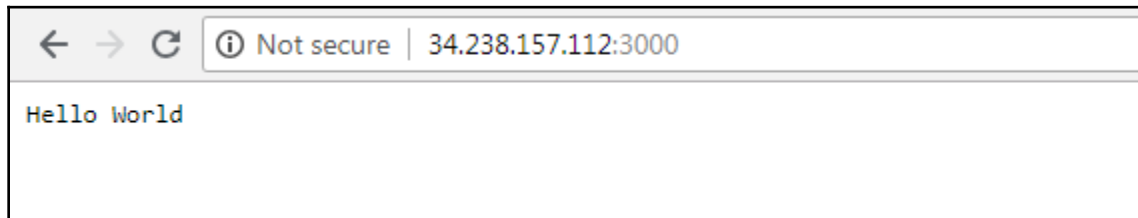
```
[root@yogeshraheja firstproject]#
```

The screenshot shows the AWS Management Console interface. The top navigation bar includes the AWS logo, 'Services', 'Resource Groups', and user information for 'yogeshraheja @ yoggan' in 'N. Virginia'. The left sidebar shows navigation options like 'EC2 Dashboard', 'Events', 'Tags', 'Reports', 'Limits', 'INSTANCES', 'Launch Templates', 'Spot Requests', 'Reserved Instances', 'Dedicated Hosts', and 'Scheduled Instances'. The main content area is titled 'Launch Instance' and displays a table of EC2 instances. The table has columns for Name, Instance ID, Instance Type, Availability Zone, Instance State, Status Checks, Alarm Status, and Public DNS (IPv4). One instance named 'helloworld' is highlighted in yellow and has a status of 'running' with a yellow 'Initializing' label. Below the table, there is a 'Select an Instance above' prompt.

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)
kulmaster	i-01768b89dc5f0e76	t2.medium	us-east-1c	running	2/2 checks passed	None	ec2-54-243-26-241
Cl_Master_Test	i-0b16ef9f0d9429d20	t2.medium	us-east-1b	stopped		None	
	i-0179a4e5a20241780	t2.micro	us-east-1b	running	2/2 checks passed	None	ec2-18-208-183-3f
	i-0393656fc031a7be	t2.micro	us-east-1b	running	2/2 checks passed	None	ec2-54-227-121-1f
helloworld	i-0d8834ca	t2.micro	us-east-1b	running	Initializing	None	ec2-52-70-251-22f
Effective_DevOps_...	i-098a175c4b6880d7	t2.small	us-east-1c	running	2/2 checks passed	None	ec2-54-205-200-1f

```
root@yogeshraheja-EffectiveDevOpsTerraform/secondproject
aws_instance.myserver (remote-exec): Installing : nodejs-0 (##### ) 2/2
aws_instance.myserver (remote-exec): Installing : nodejs-0 (##### ) 2/2
aws_instance.myserver (remote-exec): Installing : nodejs-0 (##### ) 2/2
aws_instance.myserver (remote-exec): Installing : nodejs-0.10.48-3.e 2/2
aws_instance.myserver (remote-exec): Verifying : nodejs-0.10.48-3.e 1/2
aws_instance.myserver (remote-exec): Verifying : libuv-0.10.34-1. 2/2
aws_instance.myserver (remote-exec): Installed:
aws_instance.myserver (remote-exec): nodejs.x86_64 0:0.10.48-3.el6
aws_instance.myserver (remote-exec): Dependency Installed:
aws_instance.myserver (remote-exec): libuv.x86_64 1:0.10.34-1.el6
aws_instance.myserver (remote-exec): Complete!
aws_instance.myserver (remote-exec): --2018-09-18 18:37:55-- https://raw.githubusercontent.com/yogeshraheja/Effective-DevOps-with-AWS/master/Chapter02/helloworld.js
aws_instance.myserver (remote-exec): Resolving raw.githubusercontent.com (raw.githubusercontent.com)... 151.101.200.133
aws_instance.myserver (remote-exec): Connecting to raw.githubusercontent.com (raw.githubusercontent.com)[151.101.200.133]:443... connected.
aws_instance.myserver (remote-exec): HTTP request sent, awaiting response... 200 OK
aws_instance.myserver (remote-exec): Length: 384 [text/plain]
aws_instance.myserver (remote-exec): Saving to: '/home/ec2-user/helloworld.js'
aws_instance.myserver (remote-exec): /home 0% 0 --.-KB/s
aws_instance.myserver (remote-exec): /home/ec2-u 100% 384 --.-KB/s in 0s
aws_instance.myserver (remote-exec): 2018-09-18 18:37:55 (89.1 MB/s) - '/home/ec2-user/helloworld.js' saved [384/384]
aws_instance.myserver (remote-exec): --2018-09-18 18:37:55-- https://raw.githubusercontent.com/yogeshraheja/Effective-DevOps-with-AWS/master/Chapter02/helloworld.conf
aws_instance.myserver (remote-exec): Resolving raw.githubusercontent.com (raw.githubusercontent.com)... 151.101.200.133
aws_instance.myserver (remote-exec): Connecting to raw.githubusercontent.com (raw.githubusercontent.com)[151.101.200.133]:443... connected.
aws_instance.myserver (remote-exec): HTTP request sent, awaiting response... 200 OK
aws_instance.myserver (remote-exec): Length: 301 [text/plain]
aws_instance.myserver (remote-exec): Saving to: '/etc/init/helloworld.conf'
aws_instance.myserver (remote-exec): /etc/ 0% 0 --.-KB/s
aws_instance.myserver (remote-exec): /etc/init/h 100% 301 --.-KB/s in 0s
aws_instance.myserver (remote-exec): 2018-09-18 18:37:55 (72.9 MB/s) - '/etc/init/helloworld.conf' saved [301/301]
aws_instance.myserver (remote-exec): helloworld start/running, process 2775
aws_instance.myserver: Creation complete after 50s (ID: i-ae8935b9)
Apply complete! Resources: 1 added, 0 changed, 0 destroyed.
[root@yogeshraheja secondproject]#
```

```
[root@yogeshraheja secondproject]# terraform show | grep -i public_ip
  associate_public_ip_address = true
  public_ip = 34.238.157.112
[root@yogeshraheja secondproject]#
[root@yogeshraheja secondproject]# curl 34.238.157.112:3000
Hello World
[root@yogeshraheja secondproject]#
```



```
root@yogeshraheja:~/EffectiveDevOpsTerraform/thirdproject
aws_instance.myserver (remote-exec): SSH Agent: false
aws_instance.myserver (remote-exec): Checking Host Key: false
aws_instance.myserver (remote-exec): Connected!
aws_instance.myserver: Provisioning with 'local-exec'...
aws_instance.myserver (local-exec): Executing: ["/bin/sh" "-c" "sudo echo '54.85.107.87' > ./myinventory"]
aws_instance.myserver: Provisioning with 'local-exec'...
aws_instance.myserver (local-exec): Executing: ["/bin/sh" "-c" "sudo ansible-playbook -i myinventory --private-key=/root/.ssh/EffectiveDevOpsAWS.pem helloworld.yml"]
aws_instance.myserver: Still creating... (40s elapsed)

aws_instance.myserver (local-exec): PLAY [all] *****
aws_instance.myserver (local-exec): TASK [Gathering Facts] *****
aws_instance.myserver (local-exec): ok: [54.85.107.87]

aws_instance.myserver (local-exec): TASK [nodejs : Installing node and npm] *****
aws_instance.myserver: Still creating... (50s elapsed)
aws_instance.myserver: Still creating... (1m0s elapsed)
aws_instance.myserver: Still creating... (1m10s elapsed)
aws_instance.myserver (local-exec): changed: [54.85.107.87] => (item=[u'nodejs', u'npm'])

aws_instance.myserver (local-exec): TASK [helloworld : Copying the application file] *****
aws_instance.myserver (local-exec): changed: [54.85.107.87]

aws_instance.myserver (local-exec): TASK [helloworld : Copying the upstart file] *****
aws_instance.myserver (local-exec): changed: [54.85.107.87]

aws_instance.myserver (local-exec): TASK [helloworld : Starting the HelloWorld node service] *****
aws_instance.myserver (local-exec): changed: [54.85.107.87]

aws_instance.myserver (local-exec): RUNNING HANDLER [helloworld : restart helloworld] *****
aws_instance.myserver: Still creating... (1m20s elapsed)
aws_instance.myserver (local-exec): changed: [54.85.107.87]

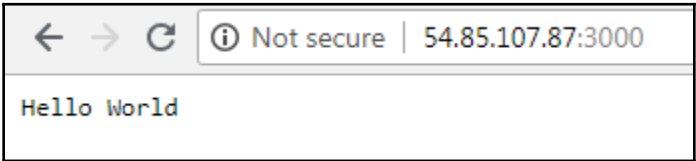
aws_instance.myserver (local-exec): PLAY RECAP *****
aws_instance.myserver (local-exec): 54.85.107.87 : ok=6 changed=5 unreachable=0 failed=0

aws_instance.myserver: Creation complete after 1m22s (ID: i-ac8834bb)

Apply complete! Resources: 1 added, 0 changed, 0 destroyed.

Outputs:
myserver = 54.85.107.87
[root@yogeshraheja thirdproject]#
```

```
[root@yogeshraheja thirdproject]# curl 54.85.107.87:3000
Hello World
[root@yogeshraheja thirdproject]#
```



```
aws_instance.myserver (remote-exec): PLAY [localhost] *****
aws_instance.myserver (remote-exec): TASK [Gathering Facts] *****
aws_instance.myserver (remote-exec): ok: [localhost]

aws_instance.myserver (remote-exec): TASK [nodejs : Installing node and npm] *****
aws_instance.myserver: Still creating... (1m10s elapsed)
aws_instance.myserver: Still creating... (1m20s elapsed)
aws_instance.myserver (remote-exec): changed: [localhost] => (item=[u'nodejs', u'npm'])

aws_instance.myserver (remote-exec): TASK [helloworld : Copying the application file] *****
aws_instance.myserver (remote-exec): changed: [localhost]

aws_instance.myserver (remote-exec): TASK [helloworld : Copying the upstart file] *****
aws_instance.myserver (remote-exec): changed: [localhost]

aws_instance.myserver (remote-exec): TASK [helloworld : Starting the HelloWorld node service] *****
aws_instance.myserver (remote-exec): changed: [localhost]

aws_instance.myserver (remote-exec): RUNNING HANDLER [helloworld : restart helloworld] *****
aws_instance.myserver (remote-exec): changed: [localhost]

aws_instance.myserver (remote-exec): PLAY RECAP *****
aws_instance.myserver (remote-exec): localhost : ok=6 changed=5 unreachable=0 failed=0

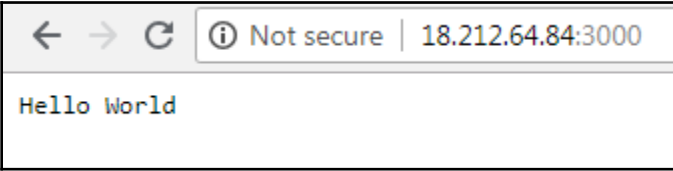
aws_instance.myserver: Creation complete after 1m28s (ID: i-5d84384a)

Apply complete! Resources: 1 added, 0 changed, 0 destroyed.

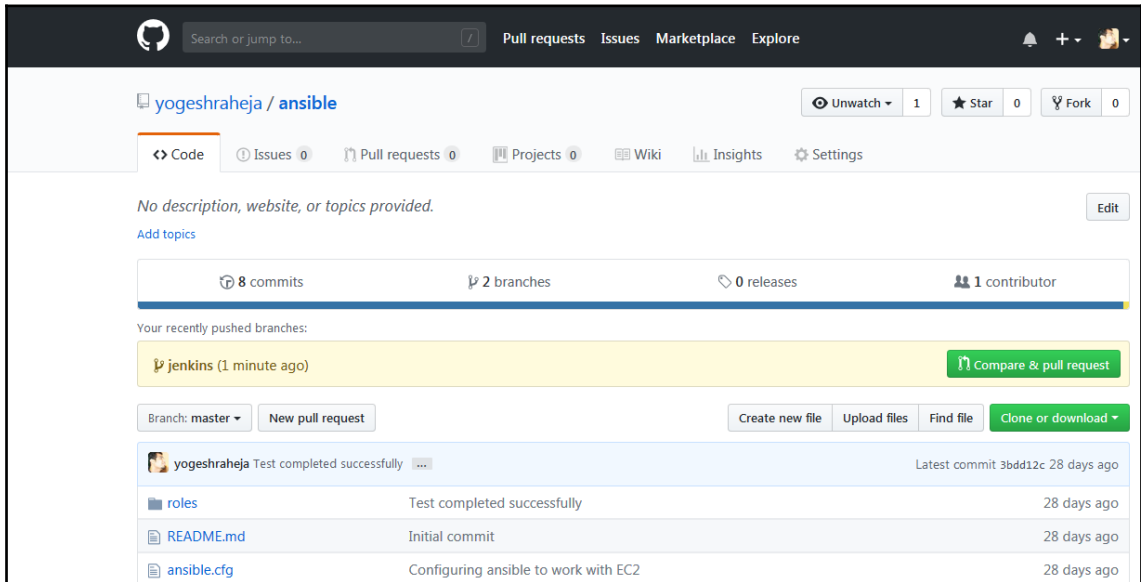
Outputs:

myserver = 18.212.64.84
[root@yogeshraheja fourthproject]# █
```

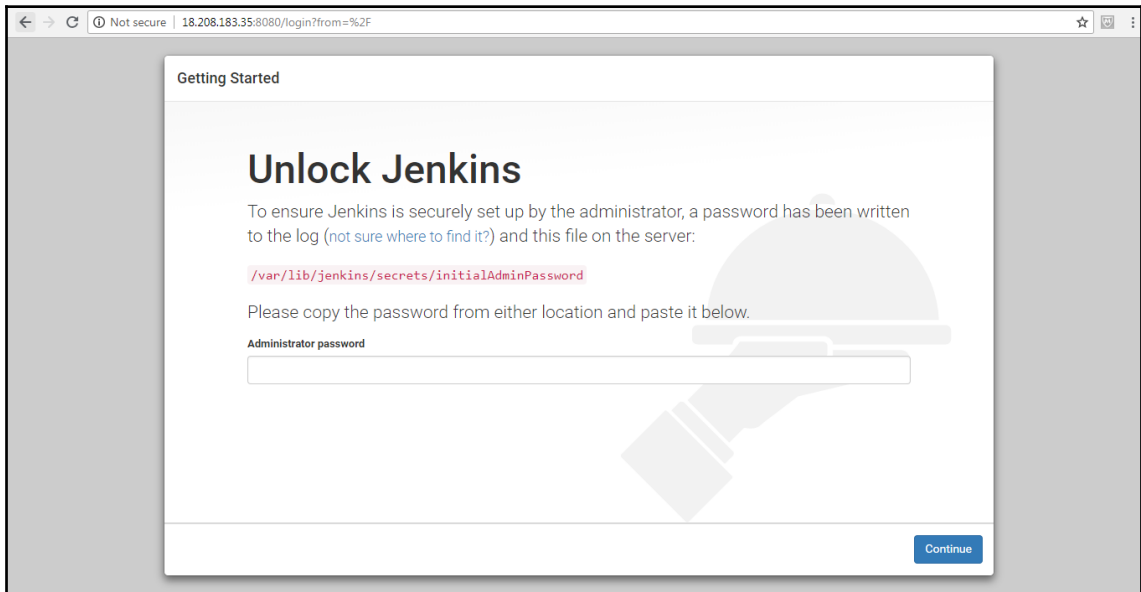
```
[root@yogeshraheja fourthproject]# curl 18.212.64.84:3000
Hello World
[root@yogeshraheja fourthproject]# █
```



Chapter 5: Adding Continuous Integration and Continuous Deployment



The screenshot shows the GitHub repository page for 'yogeshraheja / ansible'. The repository has 1 watch, 0 stars, and 0 forks. It contains 8 commits, 2 branches, 0 releases, and 1 contributor. The 'jenkins' branch was pushed 1 minute ago. The repository includes a 'roles' directory, a 'README.md' file, and an 'ansible.cfg' file. The latest commit by 'yogeshraheja' is titled 'Test completed successfully' and was made 28 days ago. Other recent commits include 'roles' (Test completed successfully, 28 days ago), 'README.md' (Initial commit, 28 days ago), and 'ansible.cfg' (Configuring ansible to work with EC2, 28 days ago).



The screenshot shows the Jenkins 'Getting Started' page. The page title is 'Getting Started' and the main heading is 'Unlock Jenkins'. The text explains that a password has been written to the log (not sure where to find it?) and this file on the server: `/var/lib/jenkins/secrets/initialAdminPassword`. The user is instructed to copy the password from either location and paste it below. There is a text input field labeled 'Administrator password' and a 'Continue' button at the bottom right.

GitHub, Inc. (US) | https://github.com/organizations/new

Search or jump to... Pull requests Issues Marketplace Explore

Sign up your team

Step 1: Set up the organization

Step 2: Invite members

Step 3: Organization details

Create an organization account

Organization name
yogeshrajahelloworld ✓
This will be your organization name on https://github.com/.


Billing email
yogesh.10d@gmail.com
We'll send receipts to this inbox.

Choose your plan

Free \$0
Unlimited users and public repositories

Organization accounts allow your team to plan, build, review, and ship software — all while tracking bugs and discussing ideas.

The credit card and plan you choose will be billed to the organization — not yogeshraja (your user account).




yogeshrajahelloworld

Repositories 0 **People** 1 **Teams** 0 **Projects** 0 **Settings**

This organization has no repositories.

