

Task2:

(task1 updated version using efs)

1. Create Security group which allow the port 80.
2. Launch EC2 instance.
3. In this Ec2 instance use the existing key or provided key and security group which we have created in step 1.
4. Launch one Volume using the EFS service and attach it in your vpc, then mount that volume into /var/www/html
5. Developer have uploded the code into github repo also the repo has some images.
6. Copy the github repo code into /var/www/html

CODE:

```
provider "aws" {  
  region = "ap-south-1"  
  profile = "myvishesh"  
}
```

```
resource "aws_security_group" "nfs-sg" {  
  name      = "nfs-sg"  
  description = "Allow TLS inbound traffic"  
  vpc_id    = "vpc-15f8e57d"
```

```
  ingress {  
    description = "SSH"  
    from_port   = 22  
    to_port     = 22  
    protocol    = "tcp"  
    cidr_blocks = [ "0.0.0.0/0" ]  
  }
```

```
  ingress {  
    description = "HTTP"  
    from_port   = 80  
    to_port     = 80  
    protocol    = "tcp"  
    cidr_blocks = [ "0.0.0.0/0" ]  
  }
```

```
}
```

```
ingress {  
  description = "NFS"  
  from_port   = 2049  
  to_port     = 2049  
  protocol    = "tcp"  
  cidr_blocks = [ "0.0.0.0/0" ]  
}
```

```
egress {  
  from_port = 0  
  to_port   = 0  
  protocol  = "-1"  
  cidr_blocks = ["0.0.0.0/0"]  
}
```

```
tags = {  
  Name = "task1-sg"  
}
```

```
}
```

```
resource "aws_efs_file_system" "allow-nfs" {  
  creation_token = "allow-nfs"
```

```
tags = {  
  Name = "allow-nfs"  
}
```

```
}
```

```
resource "aws_efs_mount_target" "alpha" {  
  file_system_id = "${aws_efs_file_system.allow-nfs.id}"  
  subnet_id      = "${aws_subnet.alpha.id}"  
  security_groups = [ "${aws_security_group.nfs-sg.id}" ]  
}
```

```
resource "aws_subnet" "alpha" {  
  vpc_id            = "${aws_security_group.nfs-sg.vpc_id}"  
  availability_zone = "ap-south-1a"  
  cidr_block        = "172.31.48.0/20"
```

```

}
resource "aws_instance" "task1-inst" {
  ami      = "ami-005956c5f0f757d37"
  instance_type = "t2.micro"
  availability_zone = "ap-south-1a"
  key_name   = "mykey1111.pem"
  subnet_id  = "${aws_subnet.alpha.id}"
  vpc_security_group_ids = [ "${aws_security_group.nfs-sg.id}" ]
  user_data = <<-EOF
    #!/bin/bash
    #cloud-config
    repo_update: true
    repo_upgrade: all
    sudo yum install httpd -y
    sudo systemctl start httpd
    sudo systemctl enable httpd
    yum install -y amazon-efs-utils
    apt-get -y install amazon-efs-utils
    yum install -y nfs-utils
    apt-get -y install nfs-common
    file_system_id_1="${aws_efs_file_system.allow-nfs.id}"
    efs_mount_point_1="/var/www/html"
    mkdir -p "$efs_mount_point_1"
    test -f "/sbin/mount.efs" && echo "$file_system_id_1:/
    $efs_mount_point_1 efs tls,_netdev" >> /etc/fstab || echo
    "$file_system_id_1.efs.ap-south-1.amazonaws.com:/
    $efs_mount_point_1 nfs4
    nfsvers=4.1,rsz=1048576,wsz=1048576,hard,timeo=600,retrans=2,
    noresvport,_netdev 0 0" >> /etc/fstab
    test -f "/sbin/mount.efs" && echo -e "\n[client-info]\nsource=liw" >>
    /etc/amazon/efs/efs-utils.conf
    mount -a -t efs,nfs4 defaults
    sudo yum install git -y
    cd /var/www/html
    git clone https://github.com/visheshgargavi/hybrid-task1

```

```
EOF
```

```
tags = {  
  Name = "task1-inst"  
}
```

The screenshot shows the AWS Management Console for the 'ap-south-1' region, specifically the 'File systems' page for the file system named 'allow-nfs' (ID: fs-36850ae7). The console displays the following details:

- File system ID:** fs-36850ae7
- Metered size:** 6.0 KiB
- Number of mount targets:** 1
- Creation date:** 06/19/2020, 20:08:43 UTC
- Owner ID:** 410914255776
- File system state:** Available
- Performance mode:** General Purpose
- Throughput mode:** Bursting
- Encrypted:** No
- Lifecycle policy:** None
- Tags:** Name: allow-nfs
- DNS name:** fs-36850ae7.efs.ap-south-1.amazonaws.com
- Mount instructions:** Amazon EC2 mount instructions (from local VPC), Amazon EC2 mount instructions (across VPC peering connection), On-premises mount instructions

This screenshot shows the 'Mount targets' section of the AWS Management Console for the 'allow-nfs' file system. It displays a table with the following data:

VPC	Availability Zone	Subnet	IP address	Mount target ID	Network interface ID	Security groups	Mount target state
vpc-15f8e57d (default)	ap-south-1a	subnet-041596e240d2296d2	172.31.53.184	fsmt-80e73351	eni-047a9216481903cbd	sg-02ef3aed108cb4bb8 - nfs-sg	Available

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ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#Instances:sort=desc:tag:Name

Services Resource Groups

New EC2 Experience Tell us what you think

Launch Instance Connect Actions

Filter by tags and attributes or search by keyword

NAME	Name	App	Env	Instance ID	Instance Type	Availability Zone	Instance State	Status
				i-0c658798806a999d4	t2.micro	ap-south-1a	terminated	
	task1-inst			i-0b6a76d18c6261479	t2.micro	ap-south-1a	terminated	
	task1-inst			i-0e6cf9a0d9aca31e6	t2.micro	ap-south-1a	terminated	
	task1-inst			i-0ff86169de25b6ea4	t2.micro	ap-south-1a	running	2%

Instance: **i-0ff86169de25b6ea4 (task1-inst)** Private IP: 172.31.55.138

Description Status Checks Monitoring Tags

Instance ID i-0ff86169de25b6ea4 Public DNS (IPv4) -
Instance state running IPv4 Public IP -
Instance type t2.micro IPv6 IPs -
Finding Opt-in to AWS Compute Optimizer for recommendations. [Learn more](#) Elastic IPs

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ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#Instances:sort=desc:tag:Name

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NAME	Name	App	Env	Instance ID	Instance Type	Availability Zone	Instance State	Status
				i-0c658798806a999d4	t2.micro	ap-south-1a	terminated	
	task1-inst			i-0b6a76d18c6261479	t2.micro	ap-south-1a	terminated	
	task1-inst			i-0e6cf9a0d9aca31e6	t2.micro	ap-south-1a	terminated	
	task1-inst			i-0ff86169de25b6ea4	t2.micro	ap-south-1a	running	2%

Instance state running IPv4 Public IP -
Instance type t2.micro IPv4 Public IP -
Finding Opt-in to AWS Compute Optimizer for recommendations. [Learn more](#) IPv6 IPs -
Private DNS ip-172-31-55-138.ap-south-1.compute.internal Elastic IPs
Private IPs 172.31.55.138 Availability zone ap-south-1a
Secondary private IPs Security groups [nfs-sg](#) [view inbound rules](#) [view outbound rules](#)
Scheduled events No scheduled events

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ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#Instances:sort=desc:tag:Name

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Launch Instance Connect Actions

Filter by tags and attributes or search by keyword

1 to 4 of 4

NAME	Name	App	Env	Instance ID	Instance Type	Availability Zone	Instance State	Status
				i-0c658798806a999d4	t2.micro	ap-south-1a	terminated	
	task1-inst			i-0b6a76d18c6261479	t2.micro	ap-south-1a	terminated	
	task1-inst			i-0e6cf9a0d9aca31e6	t2.micro	ap-south-1a	terminated	
	task1-inst			i-0f86169de25b6ea4	t2.micro	ap-south-1a	running	2%

IAM role - Source/dest. check True
Key pair name mykey1111.pem T2/T3 Unlimited Disabled
Owner 410914255776 EBS-optimized False
Launch time June 20, 2020 at 1:38:48 AM UTC+5:30 (less than one hour) Root device type ebs
Termination protection False Root device /dev/xvda
Lifecycle normal Block devices /dev/xvda
Monitoring basic
Alarm status None