[Create a new repository](#)

People 1 >



yogeshraja

[Invite someone](#)

← → ↻ 🏠 GitHub, Inc. (US) | https://github.com/yogeshrahejahelloworld/helloworld 🔍 Search

🐙 Search or jump to... Pull requests Issues Marketplace Explore 🔔 + 👤

yogeshrahejahelloworld / helloworld Unwatch 1 Star 0 Fork 0

Code Issues 0 Pull requests 0 Projects 0 Wiki Insights Settings

No description, website, or topics provided. Edit

Add topics

📄 1 commit 🌿 1 branch 📦 0 releases 👤 1 contributor

Branch: master New pull request Create new file Upload files Find file Clone or download

yogeshraheja Initial commit Latest commit 667c52a just now

📄 README.md Initial commit just now

📄 README.md

```
helloworld
```

← → ↻ 🔒 Not secure | 18.208.183.35:8080/credentials/store/system/domain/_/newCredentials

Jenkins 2 🔍 search 👤 Yogesh Raheja | log out

Jenkins > Credentials > System > Global credentials (unrestricted)

🏠 Back to credential domains Add Credentials

Kind: Username with password

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

Username: yogeshrahejahelloworld

Password:

ID: Github

Description: Github Integration with Jenkins

OK

Page generated: Sep 11, 2018 7:10:37 AM UTC [REST API](#) [Jenkins ver. 2.99](#)

← → ↻ ⓘ Not secure | 18.208.183.35:8080/job/yogeshrahejahelloworld/configure

Jenkins > yogeshrahejahelloworld >

General **Projects** Scan Organization Triggers Orphaned Item Strategy Health metrics Properties Pipeline Libraries Pipeline Model Definition Automatic branch project triggering

Behaviors

Repositories

Filter by name (with regular expression) ✕

Regular expression ?

Within repository

Discover branches ✕ ?

Strategy ?

Discover pull requests from origin ✕ ?

Strategy ?

Discover pull requests from forks ✕ ?

Strategy ?

Trust ?

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

Project Recognizers

Pipeline Jenkinsfile ✕

Script Path ?

Scan Organization Triggers

Periodically if not otherwise run ?

?

← → ↻ | Not secure | 18.208.183.35:8080/job/yogeshrahejahelloworld/computation/console

Jenkins > yogeshrahejahelloworld > Scan Organization

Scan Organization Log

- Status
- Configure
- Scan Organization Now
- Scan Organization Log**
 - View as plain text
- Organization Events
- Delete Organization
- People
- Build History
- GitHub
- Pipeline Syntax
- New View

Build Queue -

No builds in the queue.

Build Executor Status -

1	Idle
2	Idle

```

Started
[Tue Sep 11 07:18:28 UTC 2018] Starting organization scan...
[Tue Sep 11 07:18:28 UTC 2018] Updating actions...
Looking up details of yogeshrahejahelloworld...
Organization URL: https://github.com/yogeshrahejahelloworld
[Tue Sep 11 07:18:28 UTC 2018] Consulting GitHub Organization
07:18:28 Connecting to https://api.github.com using yogeshrahejahelloworld/***** (Github Integration with Jenkins)
07:18:28 Looking up repositories of organization yogeshrahejahelloworld
Proposing helloworld
Examining yogeshrahejahelloworld/helloworld

Checking branches...

Getting remote branches...

Checking branch master
'Jenkinsfile' not found
Does not meet criteria

1 branches were processed

Checking pull-requests...

Getting remote pull requests...

0 pull requests were processed

Finished examining yogeshrahejahelloworld/helloworld

07:18:29 1 repositories were processed
[Tue Sep 11 07:18:29 UTC 2018] Finished organization scan. Scan took 0.96 sec
Finished: SUCCESS

```

← → ↻ | Not secure | 18.208.183.35:8080/job/yogeshrahejahelloworld/

Jenkins > yogeshrahejahelloworld > ENABLE AUTO-REPOSCAN

yogeshrahejahelloworld

[add description](#)

This folder is empty

There are no repositories found that contain buildable projects. Organization Folders automatically build and manage repositories that contain recognizable projects.

Pipeline Multibranch projects recognize and build repositories with a file named `Jenkinsfile` in branches of the repository. This file should contain a valid [Jenkins Pipeline](#). See also: [Creating Multibranch Projects](#).

Please [configure Project Sources](#) to get started or [re-run the Folder Computation](#) if the repositories have since been configured.

- Up
- Status
- Configure
- Scan Organization Now
- Scan Organization Log
- Organization Events
- Delete Organization
- People
- Build History
- GitHub
- Pipeline Syntax
- New View

Build Queue -

No builds in the queue.

Build Executor Status -

1	Idle
2	Idle

```
[root@yogeshraheja EffectiveDevOpsTemplates]# ssh -i ~/.ssh/EffectiveDevOpsAWS.pem ec2-user@18.208.183.35
```

```
  _ | _ | _ )  
  _ | ( _ | /  Amazon Linux AMI  
  _ | \ _ | _ |
```

```
https://aws.amazon.com/amazon-linux-ami/2018.03-release-notes/
```

```
6 package(s) needed for security, out of 13 available
```

```
Run "sudo yum update" to apply all updates.
```

```
[ec2-user@ip-172-31-68-115 ~]$ sudo -i
```

```
[root@ip-172-31-68-115 ~]# node -v
```

```
v0.10.48
```

```
[root@ip-172-31-68-115 ~]# npm -v
```

```
1.3.6
```

```
[root@ip-172-31-68-115 helloworld]# npm init -yes
This utility will walk you through creating a package.json file.
It only covers the most common items, and tries to guess sane defaults.

See `npm help json` for definitive documentation on these fields
and exactly what they do.

Use `npm install <pkg> --save` afterwards to install a package and
save it as a dependency in the package.json file.

Press ^C at any time to quit.
name: (helloworld)
version: (0.0.0) 1.0.0
description:
entry point: (helloworld.js)
test command:
git repository: (https://github.com/yogeshrahejahelloworld/helloworld.git)
keywords:
author:
license: (BSD)
About to write to /root/helloworld/package.json:

{
  "name": "helloworld",
  "version": "1.0.0",
  "description": "",
  "main": "helloworld.js",
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1"
  },
  "repository": {
    "type": "git",
    "url": "https://github.com/yogeshrahejahelloworld/helloworld.git"
  },
  "author": "",
  "license": "BSD",
  "bugs": {
    "url": "https://github.com/yogeshrahejahelloworld/helloworld/issues"
  }
}

Is this ok? (yes)
[root@ip-172-31-68-115 helloworld]# █
```

```
[root@ip-172-31-68-115 helloworld]# npm test

> helloworld@1.0.0 test /root/helloworld
> node_modules/mocha/bin/mocha

Server running

main page
  ✓ should say hello world

1 passing (62ms)

[root@ip-172-31-68-115 helloworld]#
```

The screenshot shows a GitHub pull request page for a repository named 'helloworld'. The pull request is titled 'Helloworld application #1' and is being opened by user 'yogeshraheja'. The pull request description is 'Helloworld application Test CI'. The pull request is currently open and ready for review. The status bar shows 'All checks have passed' and 'This branch has no conflicts with the base branch'. The pull request is ready to be merged into the 'master' branch from the 'initial-branch'. The page also shows a sidebar with settings for reviewers, assignees, labels, projects, milestones, and notifications.

GitHub, Inc. (US) | <https://github.com/yogeshrahejahelloworld/helloworld/pull/1>

Helloworld application #1

[Open](#) yogeshraheja wants to merge 1 commit into master from initial-branch

Conversation 0 | Commits 1 | Checks 0 | Files changed 4 | +72 -0

yogeshraheja commented just now

Member + 👤 ...

Helloworld application Test CI

Helloworld application ✓ 9b7e7f

Add more commits by pushing to the initial-branch branch on yogeshrahejahelloworld/helloworld.

- ✓ All checks have passed
2 successful checks [Show all checks](#)
- ✓ This branch has no conflicts with the base branch
Merging can be performed automatically.

[Merge pull request](#) You can also open this in [GitHub Desktop](#) or [view command line instructions](#).

Reviewers: No reviews

Assignees: No one—assign yourself

Labels: None yet

Projects: None yet

Milestone: No milestone

Notifications

Not secure | 18.208.183.35:8080/job/yogeshrahejahelloworld/job/helloworld/job/initial-branch/

Jenkins 2 search Yogesh Raheja | log out

Jenkins > yogeshrahejahelloworld > helloworld > initial-branch > [ENABLE AUTO REFRESH](#)

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

Build History [trend](#)

find

#1 Sep 11, 2018 7:35 AM

[RSS for all](#) [RSS for failures](#)

Branch initial-branch

Full project name: yogeshrahejahelloworld/helloworld/initial-branch

[Recent Changes](#)

Stage View

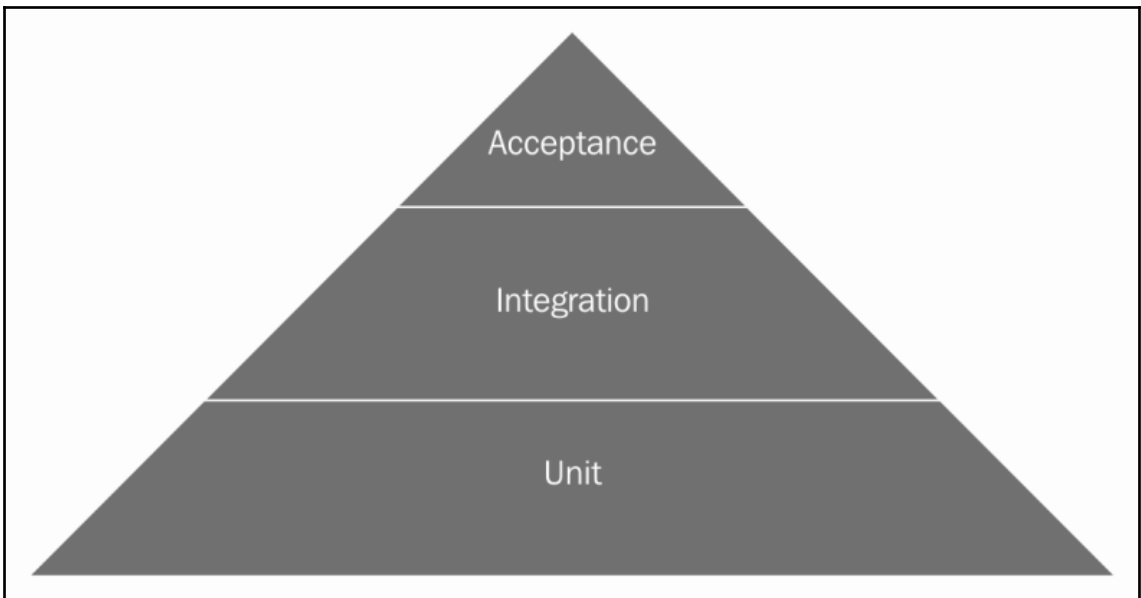
Average stage times:
 (Average full run time: ~27s)

	Checkout	Setup	Mocha test	Cleanup
Average stage times	2s	19s	1s	1s
#1	2s	19s	1s	1s

Sep 11 13:05 No Changes

Permalinks

- [Last build \(#1\), 7 min 18 sec ago](#)
- [Last stable build \(#1\), 7 min 18 sec ago](#)
- [Last successful build \(#1\), 7 min 18 sec ago](#)
- [Last completed build \(#1\), 7 min 18 sec ago](#)



Environment configuration

Specify any combination of Auto Scaling groups, Amazon EC2 instances, and on-premises instances to add instances to this deployment group.

Auto Scaling groups **Amazon EC2 instances** **On-premises instances**

You can add up to three groups of tags for EC2 instances to this deployment group. [Learn more](#)

One tag group : Any instance identified by the tag group will be deployed to.

Multiple tag groups : Only instances identified by all the tag groups will be deployed to.

Tag group 1

	Key	Value	Instances	
1	aws:cloudformation:stack-n	helloworld-staging	1	✕
2				✕

[Add tag group](#)



Review your pipeline



We will create your pipeline with the following resources.

Source Stage

Source provider GitHub

Repository yogeshraheja/helloworld

Branch master

Build Stage

Build provider No Build

Staging Stage

Deployment provider AWS CodeDeploy

Application name helloworld

Deployment group staging

Pipeline settings

Pipeline name helloworld

Artifact location s3://codepipeline-us-east-1-251505940733/
AWS CodePipeline will create this Amazon S3 bucket to store artifacts for this pipeline. Depending on the size of your artifacts, you might be charged for storage costs. For more information, see [Amazon S3 storage pricing](#).

Role name AWS-CodePipeline-Service

To save this configuration with these resources, choose Create pipeline.

Capabilities

i The following resource(s) require capabilities: [AWS::IAM::Role]
This template contains Identity and Access Management (IAM) resources that might provide entities access to make changes to your AWS account. Check that you want to create each of these resources and that they have the minimum required permissions. [Learn more.](#)

I acknowledge that AWS CloudFormation might create IAM resources.

Preview your changes

Based on your input, CloudFormation will change the following resources. For more information, choose [View change set details](#).

Action	Logical ID	Physical ID	Resource type	Replacement
Add	Policy		AWS::IAM::Policy	

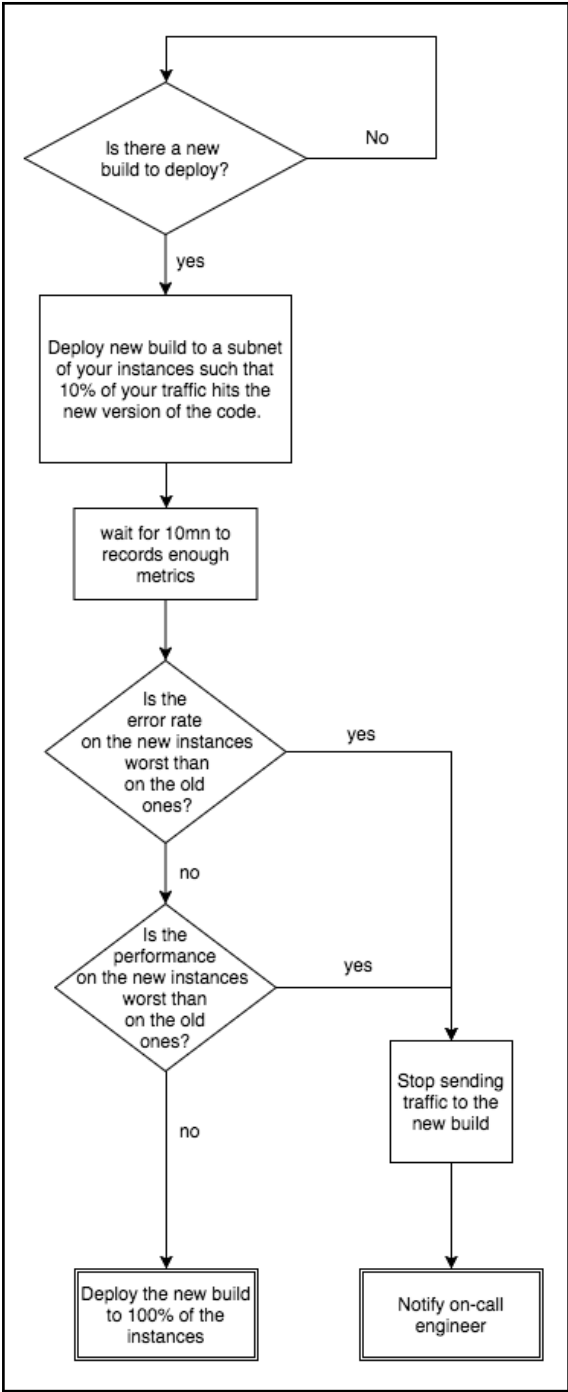
Cancel Previous **Update**

Approval **i**

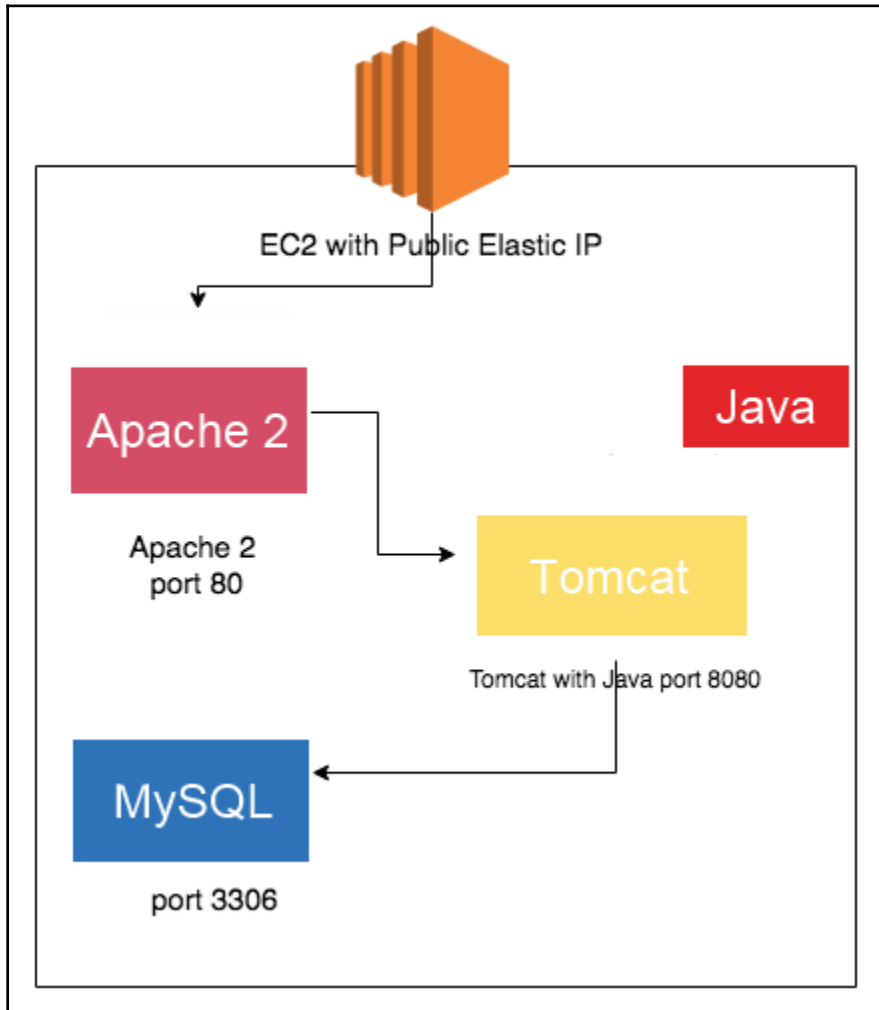
Manual approval

⚠ **Waiting for approval 8 min**

ago **Review**



Chapter 6: Scaling Your Infrastructure



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.

Search for an AMI by entering a search term e.g. "Windows"

Quick Start

1 to 36 of 36 AMIs

My AMIs

AWS Marketplace

Community AMIs



Amazon Linux
Free tier eligible

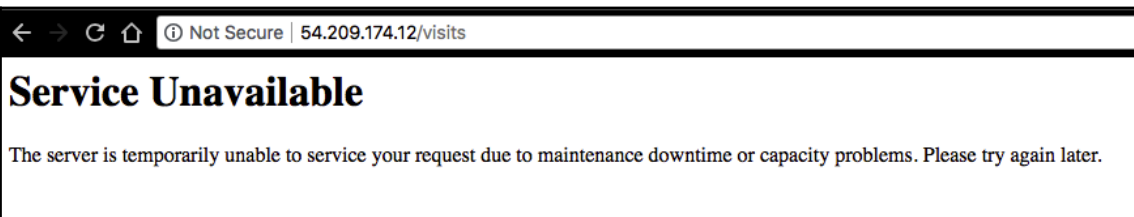
Amazon Linux 2 AMI (HVM), SSD Volume Type - ami-04681a1dbd79675a5

Amazon Linux 2 comes with five years support. It provides Linux kernel 4.14 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.26, Binutils 2.29.1, and the latest software packages through extras.

Root device type: ebs Virtualization type: hvm ENA Enabled: Yes

Select

64-bit



aws Services Resource Groups gluseppeborgese @ clouddog Global Support

Back to Hosted Zones **Create Record Set** Import Zone File Delete Record Set Test Record Set

Record Set Name Any Type Aliases Only Weighted Only

Displaying 1 to 4 out of 4 Record Sets

Name	Type	Value
devopstools.link.	NS	ns-1570.awsdns-04.co.uk. ns-851.awsdns-42.net. ns-1094.awsdns-08.org. ns-180.awsdns-22.com.
devopstools.link.	SOA	ns-1570.awsdns-04.co.uk. awsdns-ho
._684d111dca892bea0da99f194554c465.devopstools.link.	CNAME	._a682e0f466c4529dff57bc71f3e1fe.

Create Record Set

Name: bookapp .devopstools.link.

Type: A - IPv4 address

Alias: Yes No

TTL (Seconds): 300 1m 5m 1h 1d

Value: 54.209.174.12

IPv4 address. Enter multiple addresses on separate lines.
Example:
192.0.2.235
198.51.100.234

Routing Policy: Simple

Route 53 responds to queries based only on the values in this record. [Learn More](#)

Create

← → ↻ 🏠 ⓘ Not Secure | bookapp.devopstools.link/visits

```

{"count" : 5}

```

search : i-08ab1a9191a264f5f Add filter 1 to 1 of 1

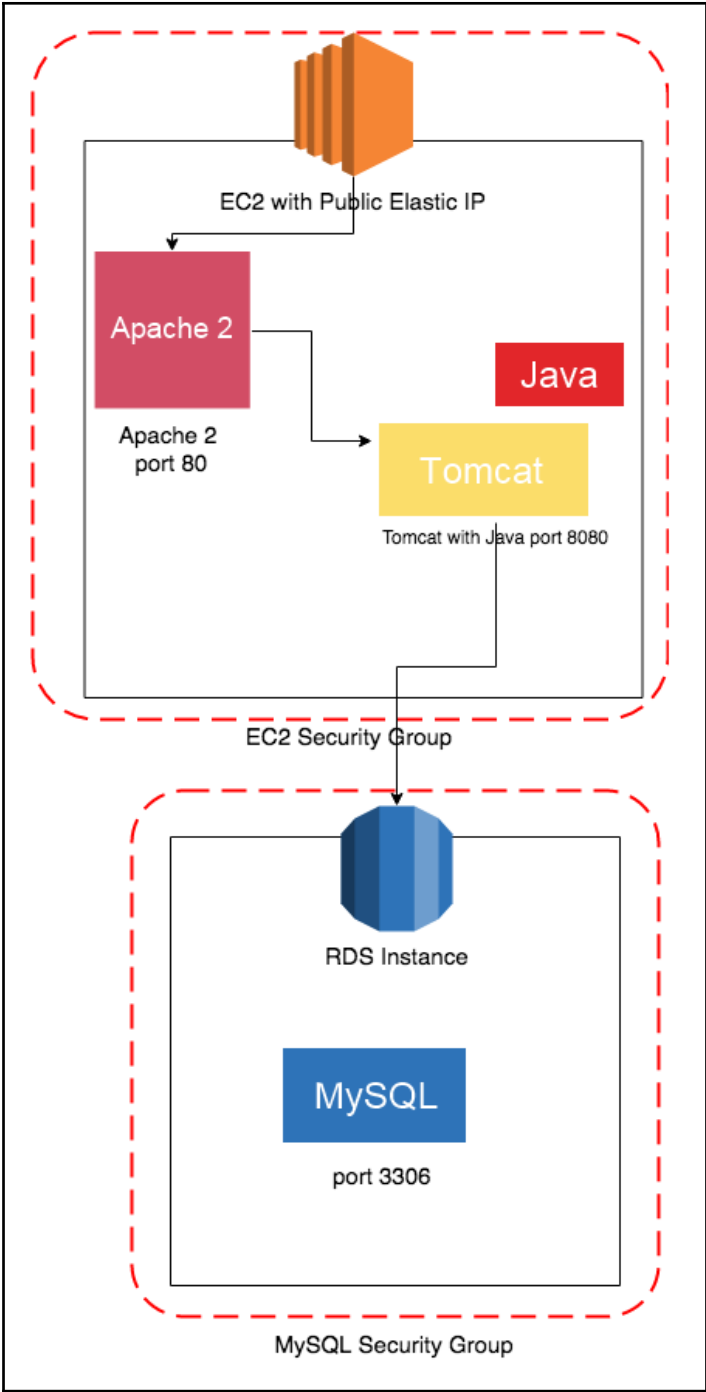
Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)
Monolith Playground	i-08ab1a9191a264f5f	t2.micro	us-east-1b	stopped			ec2-54-209-174-12.co..

Instance: i-08ab1a9191a264f5f (Monolith Playground) Elastic IP: 54.209.174.12

Description Status Checks Monitoring Tags

Instance ID	i-08ab1a9191a264f5f	Public DNS	
Instance state	stopped	IPv4 Public IP	54.209.174.12
Instance type	t2.micro	IPv6 IPs	-
Elastic IPs	54.209.174.12*	Private DNS	ip-172-31-7-140.ec2
Availability zone	us-east-1b	Private IPs	172.31.7.140
Security groups	allow_all . view inbound rules . view outbound rules	Secondary private IPs	
Scheduled events	-	VPC ID	vpc-3901d841
AMI ID	amzn2-ami-hvm-2.0.20180810-x86_64-gp2 (ami-04681a1dbd79675a5)	Subnet ID	subnet-54840730

- Connect
- Get Windows Password
- Launch More Like This
- Instance State
- Instance Settings
- Image
- Networking
- CloudWatch Monitoring
- Add/Edit Tags
- Attach to Auto Scaling Group
- Attach/Replace IAM Role
- Change Instance Type
- Change Termination Protection
- View/Change User Data
- Change Shutdown Behavior
- Change T2/T3 Unlimited
- Get System Log
- Get Instance Screenshot
- Modify Instance Placement



aws Services Resource Groups gluseppeborgese @ cloudkog N. Virginia Support

Amazon RDS

RDS > Instances

Instances (1) [Refresh] [Instance actions] [Restore from S3] [Create database]

Filter Instances

DB instance	Engine	Status	CPU	Current activity
demodb	MySQL	available	1.69%	0 Connections

aws Services Resource Groups gluseppeborgese @ cloudkog N. Virginia Support

Amazon RDS

demodb

Fri Sep 21 23:21:35 GMT+200 2018

DB Name: demodb

Username: monty

Option Group: demodb-20180921211718741300000001

Parameter group: demodb-20180921211718741900000003 (in-sync)

Resource ID: db-FFFN5IGSVQZSUCKTCMHE2SV5Y M

IAM DB Authentication Enabled: No

Subnets: subnet-d056b4ff, subnet-b541edfe

Security groups: allow_from_my_vpc (sg-0c68105e0c2c87d9f) (active)

Publicly accessible: No

Endpoint: demodb.cz4zwh6mj6on.us-east-1.rds.amazonaws.com

Certificate authority: rds-ca-2015 (Mar 5, 2020)

DB Instance status: available

Multi AZ: No

Backup and Restore

Automated backups: Enabled (1 Day)

Backup window: 03:00-06:00 UTC (GMT)

Latest restore time: September 21, 2018 at 11:25:00 PM UTC+2

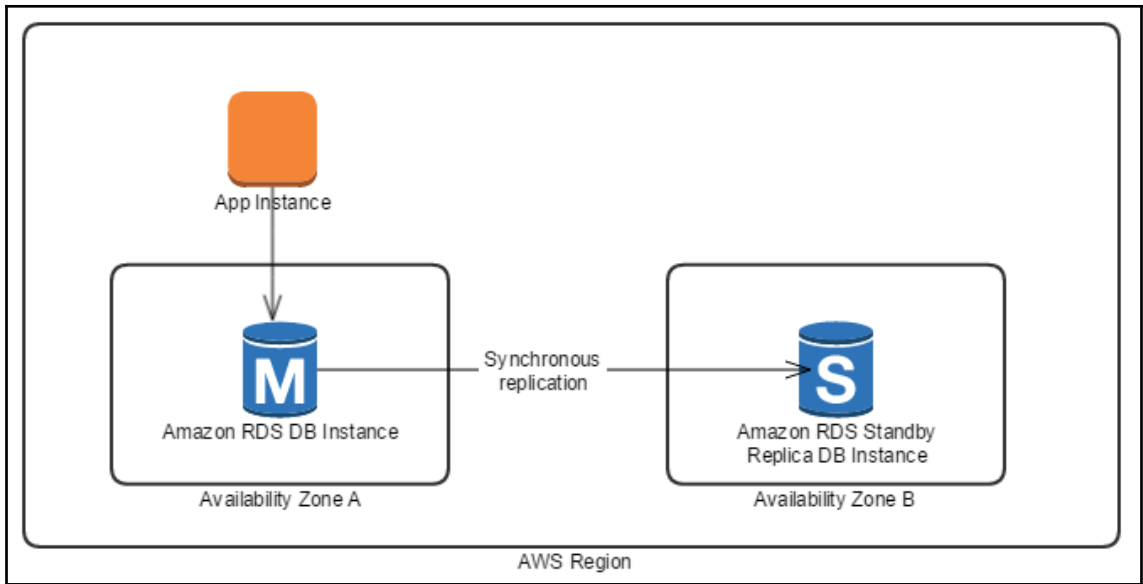
Copy tags to snapshots: No

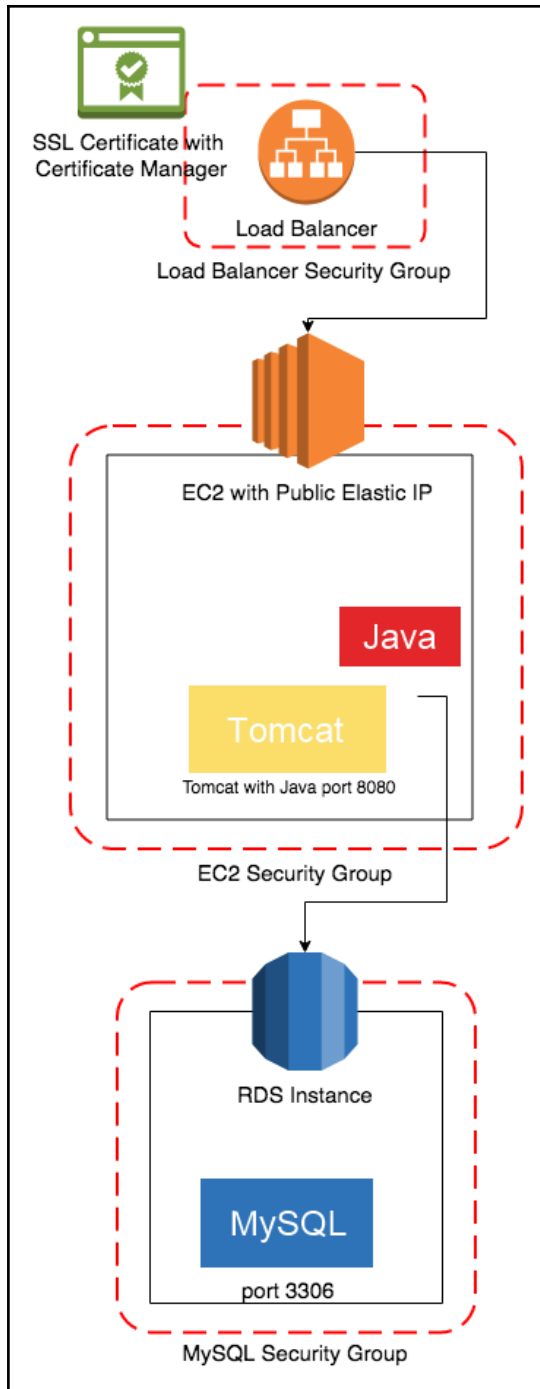
Performance Insights

Performance Insights enabled: No

Encryption details

Encryption enabled: No





Create Security Group Actions

Group ID: sg-0809ace89a172f0cd Add filter

Name	Group ID	Group Name	VPC ID	Description
	sg-0809ace89a172f0cd	allow_all	vpc-3901d841	Allow all inbound traffic

Edit inbound rules

Type	Protocol	Port Range	Source	Description
HTTP	TCP	80	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
Custom TCP	TCP	8080	Custom 172.31.0.0/16	whole vpc cidr

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

Select load balancer type

Elastic Load Balancing supports three types of load balancers: Application [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 and visibility features targeted at application architectures, including microservices and containers.

[Learn more >](#)

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

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

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

Availability Zone	Subnet ID	Subnet IPv4 CIDR	Name
<input checked="" type="checkbox"/> us-east-1a	subnet-a94cabf4	172.31.32.0/20	Public-A
<input checked="" type="checkbox"/> us-east-1b	subnet-54840730	172.31.0.0/20	Public-B
<input type="checkbox"/> us-east-1c	subnet-d056b4ff	172.31.80.0/20	Private-Internet-C

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	Protocol	Port Range	Source
Custom TCP	TCP	80	Custom 0.0.0.0, ::/0

1. Configure Load Balancer

2. Configure Security Settings

3. Configure Security Groups

4. Configure Routing

Step 4: Configure Routing

Your load balancer routes requests to the targets in this target group using the protocol and port that you specify. A target group can be associated with only one load balancer.

Target group

Target group ⓘ New target group

Name ⓘ break-the-monolith

Protocol ⓘ HTTP

Port ⓘ 8080

Target type ⓘ instance

Health checks

Protocol ⓘ HTTP

Path ⓘ /visits

▶ Advanced health check settings

Instances

To register additional instances, select one or more running instances, specify a port, and then click Add. The default port is the port specified for the target group. If the instance is already registered on the specified port, you must specify a different port.

Add to registered on port 8080

Search Instances

Instance	Name	State	Security groups	Zone	Subnet ID	Subnet CIDR	
<input checked="" type="checkbox"/>	i-08ab1a9191a264f5f	Monolith Playground	running	allow_all	us-east-1b	subnet-54840730	172.31.0.0/20

Registered targets

To deregister instances, select one or more registered instances and then click Remove.

Remove

Instance	Name	Port	State	Security groups	
<input type="checkbox"/>	i-08ab1a9191a264f5f	Monolith Playground	8080	running	allow_all

Instances

Reserved instances
Dedicated Hosts
Scheduled instances

IMAGES
AMIs
Bundle Tasks

ELASTIC BLOCK STORE
Volumes
Snapshots
Lifecycle Manager

NETWORK & SECURITY
Security Groups
Elastic IPs
Placement Groups
Key Pairs
Network Interfaces

LOAD BALANCING
Load Balancers
Target Groups

AUTO SCALING

Create target group Actions

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

Name	Port	Protocol	Target type	Load Balancer	VPC ID	Monitoring
break-the-monolith	8080	HTTP	instance	break-the-...	vpc-3901d841	

Description **Targets** Health checks Monitoring Tags

The load balancer starts routing requests to a newly registered target as soon as the registration process completes and the target passes the initial health checks. If demand on your targets increases, you can register additional targets. If demand on your targets decreases, you can deregister targets.