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ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#Instances:sort=desc:tag:Name

Services Resource Groups

New EC2 Experience
Tell us what you think

Launch Instance Connect Actions

Filter by tags and attributes or search by keyword

1 to 4 of 4

NAME	Name	App	Env	Instance ID	Instance Type	Availability Zone	Instance State	Status
				i-0c658798806a999d4	t2.micro	ap-south-1a	terminated	
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	task1-inst			i-0e6cf9a0d9aca31e6	t2.micro	ap-south-1a	terminated	
	task1-inst			i-0f86169de25b6ea4	t2.micro	ap-south-1a	running	2%

Tenancy default
Host ID -
Host resource group name -
Affinity -
State transition reason -
State transition reason message -
Stop - Hibernation behavior Disabled
Number of vCPUs 1

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Step 3: Configure Instance Details

eth0 subnet-04601807

Advanced Details

Metadata accessible

Metadata version

Metadata token response hop limit

User data ☒ As text ☐ As file ☐ Input is already base64 encoded

```
sudo systemctl enable httpd
yum install -y amazon-efs-utils
apt-get -y install amazon-efs-utils
yum install -y nfs-utils
apt-get -y install nfs-common
file_system_id_1="fs-0f840bde"
```

Step 7: Review Instance Launch

Please review your instance launch details. You can go back to edit changes for each section. Click **Launch** to assign a key pair to your instance and complete the launch process.

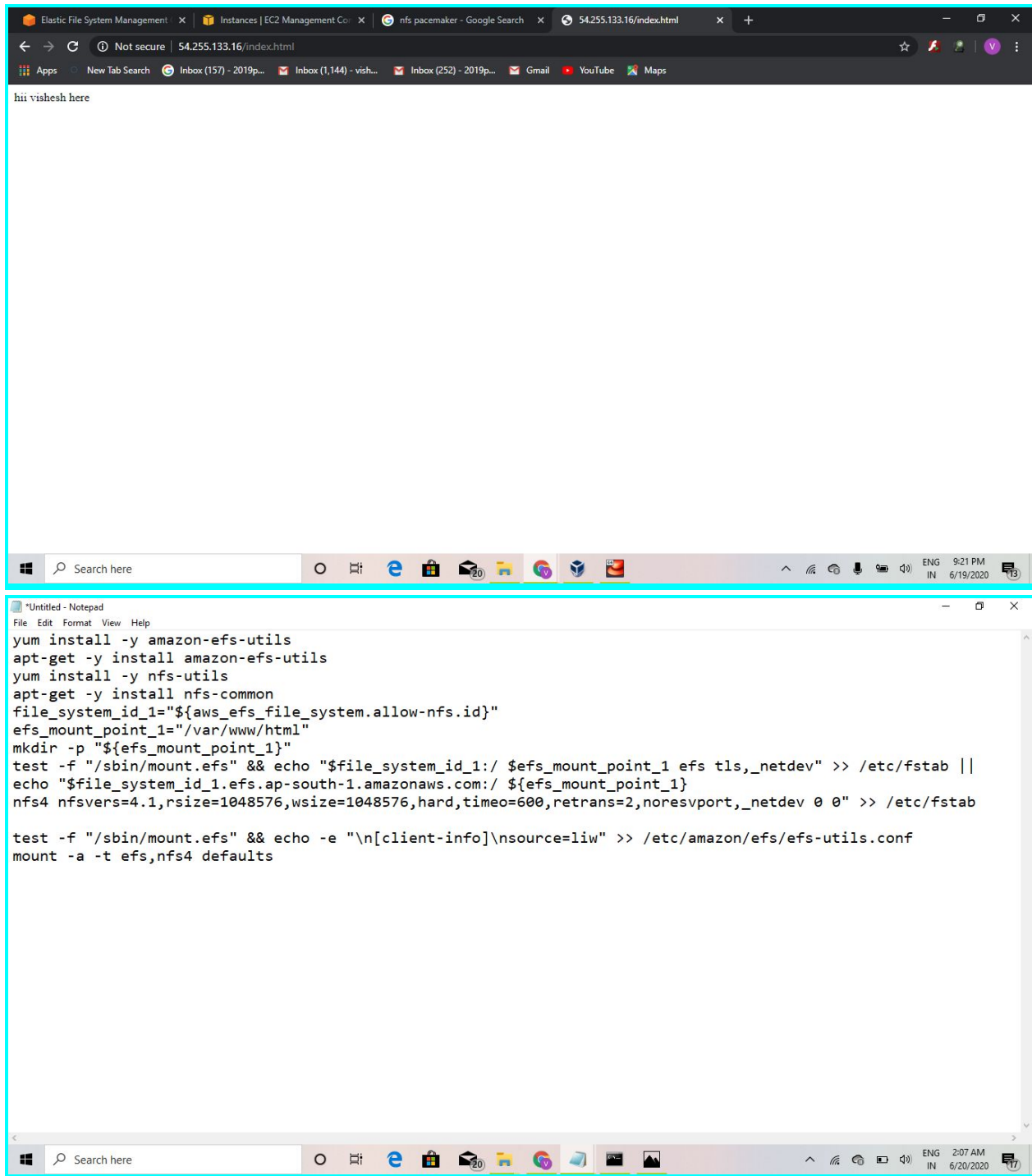
Improve your instances' security. Your security group, nfs-sg, is open to the world.
Your instances may be accessible from any IP address. We recommend that you update your security group rules to allow access from known IP addresses only.
You can also open additional ports in your security group to facilitate access to the application or service you're running, e.g., HTTP (80) for web servers. [Edit security groups](#)