Edit

Registered targets

Instance ID	Name	Port	Availability Zone	Status
i-08ab1a9191a264f5f	Monolith Playground	8080	us-east-1b	healthy ⓘ

Availability Zones

Availability Zone	Target count	Healthy?
us-east-1b	1	Yes

Edit Record Set

Name: .devopstools.link.

Type:

Alias: Yes No

TTL (Seconds):

Value:

The domain name that you want to resolve to instead of the value in the Name field.

Example:
www.example.com

Routing Policy:

Route 53 responds to queries based only on the values in this record. [Learn More](#)

Save Record Set

Edit inbound rules

Type	Protocol	Port Range	Source	Description
Custom TCP I	TCP	8080	Custom 172.31.0.0/16	whole vpc cidr
SSH	TCP	22	My IP 146.241.162.166/32	e.g. SSH for Admin Desktop
HTTP	TCP	80	Custom 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](#)

AWS Certificate Manager

AWS Certificate Manager (ACM) makes it easy to provision, manage, deploy, and renew SSL/TLS certificates on the AWS platform.


[User guide](#)



Provision certificates

Provide the name of your site, establish your identity, and let ACM do the rest. ACM manages renewal of SSL/TLS certificates issued by Amazon or by your own private Certificate Authority.

[Get started](#)



Private certificate authority

You or your IT Administrator can establish a secure managed infrastructure for issuing and revoking private digital certificates. Private certificates identify and secure applications, services, devices and users within an organization.

[Get started](#)

Request a certificate

Choose the type of certificate you want, and then choose **Request a certificate**

- Request a public certificate** - Request a public certificate from Amazon. By default, public certificates are trusted by browsers and operating systems. [Learn more](#)
- Request a private certificate** - Request a private certificate from your organization's certificate authority. [Learn more](#)

Add domain names



Type the fully qualified domain name of the site you want to secure with an SSL/TLS certificate (for example, `www.example.com`). Use an asterisk (*) to request a wildcard certificate to protect several sites in the same domain. For example: `*.example.com` protects `www.example.com`, `site.example.com` and `images.example.com`.

Domain name*	Remove
<input type="text" value="devopstools.link"/>	
<input type="text" value="*.devopstools.link"/>	
<input type="button" value="Add another name to this certificate"/>	

You can add additional names to this certificate. For example, if you're requesting a certificate for `"www.example.com"`, you might want to add the name `"example.com"` so that customers can reach your site by either name. [Learn more.](#)

*At least one domain name is required

[Cancel](#)

[Next](#)

DNS validation

Choose this option if you have or can obtain permission to modify the DNS configuration for the domains in your certificate request. [Learn more.](#)

Email validation

Choose this option if you do not have permission or cannot obtain permission to modify the DNS configuration for the domains in your certificate request. [Learn more.](#)

[Cancel](#)

[Previous](#)

[Review](#)

Validation



Create a CNAME record in the DNS configuration for each of the domains listed below. You must complete this step before AWS Certificate Manager (ACM) can issue your certificate, but you can skip this step for now by clicking **Continue**. To return to this step later, open the certificate request in the ACM Console.

Domain	Validation status						
▼ devopstools.link	Pending validation						
Add the following CNAME record to the DNS configuration for your domain. The procedure for adding CNAME records depends on your DNS service Provider. Learn more .							
<table border="1"><thead><tr><th>Name</th><th>Type</th><th>Value</th></tr></thead><tbody><tr><td>._684d111dca892bea0da99f194554c465.devopstools.link.</td><td>CNAME</td><td>._a682e0f466c4529dffdf57bc71f3e1fe.tljzshvwok.acm-validations.aws.</td></tr></tbody></table>		Name	Type	Value	._684d111dca892bea0da99f194554c465.devopstools.link.	CNAME	._a682e0f466c4529dffdf57bc71f3e1fe.tljzshvwok.acm-validations.aws.
Name	Type	Value					
._684d111dca892bea0da99f194554c465.devopstools.link.	CNAME	._a682e0f466c4529dffdf57bc71f3e1fe.tljzshvwok.acm-validations.aws.					
<p>Note: Changing the DNS configuration allows ACM to issue certificates for this domain name for as long as the DNS record exists. You can revoke permission at any time by removing the record. Learn more.</p>							
<p>Create record in Route 53 Amazon Route 53 DNS Customers ACM can update your DNS configuration for you. Learn more.</p>							
▼ *.devopstools.link	Pending validation						
Add the following CNAME record to the DNS configuration for your domain. The procedure for adding CNAME records depends on your DNS service Provider. Learn more .							
<table border="1"><thead><tr><th>Name</th><th>Type</th><th>Value</th></tr></thead><tbody><tr><td>._684d111dca892bea0da99f194554c465.devopstools.link.</td><td>CNAME</td><td>._a682e0f466c4529dffdf57bc71f3e1fe.tljzshvwok.acm-validations.aws.</td></tr></tbody></table>		Name	Type	Value	._684d111dca892bea0da99f194554c465.devopstools.link.	CNAME	._a682e0f466c4529dffdf57bc71f3e1fe.tljzshvwok.acm-validations.aws.
Name	Type	Value					
._684d111dca892bea0da99f194554c465.devopstools.link.	CNAME	._a682e0f466c4529dffdf57bc71f3e1fe.tljzshvwok.acm-validations.aws.					
<p>Note: Changing the DNS configuration allows ACM to issue certificates for this domain name for as long as the DNS record exists. You can revoke permission at any time by removing the record. Learn more.</p>							
<p>Create record in Route 53 Amazon Route 53 DNS Customers ACM can update your DNS configuration for you. Learn more.</p>							

[Export DNS configuration to a file](#)

You can export all of the CNAME records to a file

Create record in Route 53



Below is your DNS record for domain validation. Click **Create** below to create the records in your Route 53 hosted zone

Hosted zone devopstools.link.

Name	Type	Value
._684d111dca892bea0da99f194554c465.devopstools.link.	CNAME	._a682e0f466c4529dffdf57bc71f3e1fe.tljzshvwok.acm-validations.aws.

Cancel

Create

Request a certificate Import a certificate Actions

« < Viewing 1 to 1 of 1 certificates > »

<input type="checkbox"/>	Name	Domain name	Additional names	Status	Type	In use?	Renewal eligibility
<input type="checkbox"/>		devopstools.link	*.devopstools.link	Issued	Amazon Issued	No	Ineligible

« < Viewing 1 to 1 of 1 certificates > »

Edit inbound rules

Type	Protocol	Port Range	Source	Description
HTTP	TCP	80	Custom 0.0.0.0/0	e.g. SSH for Admin Desktop
HTTP	TCP	80	Custom ::/0	e.g. SSH for Admin Desktop
HTTPS	TCP	443	Custom 0.0.0.0/0, ::/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

IMAGES

AMIs

Bundle Tasks

ELASTIC BLOCK STORE

Volumes

Snapshots

Lifecycle Manager

NETWORK & SECURITY

Security Groups

Elastic IPs

Placement Groups

Key Pairs

Network Interfaces

LOAD BALANCING

Load Balancers

Target Groups

Name	DNS name	State	VPC ID	Availability Zone
break-the-monolith	break-the-monolith-9396545...	active	vpc-3901d841	us-east-1b, us-east-1c

Load balancer: break-the-monolith

Description Listeners Monitoring Tags

A listener checks for connection requests using its configured protocol and port, and the load balancer uses the listener rules to route requests to targets. You can create, remove, or update listeners and listener rules.

Add listener Edit Delete

Listener ID	Security policy	SSL Certificate	Rules
<input type="checkbox"/> HTTP : 80 arn:aws:iam::9718d4bbf17f46d6:role/...	N/A	N/A	Default: forwarding to break-the-monolith View/edit rules

[Listeners](#)

Add a new listener. Each listener must include one action of type forward, redirect, fixed response.

break-the-monolith | **Add listener**

Listeners belonging to Application Load Balancers check for connection requests using the protocol and port you configure. Each are routed. Once you have created your listener, you can create and manage additional routing rules as needed. [Learn more](#)

Protocol : port
Select the protocol for connections from the client to your load balancer, and enter a port number from which to listen to for traffic.

HTTPS : 443

Default action(s)
Indicate how this listener will route traffic that is not otherwise routed by a another rule.

1. Forward to...
break-the-monolith

+ Add action

Security policy
ELBSecurityPolicy-2016-08

Default SSL certificate
From ACM (recommended) devopstoo.s.link - 989d02f5-3917-4a23-973b-19fe5ccbac56

[Request new ACM certificate](#)

Secure | https://bookapp.devopstools.link/visits

```
{"count" : 324}
```

[-] LOAD BALANCING

Load Balancers

Target Groups

[-] AUTO SCALING

Launch Configurations

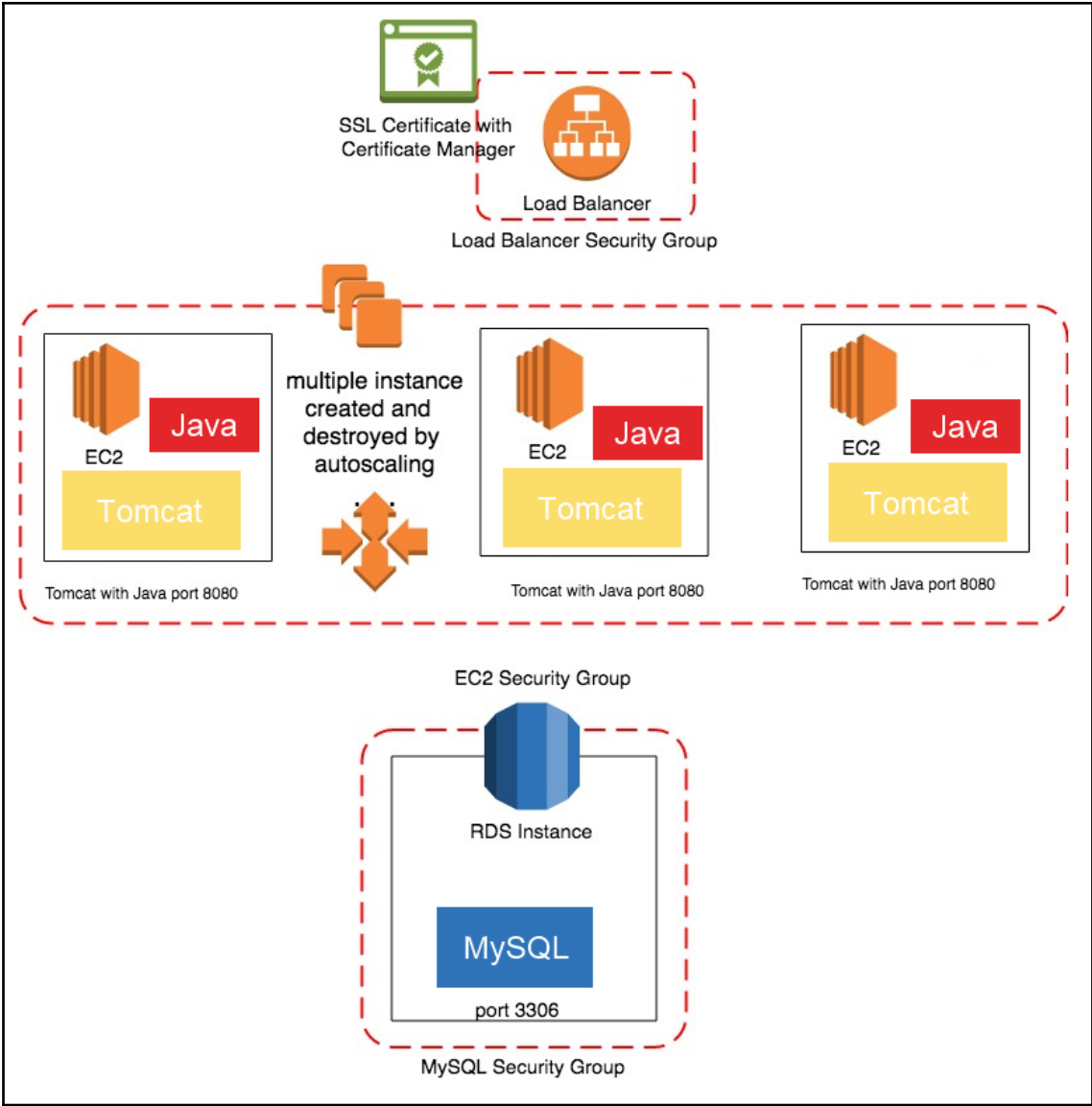
Auto Scaling Groups

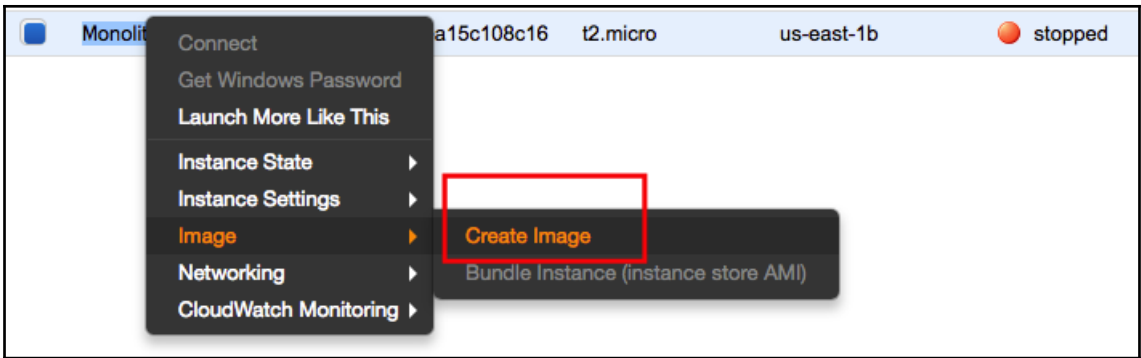
[-] SYSTEMS MANAGER
SERVICES

Run Command

State Manager

Configuration
Compliance





Create Image

Instance ID ⓘ i-0d396bea15c108c16

Image name ⓘ

Image description ⓘ

No reboot ⓘ

Instance Volumes

Volume Type ⓘ	Device ⓘ	Snapshot ⓘ	Size (GiB) ⓘ	Volume Type ⓘ	IOPS ⓘ	Throughput (MB/s) ⓘ	Delete on Termination ⓘ	Encrypted ⓘ
Root	/dev/xvda	snap-0e848b692c3c7de9e	<input type="text" value="8"/>	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted

Total size of EBS Volumes: 8 GiB
When you create an EBS image, an EBS snapshot will also be created for each of the above volumes.

Network Interfaces

- [-] LOAD BALANCING
 - Load Balancers
 - Target Groups
- [-] AUTO SCALING
 - Launch Configurations
 - Auto Scaling Groups**
- [-] SYSTEMS MANAGER


Learn more

Create Auto Scaling group

Note: To create your Auto Scaling groups in a

Benefits of Auto Scaling

Automated Provisioning



1. Choose AMI
2. Choose Instance Type
3. Configure details
4. Add Storage
5. Configure Security Group
6. Review

[Cancel and Exit](#)

Create Launch Configuration

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

Ownership

Owned by me

Shared with me

|< < 1 to 1 of 1 AMIs > >|

break-the-monolith - ami-0b441c2b83cc72c7d
 this image will be used in a launch configuration

Select

Root device type: ebs Virtualization type: hvm Owner: 790419456202

Create Launch Configuration

Name ⓘ break-the-monolith

Purchasing option ⓘ Request Spot Instances

IAM role ⓘ None

Monitoring ⓘ Enable CloudWatch detailed monitoring
[Learn more](#)

▶ Advanced Details



Later, if you want to use a different launch configuration, you can create a new one and apply it to any Auto Scaling cannot be edited.

1. Configure Auto Scaling group details

2. Configure scaling policies

3. Configure Notifications

4. Configure Tags

5. Review

Create Auto Scaling Group

Launch Configuration ⓘ break-the-monolith

Group name ⓘ break-the-monolith

Group size ⓘ Start with instances

Network ⓘ vpc-3901d841 (172.31.0.0/16) (default) [Create new VPC](#)

Subnet ⓘ

- subnet-a94cabf4(172.31.32.0/20) | Public-A | Default in us-east-1a
- subnet-54840730(172.31.0.0/20) | Public-B | Default in us-east-1b

[Create new subnet](#)

Each instance in this Auto Scaling group will be assigned a public IP address. ⓘ

▶ Advanced Details

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

Security Group ID	Name	VPC ID	Description	Actions
<input checked="" type="checkbox"/> sg-0809ace89a172f0cd	allow_all	vpc-3901d841	Allow all inbound traffic	Copy to new
<input type="checkbox"/> sg-0c68105e0c2c87d9f	allow_from_my_vpc	vpc-3901d841	Allow from my vpc	Copy to new
<input type="checkbox"/> sg-0740468f056037942	break-the-monolith	vpc-3901d841	simple for the break-the-monolith application load balancer	Copy to new
<input type="checkbox"/> sg-8cc7b4fe	default	vpc-3901d841	default VPC security group	Copy to new
<input type="checkbox"/> sg-07c8a4ca61b9675dc	launch-wizard-1	vpc-3901d841	launch-wizard-1 created 2018-08-09T16:52:16.808+02:00	Copy to new

Inbound rules for sg-0809ace89a172f0cd Selected security groups: sg-0809ace89a172f0cd.

Type	Protocol	Port Range	Source
Custom TCP Rule	TCP	8080	172.31.0.0/16
SSH	TCP	22	146.241.162.166/32

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](#).

Choose an existing key pair ▾

Select a key pair

effectivedeops ▾

I acknowledge that I have access to the selected private key file (effectivedeops.pem), and that without this file, I won't be able to log into my instance.

Cancel Create launch configuration

Create Auto Scaling Group

You can optionally add scaling policies if you want to adjust the size (number of instances) of your group automatically. A scaling policy uses a CloudWatch alarm that you assign to it. In each policy, you can choose to add or remove a specific number of instances or a percent of instances. When a trigger occurs, it will execute the policy and adjust the size of your group accordingly. [Learn more](#) about scaling policies.

- Keep this group at its initial size
- Use scaling policies to adjust the capacity of this group

Scale between and instances. These will be the minimum and maximum size of your group.

Scale Group Size

Name:

Metric type:

Target value:


Instances need: seconds to warm up after scaling

Disable scale-in:

[Scale the Auto Scaling group using step or simple scaling policies](#) ⓘ

Decrease Group Size

Name:

Execute policy when:  [Add new alarm](#)

Take the action:

Edit Alarm



You can use CloudWatch alarms to be notified automatically whenever metric data reaches a level you define.

To edit an alarm, first choose whom to notify and then define when the notification should be sent.

Send a notification to:

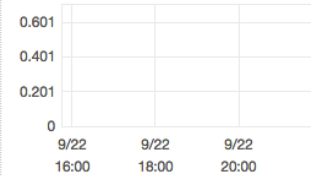
Whenever: of

Is: Percent

For at least: consecutive period(s) of

Name of alarm:

CPU Utilization Percent



break-the-monlith

Cancel

Save

- Keep this group at its initial size
- Use scaling policies to adjust the capacity of this group

Scale between and instances. These will be the minimum and maximum size of your group.

Increase Group Size

Name:

Execute policy when: `awssec2-break-the-monolith-CPU-Utilization` [Edit](#) [Remove](#)
breaches the alarm threshold: CPUUtilization >= 0.7 for 300 seconds
for the metric dimensions AutoScalingGroupName = break-the-monolith

Take the action:

And then wait: seconds before allowing another scaling activity

[Create a scaling policy with steps](#) ⓘ

Decrease Group Size

Name:

Execute policy when: `awssec2-break-the-monolith-High-CPU-Utilization` [Edit](#) [Remove](#)
breaches the alarm threshold: CPUUtilization >= 0.4 for 300 seconds
for the metric dimensions AutoScalingGroupName = break-the-monolith

Take the action: when <= CPUUtilization < +infinity

[Add step](#) ⓘ

[Create a simple scaling policy](#) ⓘ

[Scale the Auto Scaling group using a target tracking scaling policy](#) ⓘ

Key	Value	Tag New Instances i
Name	autoscale-break-the-monolith	<input checked="" type="checkbox"/>

Add tag 49 remaining

Details | Activity History | Scaling Policies | Instances | Monitoring | Notifications | Tags | Scheduled Actions | Lifecycle Hooks

Cancel Save

Launch Instances Using i
 Launch Template
 Launch Configuration

Launch Configuration i

Service-Linked Role i

Classic Load Balancers i

Target Groups i

Desired Capacity i
Min i
Max i

Health Check Type i

Health Check Grace Period i

Termination Policies i

Creation Time i

Availability Zone(s) i

Subnet(s) i

DefaultCooldown i

Placement Groups i

Suspended Processes i

Enabled Metrics i

Instance Protection i

Auto Scaling Group: break-the-monolith

Details

Activity History

Scaling Policies

Instances

Monitoring

Notifications

Launch Template ⓘ -

Launch Template Version ⓘ -

Launch Configuration ⓘ break-the-monolith

Service-Linked Role ⓘ arn:aws:iam::790419456202:role/aws-service-role/autoscaling.amazonaws.com/AWSS...

Classic Load Balancers ⓘ

Target Groups ⓘ break-the-monolith

Desired Capacity ⓘ 3

Min ⓘ 2

Max ⓘ 3

Health Check Type ⓘ EC2

Health Check Grace Period ⓘ 300

Filter by tags and attributes or search by keyword

<input type="checkbox"/>	Name	Instance ID	Instance Type	Availability Zone	Instance State
<input type="checkbox"/>	autoscale-break-the-monolith	i-007954fd927e5fcf8	t2.micro	us-east-1b	● running
<input type="checkbox"/>	autoscale-break-the-monolith	i-03318bd3c0512fa4f	t2.micro	us-east-1a	● running
<input type="checkbox"/>	Monolith Playground	i-0d396bea15c108c16	t2.micro	us-east-1b	● stopped

break-the-monolith 8080 HTTP instance break-the-... vpc-3901d841

Target group: break-the-monolith

Description Targets Health checks Monitoring Tags

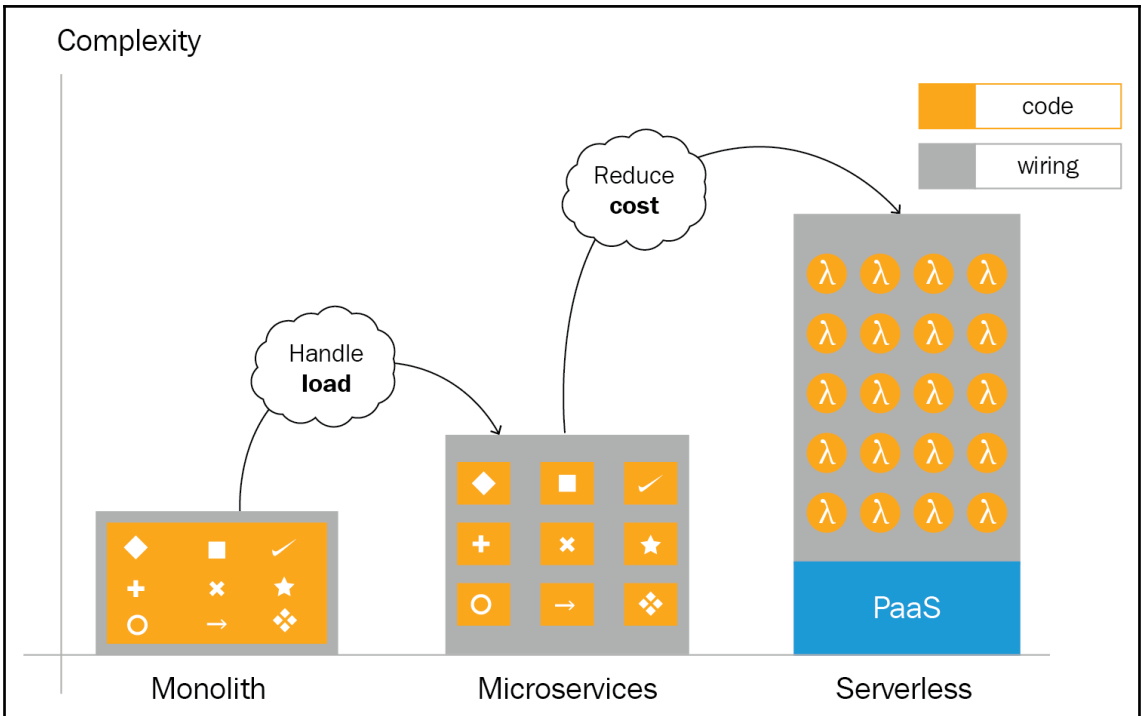
The load balancer starts routing requests to a newly registered target as soon as the registration process completes and the target passes the initial health checks. If demand on your targets increases, you add additional targets. If demand on your targets decreases, you can deregister targets.

Edit

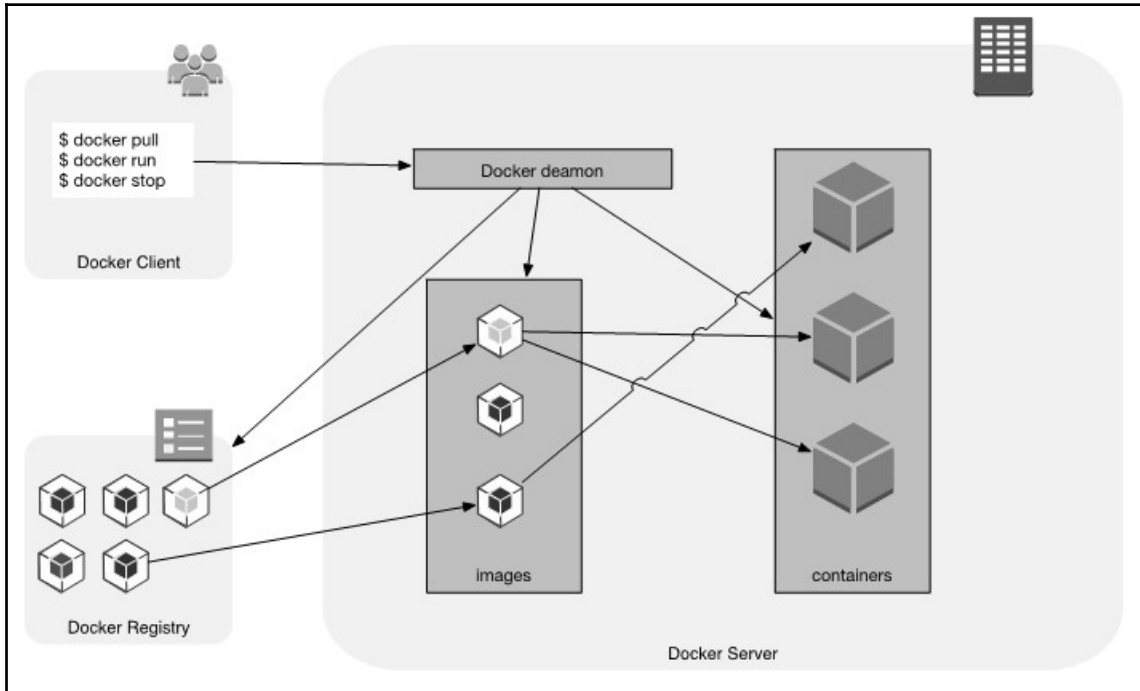
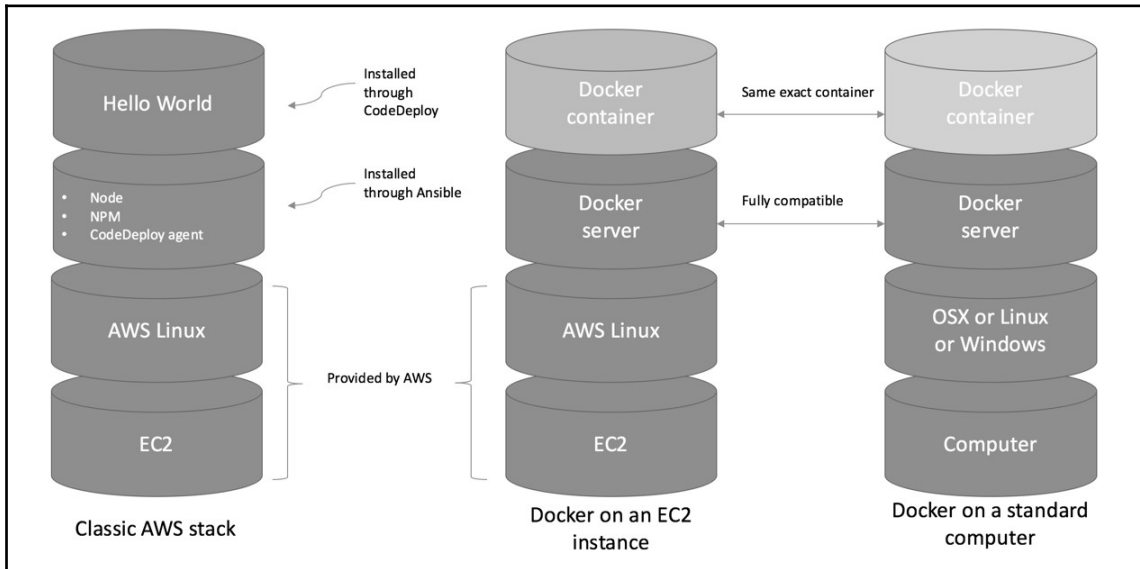
Registered targets

Instance ID	Name	Port	Availability Zone	Status
i-007954fd927e5fcf8	autoscale-break-the-monolith	8080	us-east-1b	healthy ⓘ
i-0d396bea15c108c16	Monolith Playground	8080	us-east-1b	draining ⓘ
i-03318bd3c0512fa4f	autoscale-break-the-monolith	8080	us-east-1a	unhealthy ⓘ

Availability Zones



Chapter 7: Running Containers in AWS



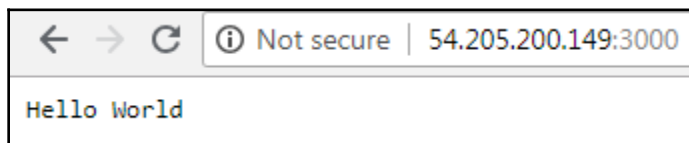
```
[root@yogeshraheja ~]# docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED          STATUS          PORTS          NAMES
c274537aec04   alpine        "sleep 1000"           About a minute ago Up About a minute          friendly_dijkstra
[root@yogeshraheja ~]#
```

```
[root@yogeshraheja ~]# docker stop c274537aec04
c274537aec04
[root@yogeshraheja ~]# docker rm c274537aec04
c274537aec04
[root@yogeshraheja ~]# docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED          STATUS          PORTS          NAMES
[root@yogeshraheja ~]#
```

Supported tags and respective Dockerfile links

- 8.11.4-jessie, 8.11-jessie, 8-jessie, carbon-jessie, 8.11.4, 8.11, 8, carbon ([8/jessie/Dockerfile](#))
- 8.11.4-alpine, 8.11-alpine, 8-alpine, carbon-alpine ([8/alpine/Dockerfile](#))
- 8.11.4-onbuild, 8.11-onbuild, 8-onbuild, carbon-onbuild ([8/onbuild/Dockerfile](#))
- 8.11.4-slim, 8.11-slim, 8-slim, carbon-slim ([8/slim/Dockerfile](#))
- 8.11.4-stretch, 8.11-stretch, 8-stretch, carbon-stretch ([8/stretch/Dockerfile](#))
- 6.14.4-jessie, 6.14-jessie, 6-jessie, boron-jessie, 6.14.4, 6.14, 6, boron ([6/jessie/Dockerfile](#))
- 6.14.4-alpine, 6.14-alpine, 6-alpine, boron-alpine ([6/alpine/Dockerfile](#))
- 6.14.4-onbuild, 6.14-onbuild, 6-onbuild, boron-onbuild ([6/onbuild/Dockerfile](#))
- 6.14.4-slim, 6.14-slim, 6-slim, boron-slim ([6/slim/Dockerfile](#))
- 6.14.4-stretch, 6.14-stretch, 6-stretch, boron-stretch ([6/stretch/Dockerfile](#))
- 10.9.0-jessie, 10.9-jessie, 10-jessie, jessie, 10.9.0, 10.9, 10, latest ([10/jessie/Dockerfile](#))
- 10.9.0-alpine, 10.9-alpine, 10-alpine, alpine ([10/alpine/Dockerfile](#))
- 10.9.0-slim, 10.9-slim, 10-slim, slim ([10/slim/Dockerfile](#))
- 10.9.0-stretch, 10.9-stretch, 10-stretch, stretch ([10/stretch/Dockerfile](#))
- chakracore-8.11.1, chakracore-8.11, chakracore-8 ([chakracore/8/Dockerfile](#))
- chakracore-10.6.0, chakracore-10.6, chakracore-10, chakracore ([chakracore/10/Dockerfile](#))

```
[root@yogeshraheja helloworld]# docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED          STATUS          PORTS          NAMES
e47ed130e545   helloworld    "node helloworld.js"   About a minute ago Up About a minute 0.0.0.0:3000->3000/tcp zen_heisenberg
[root@yogeshraheja helloworld]#
```



```
[root@yogeshraheja helloworld]# docker pull yogeshraheja/helloworld
Using default tag: latest
latest: Pulling from yogeshraheja/helloworld
Digest: sha256:95906ec13adf9894e4611cd37c8a06569964af0adbb035fcafa6020994675161
Status: Downloaded newer image for yogeshraheja/helloworld:latest
[root@yogeshraheja helloworld]#
```