AMI Details [Edit AMI](#)

amzn-ami-hvm-2018.03.0.20200514.0-x86_64-gp2 - ami-005956c5f0f757d37
Amazon Linux AMI 2018.03.0.20200514.0 x86_64 HVM gp2
Root Device Type: ebs Virtualization type: hvm

Instance Type [Edit instance type](#)

Instance Type	ECUs	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
t2.micro	Variable	1	1	EBS only	-	Low to Moderate



6. Copy the github repo code into /var/www/html

7. Create S3 bucket, and copy/deploy the images from github repo into the s3 bucket and change the permission to public readable.

8 Create a Cloudfront using s3 bucket(which contains images) and use the Cloudfront URL to update in code in /var/www/html

```
resource "aws_iam_role" "codepipeline_role" {  
  name = "task"
```

```
  assume_role_policy = <<EOF  
{  
  "Version": "2012-10-17",  
  "Statement": [  
    {  
      "Effect": "Allow",  
      "Principal": {  
        "Service": "codepipeline.amazonaws.com"  
      },  
      "Action": "sts:AssumeRole"  
    }  
  ]  
}  
EOF  
}
```

```
resource "aws_iam_role_policy" "codepipeline_policy" {  
  name = "codepipeline_policy"  
  role = "${aws_iam_role.codepipeline_role.id}"
```

```
  policy = <<EOF  
{  
  "Version": "2012-10-17",  
  "Statement": [  
    {  
      "Effect": "Allow",  
      "Action": [  
        "s3:GetObject",  
        "s3:GetObjectVersion",  
        "s3:GetBucketVersioning",  
        "s3:PutObject"  
      ],  
      "Resource": [  
        "${aws_s3_bucket.my-vishesh-bucket2.arn}",  
        "${aws_s3_bucket.my-vishesh-bucket2.arn}/*"
```

```

    ]
  },
  {
    "Effect": "Allow",
    "Action": [
      "codebuild:BatchGetBuilds",
      "codebuild:StartBuild"
    ],
    "Resource": "*"
  }
]
}
EOF
}

```

```

resource "aws_codepipeline" "codepipeline" {
  name     = "code-pipeline"
  role_arn = "${aws_iam_role.codepipeline_role.arn}"
}

```

```

  artifact_store {
    location = "${aws_s3_bucket.my-vishesh-bucket2.bucket}"
    type     = "S3"
  }
}

```

```

    stage {
      name = "Source"
    }
  }
}

```

```

    action {
      name      = "Source"
      category  = "Source"
      owner     = "ThirdParty"
      provider  = "GitHub"
      version   = "1"
      output_artifacts = ["SourceArtifacts"]
    }
  }
  configuration = {
    Owner = "visheshgargavi"
    Repo  = "hybrid-task1"
    Branch = "master"
  }
}