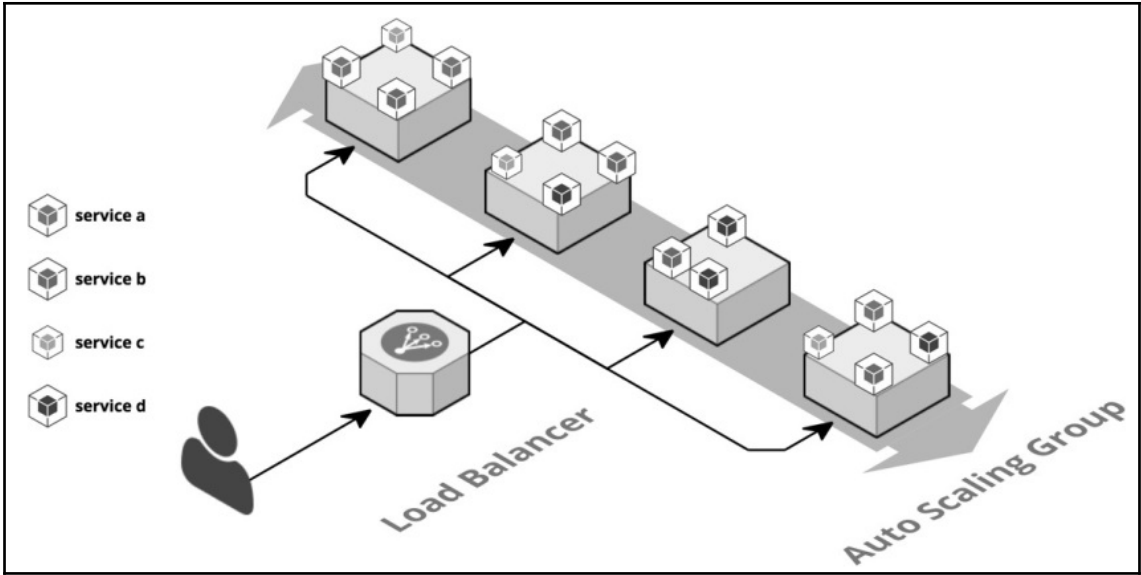
```
[root@yogeshraheja helloworld]# for p in {3001..3005}; do docker run -d -p $(p):3000 4a6cb81d088d; done
90094af21de987618f11f347321fbc3225003736f926d61f0789afc28a0f8214
ff6758e8fd820890c07fa8f3c961fd0587f6050f78b66766319936c8be6529616
11f15c8bc88d705d35cc77448d1728b6336ec3ca576b04aefac8332ffb0db6a
ec27b272835b904c5ccbab3ebc8d063be6e4e63e926b457bda11832b9e1ec7c
cbaca3bb4f18a4510299a72d25c91a30471c095cb88b946217c56d96abc6a065
[root@yogeshraheja helloworld]# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS              NAMES
cbaca3bb4f18       4a6cb81d088d       "node helloworld.js" 30 seconds ago     Up 29 seconds      0.0.0.0:3005->3000/tcp  suspicious_neumann
ec27b272835b       4a6cb81d088d       "node helloworld.js" 30 seconds ago     Up 29 seconds      0.0.0.0:3004->3000/tcp  musing_hamilton
11f15c8bc88d       4a6cb81d088d       "node helloworld.js" 31 seconds ago     Up 30 seconds      0.0.0.0:3003->3000/tcp  wonderful_spence
ff6758e8fd820       4a6cb81d088d       "node helloworld.js" 31 seconds ago     Up 31 seconds      0.0.0.0:3002->3000/tcp  tender_fermi
90094af21de9       4a6cb81d088d       "node helloworld.js" 32 seconds ago     Up 31 seconds      0.0.0.0:3001->3000/tcp  keen_elbakyan
[root@yogeshraheja helloworld]# curl localhost:3005
Hello World
[root@yogeshraheja helloworld]# curl localhost:3004
Hello World
[root@yogeshraheja helloworld]# curl localhost:3003
Hello World
[root@yogeshraheja helloworld]# curl localhost:3002
Hello World
[root@yogeshraheja helloworld]# curl localhost:3001
Hello World
[root@yogeshraheja helloworld]#
```

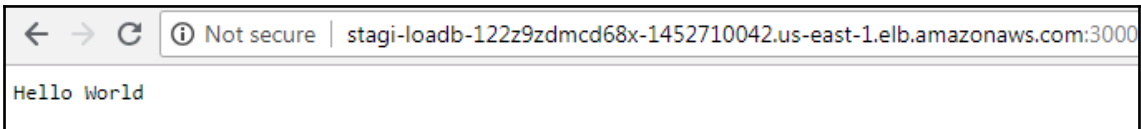
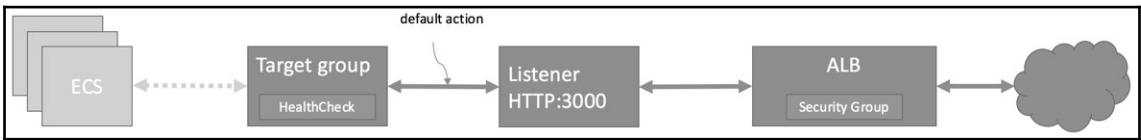
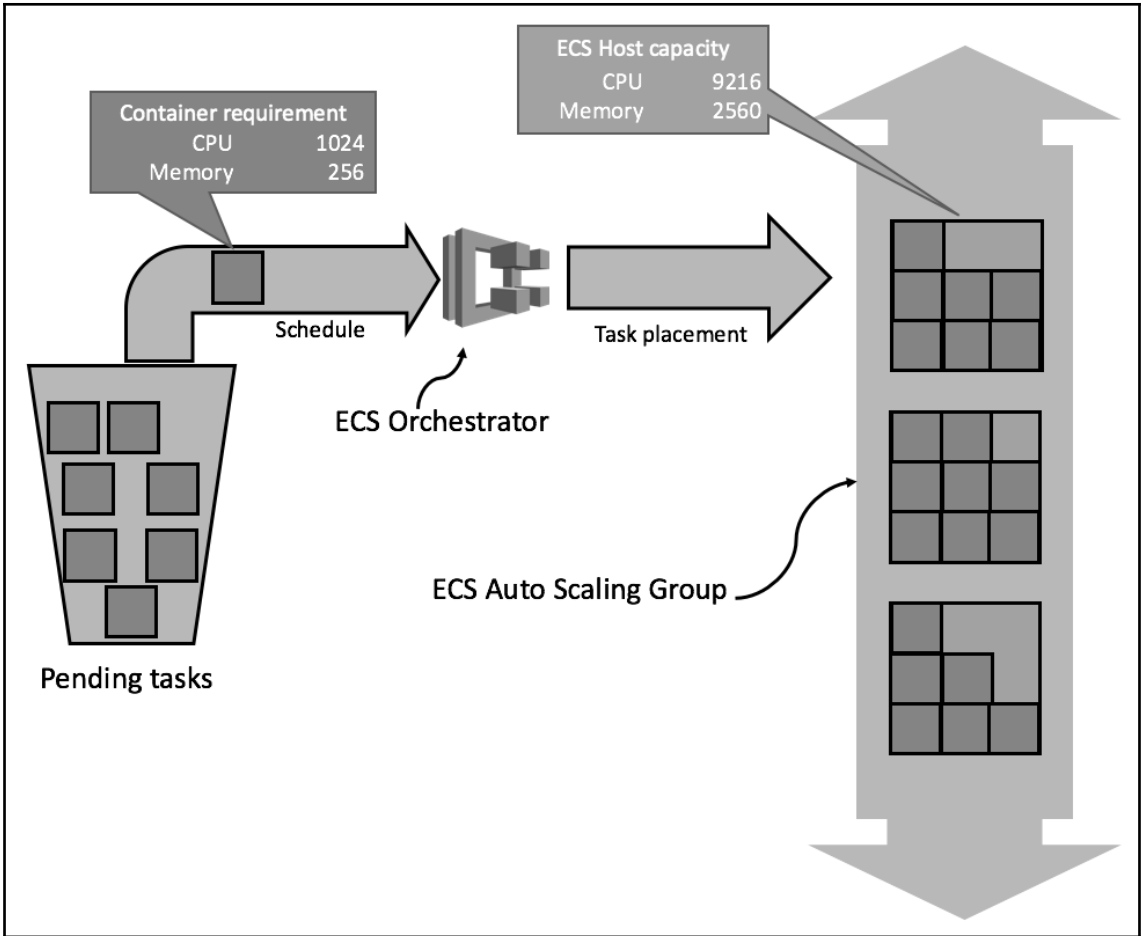
```
[root@yogeshraheja helloworld]# docker stop $(docker ps -a -q)
cbaca3bb4f18
ec27b272835b
11f15cfbc88d
ff6758efd820
90094af21de9
e47e4130e545
0829a984024f
bd5003395c51
874eb1968d49
[root@yogeshraheja helloworld]# docker system prune
WARNING! This will remove:
  - all stopped containers
  - all networks not used by at least one container
  - all dangling images
  - all build cache
Are you sure you want to continue? [y/N] y
Deleted Containers:
cbaca3bb4f18a4510293a72d25c91a30471c095cb88b946217c56d96abc6a065
ec27b272835b904c5ccbab3ebc8d063be6be4e63e926b457bda11832b9e1ec7c
11f15cfbc88d705d35cc77448d1728b6336ec3ca576b04a4efac8332ffb0db6a
ff6758efd820890c07fa8f3c961fd0587f6050f78b66766319936cdbe6529616
90094af21de987618f11f347321fbc3225003736f926d61f0789afc28a0f8214
e47e4130e545e1b2d5eb2b8abb3a228dada2b194230f96f462a5612af521ddc5
0829a984024fcdb9b6330f074bc9d1a8a80fd4985bc536864a0918a813b3844e
bd5003395c51517ac94aea78d5b0e21fddc4730512ba1e79a3fb6829e2861d97
874eb1968d49ee484aecdc25da40bf80f4d88cc1e4e636391400dc2a60f83fe

Total reclaimed space: 10B
[root@yogeshraheja helloworld]#
```

```
[root@yogeshraheja EffectiveDevOpsTemplates]# eval "$(aws ecr get-login --region us-east-1 --no-include-email )"
WARNING! Using --password via the CLI is insecure. Use --password-stdin.
WARNING! Your password will be stored unencrypted in /root/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded
[root@yogeshraheja EffectiveDevOpsTemplates]#
```





```

[root@yogeshraheja helloworld]# cat helloworld.js
var http = require("http")

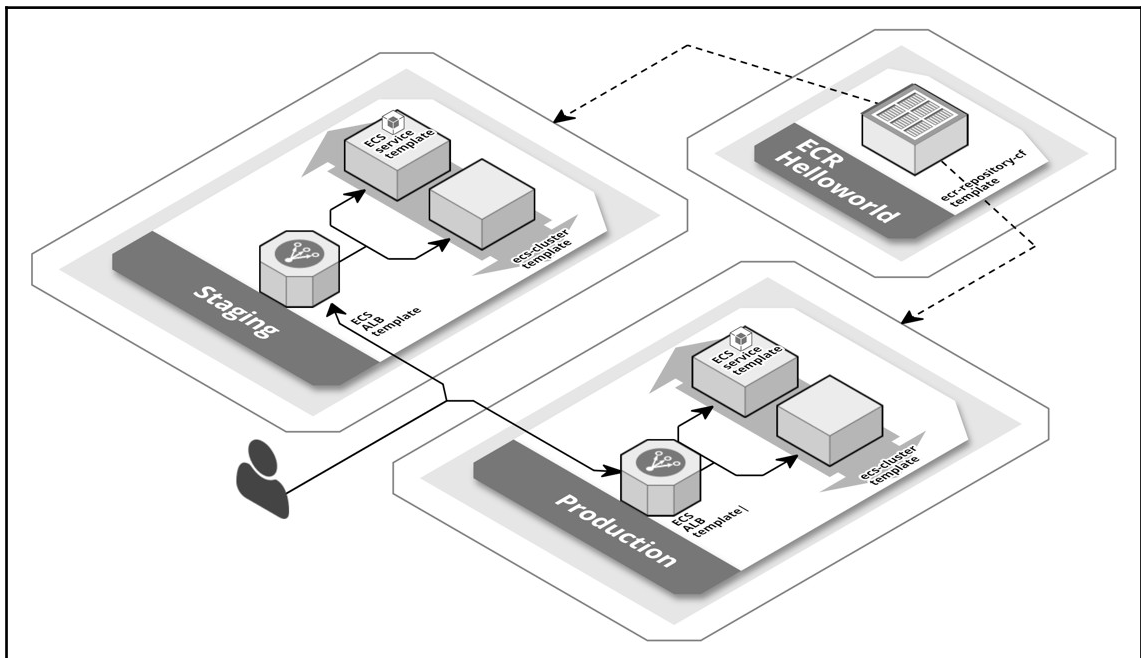
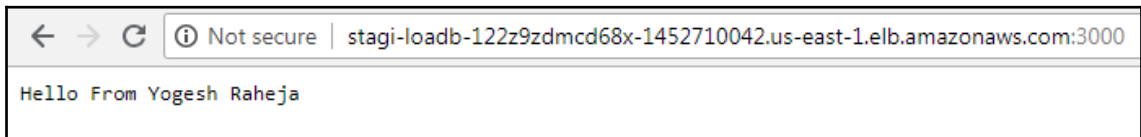
http.createServer(function (request, response) {

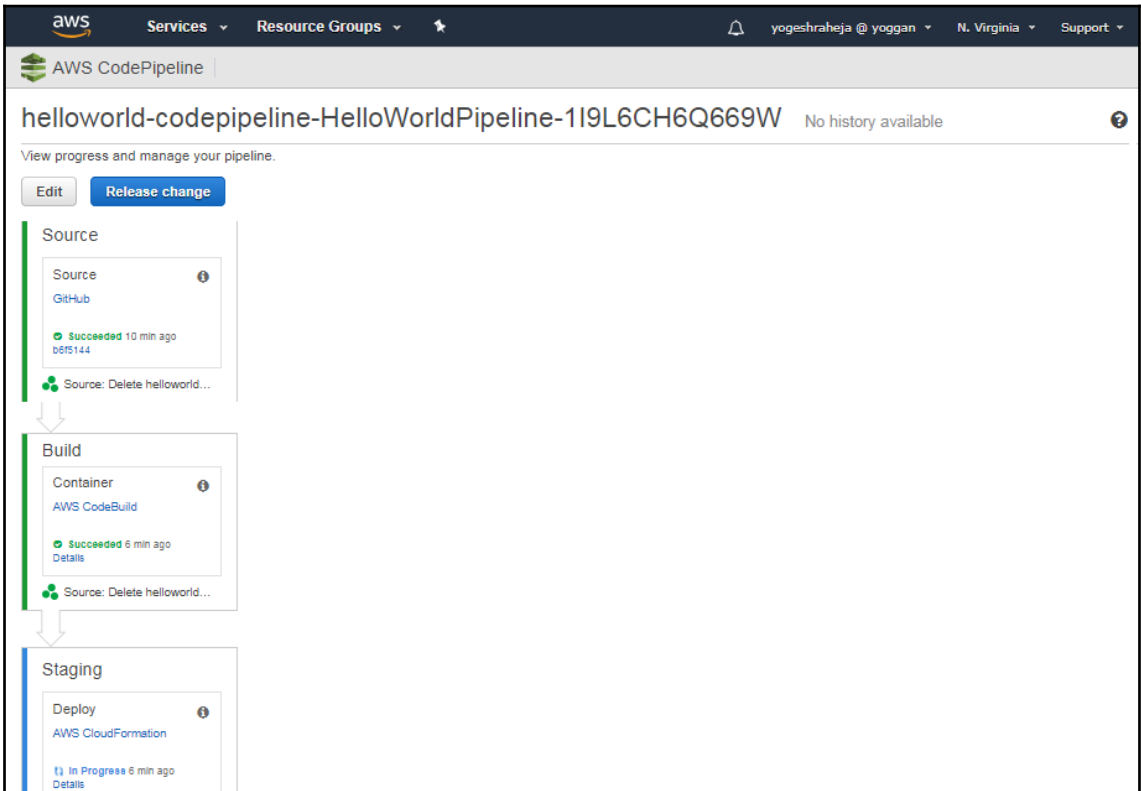
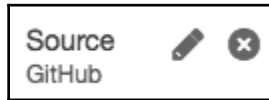
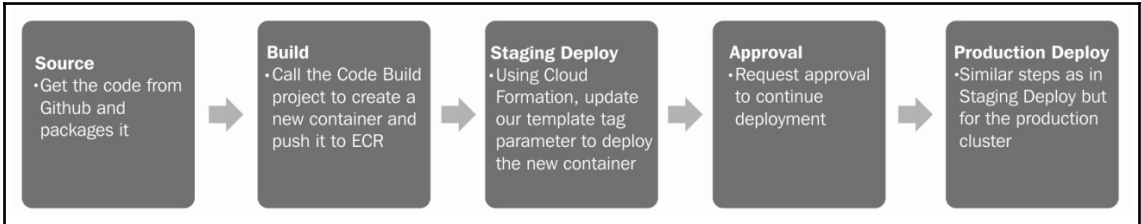
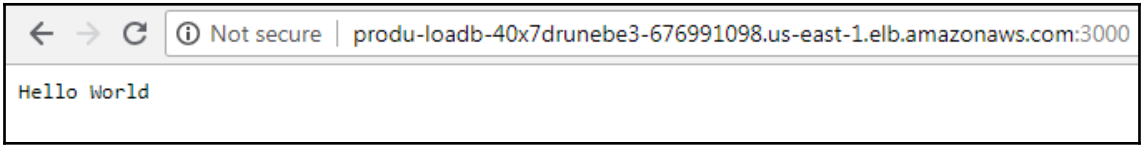
  // Send the HTTP header
  // HTTP Status: 200 : OK
  // Content Type: text/plain
  response.writeHead(200, {'Content-Type': 'text/plain'})

  // Send the response body as "Hello World"
  response.end('Hello From Yogesh Raheja\n')
}).listen(3000)

// Console will print the message
console.log('Server running')

```





aws
Services
Resource Groups
yogeshraheja @ yoggan
N. Virginia
Support

CloudFormation
Stacks

Create Stack
Actions
Design template
C
Settings

Filter: Active
Showing 11 stacks

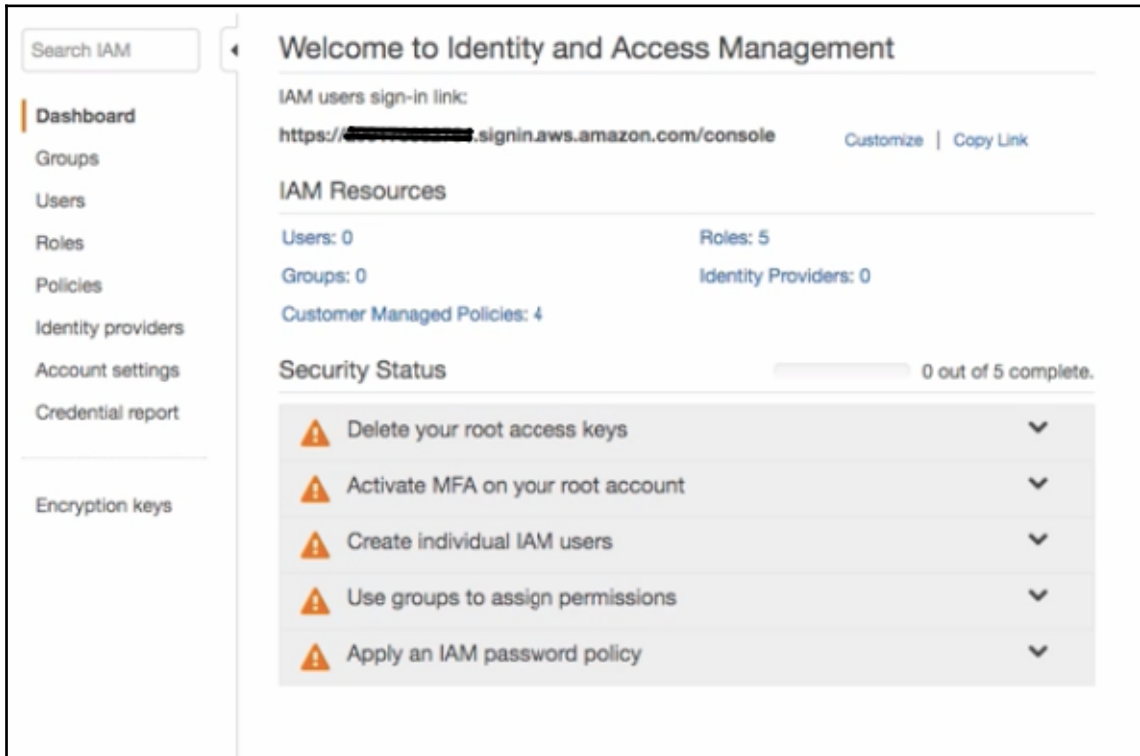
Stack Name	Created Time	Status	Description
<input checked="" type="checkbox"/> production-helloworld-ecs-service	2018-09-08 16:03:06 UTC+0550	CREATE_COMPLETE	Effective DevOps in AWS: ECS service - Helloworld
<input type="checkbox"/> staging-helloworld-ecs-service	2018-09-08 15:59:49 UTC+0550	CREATE_COMPLETE	Effective DevOps in AWS: ECS service - Helloworld
<input type="checkbox"/> helloworld-codepipeline	2018-09-08 15:54:12 UTC+0550	CREATE_COMPLETE	Effective DevOps in AWS: Helloworld Pipeline
<input type="checkbox"/> helloworld-codebuild	2018-09-08 13:45:21 UTC+0550	CREATE_COMPLETE	Effective DevOps in AWS: CodeBuild - Helloworld container
<input type="checkbox"/> production-helloworld-service	2018-09-08 01:48:42 UTC+0550	CREATE_COMPLETE	Effective DevOps in AWS: ECS service - Helloworld
<input type="checkbox"/> production-alb	2018-09-08 01:45:20 UTC+0550	CREATE_COMPLETE	Effective DevOps in AWS: ALB for the ECS Cluster
<input type="checkbox"/> production-cluster	2018-09-08 01:40:51 UTC+0550	CREATE_COMPLETE	Effective DevOps in AWS: ECS Cluster

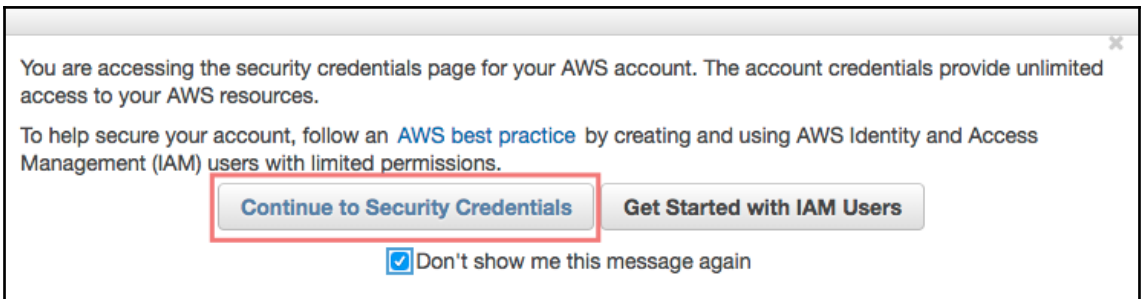
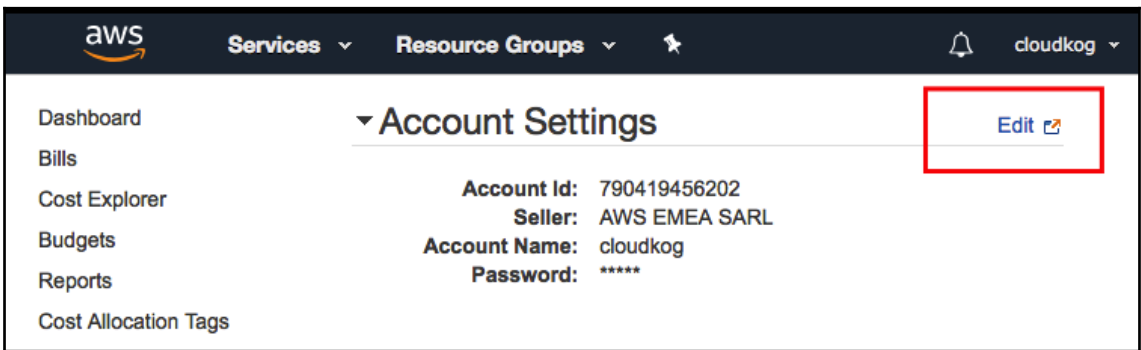
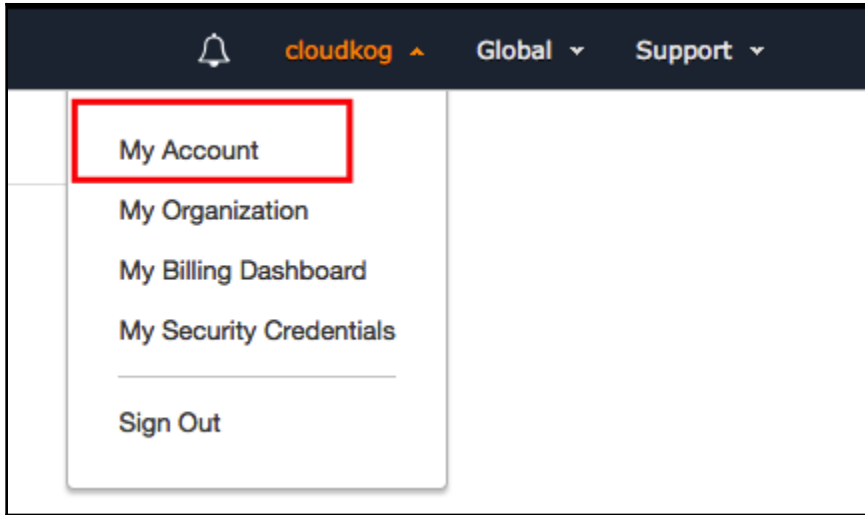
Overview
Outputs
Resources
Events
Template
Parameters
Tags
Stack Policy
Change Sets
Rollback Triggers

Filter by: Status

Time	Status	Type	Logical ID	Status Reason
2018-09-08 16:04:27 UTC+0550	CREATE_COMPLETE	AWS::CloudFormation::Stack	production-helloworld-ecs-service	
2018-09-08 16:04:26 UTC+0550	CREATE_COMPLETE	AWS::ECS::Service	service	
2018-09-08 16:03:25 UTC+0550	CREATE_IN_PROGRESS	AWS::ECS::Service	service	Resource creation Initiated
2018-09-08 16:03:24 UTC+0550	CREATE_IN_PROGRESS	AWS::ECS::Service	service	
2018-09-08 16:03:22 UTC+0550	CREATE_COMPLETE	AWS::IAM::Role	ServiceRole	
2018-09-08 16:03:10 UTC+0550	CREATE_IN_PROGRESS	AWS::IAM::Role	ServiceRole	Resource creation Initiated
2018-09-08 16:03:10 UTC+0550	CREATE_COMPLETE	AWS::ECS::TaskDefinition	task	
2018-09-08 16:03:10 UTC+0550	CREATE_IN_PROGRESS	AWS::IAM::Role	ServiceRole	

Chapter 8: Hardening the Security of Your AWS Environment





— Access keys (access key ID and secret access key)

You use access keys to sign programmatic requests to AWS services. To learn how to sign requests using your access keys, see the [signing documentation](#). For your protection, store your access keys securely and do not share them. In addition, AWS recommends that you rotate your access keys every 90 days.

Note: You can have a maximum of two access keys (active or inactive) at a time.

Created	Deleted	Access Key ID	Last Used	Last Used Region	Last Used Service	Status	Actions
May 3rd 2018	May 3rd 2018	AKIAJLIPTORAP57FVANQ	N/A	N/A	N/A	Deleted	

[Create New Access Key](#)



Important Change - Managing Your AWS Secret Access Keys

As described in a [previous announcement](#), you cannot retrieve the existing secret access keys for your AWS root account, though you can still create a new root access key at any time. As a [best practice](#), we recommend [creating an IAM user](#) that has access keys rather than relying on root access keys.

▼ Password Policy

A password policy is a set of rules that define the type of password an IAM user can set. For more information about password policies, go to [Managing Passwords](#) in Using IAM.

Currently, this AWS account does not have a password policy. Specify a password policy below.

Minimum password length:

- Require at least one uppercase letter ⓘ
- Require at least one lowercase letter ⓘ
- Require at least one number ⓘ
- Require at least one non-alphanumeric character ⓘ
- Allow users to change their own password ⓘ
- Enable password expiration ⓘ
Password expiration period (in days):
- Prevent password reuse ⓘ
Number of passwords to remember:
- Password expiration requires administrator reset ⓘ

Apply password policy

Delete password policy

Search IAM

Welcome to Identity and Access Management

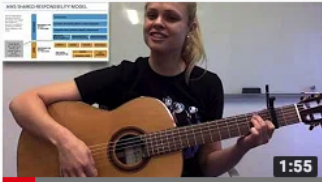
IAM users sign-in link:
<https://cloudkog.signin.aws.amazon.com/console> [🔗](#) [Customize](#)

IAM Resources

Users: 2 Roles: 4
Groups: 1 Identity Providers: 1
Customer Managed Policies: 4

Security Status 5 out of 5 complete.

<input checked="" type="checkbox"/>	Delete your root access keys	▼
<input checked="" type="checkbox"/>	Activate MFA on your root account	▼
<input checked="" type="checkbox"/>	Create individual IAM users	▼
<input checked="" type="checkbox"/>	Use groups to assign permissions	▼
<input checked="" type="checkbox"/>	Apply an IAM password policy	▼



AWS Shared Responsibility Model: EXPLAINED (song)

Kate Turchin • 4555 visualizzazioni • 11 mesi fa

A musical explanation of the Amazon Shared Responsibility Model. Written and performed by Kate Turchin, "The Cloud Security ..."

VPC Dashboard

Filter by VPC:

vpc-3901d841

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

Create subnet Actions ▾

Filter by tags and attributes or search by keyword

<input type="checkbox"/>	Name ▾	Name ▾	Subnet ID ▾	State ▾	VPC
<input checked="" type="checkbox"/>			subnet-15a59419	available	vpc-3901d841
<input type="checkbox"/>			subnet-54840730	available	vpc-3901d841
<input type="checkbox"/>			subnet-99c463a6	available	vpc-3901d841

Subnet: subnet-15a59419

Description Flow Logs Route Table Network ACL Tags

You can create flow logs on your resources to capture IP traffic flow information for the network interfaces for you

Create flow log Actions ▾

<input type="checkbox"/>	Flow Log ID ▾	Filter ▾	Destination name ▾	IAM Role Arn
You do not have any Flow Logs in this region				

Subnets > Create flow log

Create flow log

Flow logs can capture IP traffic flow information for the network interfaces associated with your resources. You can create multiple subscriptions to send traffic to different destinations. [Learn more](#)

Resources ⓘ

Filter* ⓘ ⓘ

Destination Send to CloudWatch Logs ⓘ Send to an S3 bucket

Destination log group* ⓘ ⓘ

IAM role* ⓘ ⓘ

IAM role ARN ⓘ

* Required

Cancel **Create**

Event Buses

Logs

Metrics

Favorites

- /aws/codebuild/secgrouptest
- /aws/codebuild/secgroupv2_us-east-1_build_Application
- /aws/codebuild/testbeforedelete_us-east-1_build_Application
- /aws/lambda/PeppeTest-Remove-users-access-secret-keys
- /aws/lambda/deletekeys
- /aws/lambda/listbuckets
- /aws/lambda/peppeTest-Remove-users-access-secret-keys
- /aws/lambda/runcodebuild
- devops2nd_flowlogs

CloudWatch > Log Groups > Streams for devops2nd_flowlogs

Search Log Group **Create Log Stream** **Delete Log Stream**

Filter: Log Stream Name Prefix x

Log Streams

eni-0d899a52e790058aa-accept

	Name	Network interface ID	Subnet ID	VPC ID	Zone	Security groups	Description	Instance ID
<p>Lifecycle Manager</p> <p>NETWORK & SECURITY</p> <p>Security Groups</p> <p>Elastic IPs</p> <p>Placement Groups</p> <p>Key Pairs</p> <p>Network Interfaces</p> <p>LOAD BALANCING</p>		eni-0d899a52e790058aa	subnet-15a59419	vpc-3901d841	us-east-1f	launch-wizard-1	Primary netwo...	i-0d42512264b94982f

CloudWatch > Log Groups > devops2nd_flowlogs > eni-0d899a52e790058aa-accept

Expand all Row Text

Filter events all 2018-08-08 (14:54)

Time (UTC +00:00)	Message
2018-08-09	
▶ 14:54:05	2 790419456202 eni-0d899a52e790058aa 172.31.61.129 204.44.81.178 39335 123 17 1 76 1533826445 1533826473 ACCEPT OK
▶ 14:54:05	2 790419456202 eni-0d899a52e790058aa 172.31.61.129 64.113.44.54 55828 123 17 1 76 1533826445 1533826473 ACCEPT OK
▶ 14:54:05	2 790419456202 eni-0d899a52e790058aa 199.188.48.60 172.31.61.129 123 56826 17 1 76 1533826445 1533826473 ACCEPT OK
▶ 14:54:05	2 790419456202 eni-0d899a52e790058aa 44.190.6.254 172.31.61.129 123 42273 17 1 76 1533826445 1533826473 ACCEPT OK
▶ 14:54:05	2 790419456202 eni-0d899a52e790058aa 199.188.48.60 172.31.61.129 123 44714 17 1 76 1533826445 1533826473 ACCEPT OK
▶ 14:54:05	2 790419456202 eni-0d899a52e790058aa 204.44.81.178 172.31.61.129 123 39335 17 1 76 1533826445 1533826473 ACCEPT OK
▶ 14:54:05	2 790419456202 eni-0d899a52e790058aa 172.31.61.129 44.190.6.254 42273 123 17 1 76 1533826445 1533826473 ACCEPT OK
▶ 14:54:05	2 790419456202 eni-0d899a52e790058aa 204.44.81.178 172.31.61.129 123 46010 17 1 76 1533826445 1533826473 ACCEPT OK
▶ 14:54:05	2 790419456202 eni-0d899a52e790058aa 44.190.6.254 49867 123 17 1 76 1533826445 1533826473 ACCEPT OK
▶ 14:54:05	2 790419456202 eni-0d899a52e790058aa 172.31.61.129 64.113.44.54 59227 123 17 1 76 1533826445 1533826473 ACCEPT OK
▶ 14:54:05	2 790419456202 eni-0d899a52e790058aa 172.31.61.129 44.190.6.254 60385 123 17 1 76 1533826445 1533826473 ACCEPT OK
▶ 14:54:05	2 790419456202 eni-0d899a52e790058aa 64.113.44.54 172.31.61.129 123 59227 17 1 76 1533826445 1533826473 ACCEPT OK
▶ 14:54:05	2 790419456202 eni-0d899a52e790058aa 64.113.44.54 172.31.61.129 123 55828 17 1 76 1533826445 1533826473 ACCEPT OK
▶ 14:54:05	2 790419456202 eni-0d899a52e790058aa 172.31.61.129 64.113.44.54 43221 123 17 1 76 1533826445 1533826473 ACCEPT OK
▶ 14:54:05	2 790419456202 eni-0d899a52e790058aa 199.188.48.60 172.31.61.129 123 45205 17 1 76 1533826445 1533826473 ACCEPT OK
▶ 14:54:05	2 790419456202 eni-0d899a52e790058aa 44.190.6.254 172.31.61.129 123 49867 17 1 76 1533826445 1533826473 ACCEPT OK
▶ 14:54:05	2 790419456202 eni-0d899a52e790058aa 172.31.61.129 44.190.6.254 33420 123 17 1 76 1533826445 1533826473 ACCEPT OK

CloudWatch > Log Groups > devops2nd_flowlogs > eni-0d899a52e790058aa-accept

Expand all Row Text

79.1.172.1 all 30s 5m 1h 6h 1d 1w

Time (UTC +00:00)	Message
2018-08-09	
No older events found for the selected filter. clear filter.	
▼ 14:54:40	2 790419456202 eni-0d899a52e790058aa 79.1.172.1 172.31.61.129 61704 22 6 113 9501 1533826480 1533826533 ACCEPT OK
▼ 14:54:40	2 790419456202 eni-0d899a52e790058aa 79.1.172.1 172.31.61.129 61704 22 6 113 9501 1533826480 1533826533 ACCEPT OK
▼ 14:54:40	2 790419456202 eni-0d899a52e790058aa 172.31.61.129 79.1.172.1 22 61704 6 82 12817 1533826480 1533826533 ACCEPT OK
No newer events found for the selected filter. clear filter.	