```

```
    OAuthToken = "*****"
  }
}
}

stage {
  name = "Deploy"

  action {
    name      = "Deploy"
    category  = "Deploy"
    owner     = "AWS"
    provider  = "S3"
    version   = "1"
    input_artifacts = ["SourceArtifacts"]
    configuration = {
      BucketName = "${aws_s3_bucket.my-vishesh-bucket2.bucket}"
      Extract    = "true"
    }
  }
}
}
```

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Address bar: ap-south-1.console.aws.amazon.com/codesuite/codepipeline/pipelines/github/view?region=ap-south-1

Navigation bar: AWS Services, Resource Groups, visheshgargavi, Mumbai, Support

Developer Tools CodePipeline

- Source • CodeCommit
- Artifacts • CodeArtifact
- Build • CodeBuild
- Deploy • CodeDeploy
- Pipeline • CodePipeline
 - Getting started
 - Pipelines
 - Pipeline
 - History
 - Settings
- Settings

Go to resource

Source Succeeded
Pipeline execution ID: 7e44da02-41ce-4db6-ae86-1ede84d12f28

Source
GitHub

Succeeded - Just now
83fa83c2

83fa83c2 Source: Add files via upload

Disable transition

Deploy Succeeded
Pipeline execution ID: 7e44da02-41ce-4db6-ae86-1ede84d12f28

Deploy
Amazon S3

Succeeded - Just now

83fa83c2 Source: Add files via upload

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Deploy Succeeded
Pipeline execution ID: 7e44da02-41ce-4db6-ae86-1ede84d12f28

Deploy
Amazon S3

Succeeded - Just now

83fa83c2 Source: Add files via upload

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Notifications | Link: Xtask1/Task1.html at ma: Xvisheshgargavi/hybrid- Xmulti hybrid cloud - Go: XEXTRA 4: - Google Doc: XIAM Management Con: X

console.aws.amazon.com/iam/home?region=ap-south-1#/home

AppsNew Tab SearchInbox (157) - 2019p...Inbox (1,144) - vish...Inbox (252) - 2019p...GmailYouTubeMaps

awsServicesResource Groups

visheshgargaviGlobalSupport

Identity and Access Management (IAM)

Dashboard

Access management

Groups

Users

Roles

Policies

Identity providers

Account settings

Access reports

Access analyzer

Archive rules

Analysts

Settings

Credential report

Welcome to Identity and Access Management

IAM users sign-in link:
<https://410914256776.signin.aws.amazon.com/console> | Customize

IAM Resources

Users: 1Roles: 4

Groups: 0Identity Providers: 0

Customer Managed Policies: 1

Security Status2 out of 5 complete.

✓

Delete your root access keys

▼

⚠

Activate MFA on your root account

▼

✓

Create individual IAM users

▼

⚠

Use groups to assign permissions

▼

⚠

Apply an IAM password policy

▼

Additional Information

[IAM best practices](#)

[IAM documentation](#)

[Web Identity Federation Playground](#)

[Policy Simulator](#)

[Videos, IAM release history and additional resources](#)

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ENG IN

10:22 PM

6/13/2020

Identity and Access Management (IAM)

Common Scenarios for Roles

Create role Delete role

Search Showing 4 results

Role name	Trusted entities	Last activity
<input type="checkbox"/> AWSCodePipelineServiceRole-ap-south-1-github	AWSCodePipelineServiceRole-ap-south-1-github	Today
<input type="checkbox"/> AWSServiceRoleForGlobalAccelerator	AWS service: globalaccelerator (Service-Link...	None
<input type="checkbox"/> AWSServiceRoleForSupport	AWS service: support (Service-Linked role)	None
<input type="checkbox"/> AWSServiceRoleForTrustedAdvisor	AWS service: trustedadvisor (Service-Linked ...)	None

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Identity and Access Management (IAM)

Roles > AWSCodePipelineServiceRole-ap-south-1-github

Summary Delete role

Role ARN iam:aws:iam::410914255776:role/service-role/AWSCodePipelineServiceRole-ap-south-1-github

Role description Edit

Instance Profile ARNs

Path /service-role/

Creation time 2020-06-10 04:28 UTC+0530

Last activity 2020-06-13 20:36 UTC+0530 (Today)

Maximum CLI/API session duration 1 hour Edit

Permissions Trust relationships Tags Access Advisor Revoke sessions

Permissions policies (1 policy applied)

Attach policies Add inline policy

Policy name	Policy type
AWSCodePipelineServiceRole-ap-south-1-github	Managed policy

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