CloudWatch > Log Groups > devops2nd_flowlogs > eni-0d899a52e790058aa-accept

Expand all Row Text

79.1.172.1 all 30s 5m 1h 6h 1d 1w

Time (UTC +00:00)	Message
2018-08-09	
No older events found for the selected filter. clear filter.	
▼ 14:54:40	2 790419456202 eni-0d899a52e790058aa 79.1.172.1 172.31.61.129 61704 22 6 113 9501 1533826480 1533826533 ACCEPT OK
▼ 14:54:40	2 790419456202 eni-0d899a52e790058aa 79.1.172.1 172.31.61.129 61704 22 6 113 9501 1533826480 1533826533 ACCEPT OK
▼ 14:54:40	2 790419456202 eni-0d899a52e790058aa 172.31.61.129 79.1.172.1 22 61704 6 82 12817 1533826480 1533826533 ACCEPT OK
No newer events found for the selected filter. clear filter.	

VPC Dashboard

Filter by VPC:

vpc-3901d841

Virtual Private Cloud

Your VPCs

Subnets

Route Tables

Internet Gateways

[Create Route Table](#) [Delete Route Table](#) [Set As Main Table](#)

Search Route Tables and their

<input type="checkbox"/>	Name	Route Table ID	Explicitly Associat	Main	VPC
<input type="checkbox"/>	Public Route	rtb-f30b7c89	0 Subnets	Yes	vpc-3901d841
<input type="checkbox"/>	Private Route NO internet	rtb-0c5bb73b817ee...	2 Subnets	No	vpc-3901d841
<input type="checkbox"/>	Private Route Internet	rtb-0eadd6dc52fc55...	2 Subnets	No	vpc-3901d841

Select a route table above

VPC Dashboard

Filter by VPC:

vpc-3901d841

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

[Create subnet](#) [Actions](#)

Filter by tags and attributes or search by keyword

<input type="checkbox"/>	Name	Subnet ID	State	VPC
<input checked="" type="checkbox"/>	Public-A	subnet-a94cabf4	available	vpc-39
<input type="checkbox"/>	Public-B	subnet-54840730	available	vpc-39
<input type="checkbox"/>	Private-internet-C	subnet-d056b4ff	available	vpc-39
<input type="checkbox"/>	Private-internet-D	subnet-b541edfe	available	vpc-39

Subnet: subnet-a94cabf4

[Description](#) [Flow Logs](#) [Route Table](#) [Network ACL](#) [Tags](#)

[Edit route table association](#)

Route Table: rtb-f30b7c89 | Public Route

<< < 1 to 2 of 2 > >>

Destination	Target
172.31.0.0/16	local
0.0.0.0/0	igw-9b59f5e2

Create NAT Gateway

Create a NAT gateway and assign it an Elastic IP address. [Learn more.](#)

Subnet*  

Elastic IP Allocation ID*   Create New EIP

New EIP (18.213.138.238) creation successful.

* Required

Cancel

Create a NAT Gateway

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

<input type="checkbox"/>	Public-A	subnet-a94cabf4	available	vpc-3901d841
<input type="checkbox"/>	Public-B	subnet-54840730	available	vpc-3901d841
<input checked="" type="checkbox"/>	Private-internet-C	subnet-d056b4ff	available	vpc-3901d841
<input type="checkbox"/>	Private-internet-D	subnet-b541edfe	available	vpc-3901d841

Subnet: subnet-d056b4ff

Description

Flow Logs

Route Table

Network ACL

Tags

Edit route table association

Route Table: rtb-0eadd6dc52fc55191 | Private Route Internet

< < 1 to 2 of 2 > >

Destination

Target

172.31.0.0/16

local

0.0.0.0/0

nat-05121c2302c5b6148

VPC Dashboard

Create subnet Actions

Filter by VPC:

Q vpc-3901d841

vpc-3901d841

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

Filter by tags and attributes or search by keyword

<input type="checkbox"/>	Name	Subnet ID	State	VPC	IPv4 CIDR
<input type="checkbox"/>	Private-internet-C	subnet-d056b4ff	available	vpc-3901d841	172.31.80.0/2
<input type="checkbox"/>	Private-internet-D	subnet-b541edfe	available	vpc-3901d841	172.31.16.0/2
<input checked="" type="checkbox"/>	Private-NO-internet-E	subnet-99c463a6	available	vpc-3901d841	172.31.64.0/2
<input type="checkbox"/>	Private-NO-internet-F	subnet-15a59419	available	vpc-3901d841	172.31.48.0/2

Subnet: subnet-99c463a6

Description

Flow Logs

Route Table

Network ACL

Tags

Edit route table association

Route Table: rtb-0c5bb73b817ee6f8f | Private Route NO internet

1 to 1 of 1

Destination	Target
172.31.0.0/16	local

VPC Dashboard

Filter by VPC:

Q Select a VPC

Virtual Private Cloud

- Your VPCs
- Subnets
- Route Tables
- Internet Gateways
- Egress Only Internet Gateways
- DHCP Options Sets
- Elastic IPs
- Endpoints**

Create Endpoint Actions ▾

Q Filter by attributes or search by keyword

The image shows a screenshot of the AWS VPC Dashboard. On the left side, there is a navigation menu with the following items: 'Virtual Private Cloud', 'Your VPCs', 'Subnets', 'Route Tables', 'Internet Gateways', 'Egress Only Internet Gateways', 'DHCP Options Sets', 'Elastic IPs', and 'Endpoints'. The 'Endpoints' item is highlighted with an orange vertical bar. At the top right of the dashboard, there is a blue button labeled 'Create Endpoint' which is enclosed in a red rectangular box. To its right is a grey button labeled 'Actions' with a downward-pointing chevron. Below the 'Create Endpoint' button, there is a search bar with a magnifying glass icon and the text 'Filter by attributes or search by keyword'. At the top left, the text 'VPC Dashboard' is displayed. Below it, there is a section 'Filter by VPC:' with a search input field containing the text 'Select a VPC'.

- Service category**
- AWS services
 - Find service by name
 - Your AWS Marketplace services

Service Name com.amazonaws.us-east-1.s3 ⓘ

Filter by attributes

	Service Name	Owner	Type
<input type="radio"/>	com.amazonaws.us-east-1.ec2	amazon	Interface
<input type="radio"/>	com.amazonaws.us-east-1.ec2messages	amazon	Interface
<input type="radio"/>	com.amazonaws.us-east-1.elasticloadbala...	amazon	Interface
<input type="radio"/>	com.amazonaws.us-east-1.events	amazon	Interface
<input type="radio"/>	com.amazonaws.us-east-1.execute-api	amazon	Interface
<input type="radio"/>	com.amazonaws.us-east-1.kinesis-streams	amazon	Interface
<input type="radio"/>	com.amazonaws.us-east-1.kms	amazon	Interface
<input type="radio"/>	com.amazonaws.us-east-1.logs	amazon	Interface
<input type="radio"/>	com.amazonaws.us-east-1.monitoring	amazon	Interface
<input checked="" type="radio"/>	com.amazonaws.us-east-1.s3	amazon	Gateway

VPC* vpc-3901d841

Configure route tables A rule with destination `pl-63a5400a (com.amazonaws.us-east-1.s3)` and a target with this endpoints' tables you select below.

Subnets associated with selected route tables will be able to access this endpoint.

rtb-f30b7c89

rtb-0c5bb73b817ee6f8f

rtb-0eadd6dc52fc55191

	Route Table ID	Main	Associated With
<input checked="" type="checkbox"/>	rtb-f30b7c89	Yes	2 subnets
<input checked="" type="checkbox"/>	rtb-0c5bb73b817ee6f8f	No	2 subnets
<input checked="" type="checkbox"/>	rtb-0eadd6dc52fc55191	No	2 subnets

rtb-f30b7c89 | Public Route

Summary

Routes

Subnet Associations

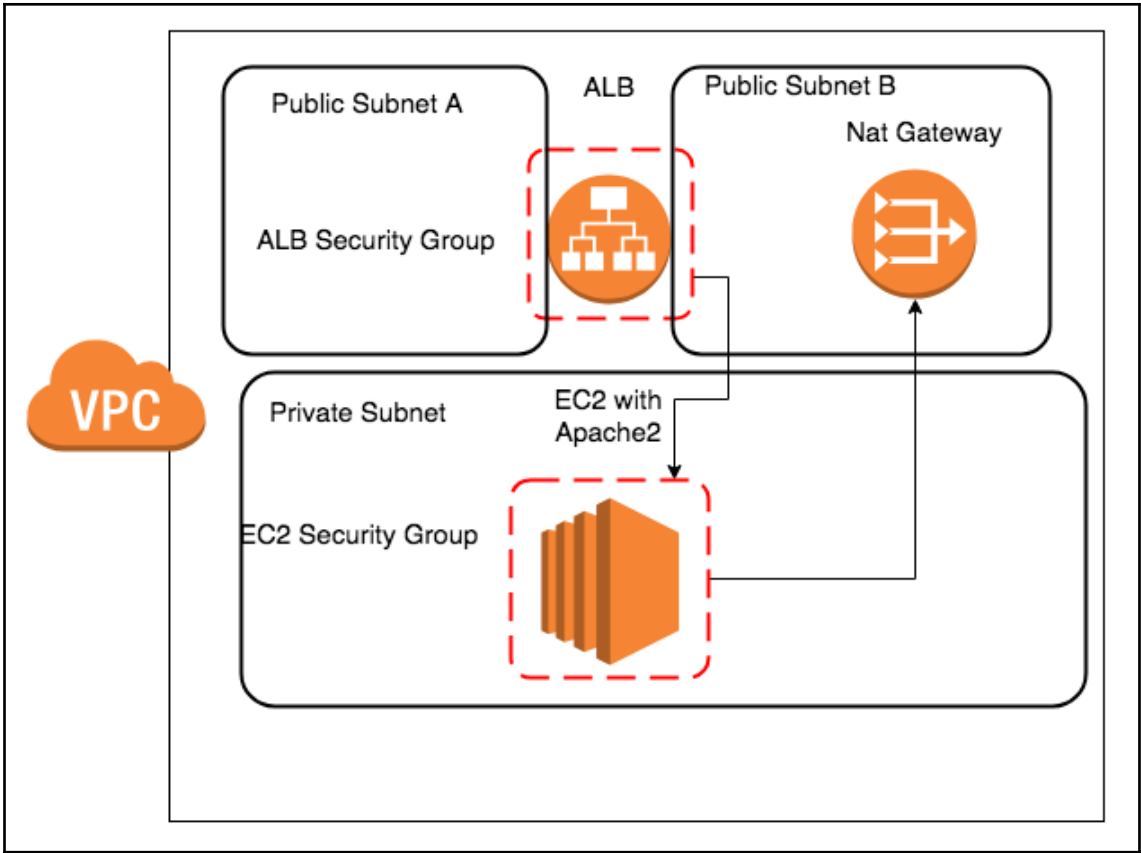
Route Propagation

Tags

Edit

View: All rules

Destination	Target	Status	Propagated
172.31.0.0/16	local	Active	No
0.0.0.0/0	igw-9b59f5e2	Active	No
pl-63a5400a (com.amazonaws.us-east-1.s3)	vpce-039f31bfec07367ea	Active	No



[Dedicated Hosts](#)
[Scheduled Instances](#)
[Create Load Balancer](#)
[Actions](#)

Filter by tags and attributes or search by keyword

Name	DNS name	State	VPC ID	Availability
playground	playground-683735989.us-e...	active	vpc-3901d841	us-east-1b,

[Description](#)
[Listeners](#)
[Monitoring](#)
[Tags](#)

Basic Configuration

Name: playground	Creation time: August 15, 2018 at 2:53:14 PM UTC+2
ARN: arn:aws:elasticloadbalancing:us-east-1:790419456202:loadbalancer/app/playground/c24bbe4d7d429b4f	Hosted zone: Z35XDOTRQ7X7K
DNS name: playground-683735989.us-east-1.elb.amazonaws.com (A Record)	State: active
Scheme: internet-facing	VPC: vpc-3901d841
Type: application	IP address type: ipv4
Availability Zones: subnet-54840730 - us-east-1b, subnet-a94cabf4 - us-east-1a	AWS WAF Web ACL:

[Edit availability zones](#)

[←](#)
[→](#)
[↻](#)
[🏠](#)
Not Secure | playground-683735989.us-east-1.elb.amazonaws.com

This is a playground main directory

[←](#)
[→](#)
[↻](#)
[🏠](#)
Not Secure | playground-683735989.us-east-1.elb.amazonaws.com/subdir/


This is a sub directory

Services Resource Groups

gluseppeborgese @ cloudkog Global Support

AWS WAF and AWS Shield

AWS WAF and AWS Shield help protect your AWS resources from web exploits and DDoS attacks




AWS WAF

AWS WAF is a web application firewall service that helps protect your web apps from common exploits that could affect app availability, compromise security, or consume excessive resources.

[Go to AWS WAF](#)

[Learn more](#)




AWS Shield

AWS Shield provides expanded DDoS attack protection for your AWS resources. Get 24/7 support from our DDoS response team and detailed visibility into DDoS events.

[Go to AWS Shield](#)

[Learn more](#)



AWS Firewall Manager

AWS Firewall Manager simplifies your AWS WAF administration and maintenance tasks across multiple accounts and resources.

[Go to AWS Firewall Manager](#)

[Learn more](#)

AWS WAF

- Web ACLs**
- Rules
- Marketplace

Conditions

- Cross-site scripting
- Geo match
- IP addresses
- Size constraints
- SQL injection
- String and regex matching

AWS Shield

- Summary
- Protected resources
- Incidents
- Global threat

Web ACLs

[Create web ACL](#) [Delete](#)

Filter: US East (N. Virginia)

Name

- adminprotection

adminprotection

Requests Rules

If a request matches all of the conditions in a rule, take the corresponding action [Edit web ACL](#)

Order	Rule	Type	Action
1	adminrule	Regular	Block requests

If a request doesn't match any rules, take the default action

Default action Allow all requests that don't match any rules

[Add association](#)

AWS resources using this web ACL

Resource	Type
playground	Application load balancer

AWS WAF

- Web ACLs
- Rules**
- Marketplace
- Conditions
- Cross-site scripting
- Geo match
- IP addresses
- Size constraints
- SQL injection
- String and regex matching

AWS Shield

Rules

[Create rule](#) [Delete](#)

Filter: US East (N. Virginia) Viewing 1 to 1 of 10

Name	Type
<input checked="" type="radio"/> adminrule	Regular

adminrule

[Edit rule](#)

When a request matches at least one of the filters in the string match condition [admin](#)

Filters in admin

URI starts with: "/subdir" after converting to lowercase.

And

When a request does not originate from an IP address in [allow_ips](#)

IP Addresses in allow_ips

146.241.179.87/32

AWS WAF

- Web ACLs**
- Rules
- Marketplace
- Conditions
- Cross-site scripting
- Geo match
- IP addresses
- Size constraints
- SQL injection
- String and regex matching

AWS Shield

- Summary
- Protected resources
- Incidents
- Global threat

Web ACLs

[Create web ACL](#) [Delete](#)

Filter: US East (N. Virginia)

Name
<input checked="" type="radio"/> playground

playground

[Requests](#) [Rules](#)

If a request matches all of the conditions in a rule, take the corresponding action [Edit web ACL](#)

Order	Rule	Type	Action
1	subdir	Rate-based	Block requests

If a request doesn't match any rules, take the default action

Default action Allow all requests that don't match any rules

AWS resources using this web ACL [Add association](#)

Resource	Type
playground	Application load balancer

AWS WAF

- Web ACLs
- Rules**
- Marketplace

Conditions

- Cross-site scripting
- Geo match
- IP addresses
- Size constraints
- SQL injection
- String and regex matching

AWS Shield

- Summary
- Protected resources
- Incidents
- Global threat

Rules

[Create rule](#) [Delete](#)

Filter: US East (N. Virginia)

Viewing 1 to 1

Name	Type
<input checked="" type="radio"/> subdir	Rate-based

subdir

[Edit rule](#)

When a request matches at least one of the filters in the string

Filters in subdir

URI starts with: "/subdir" after converting to lowercase.

Rate limit

2,000 requests in a five-minute period.

IP addresses currently blocked or counted

[Filter by IP address](#)

IP addresses

No IP addresses are currently blocked or counted by this rule.

AWS WAF

- Web ACLs
- Rules**
- Marketplace

Conditions

- Cross-site scripting
- Geo match
- IP addresses
- Size constraints
- SQL injection
- String and regex matching

AWS Shield

- Summary
- Protected resources
- Incidents
- Global threat environment

Rules

[Create rule](#) [Delete](#)

Filter: US East (N. Virginia)

Viewing 1 to 1

Name	Type
<input checked="" type="radio"/> subdir	Rate-based

subdir

[Edit rule](#)

When a request matches at least one of the filters in the string match condition subdir

Filters in subdir

URI starts with: "/subdir" after converting to lowercase.

Rate limit

2,000 requests in a five-minute period.

IP addresses currently blocked or counted

[Filter by IP address](#) Viewing 1 to 1 of 1 IP addresses Results per page 10

IP addresses

18.209.213.151/32
