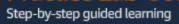
Practice Lab Goals



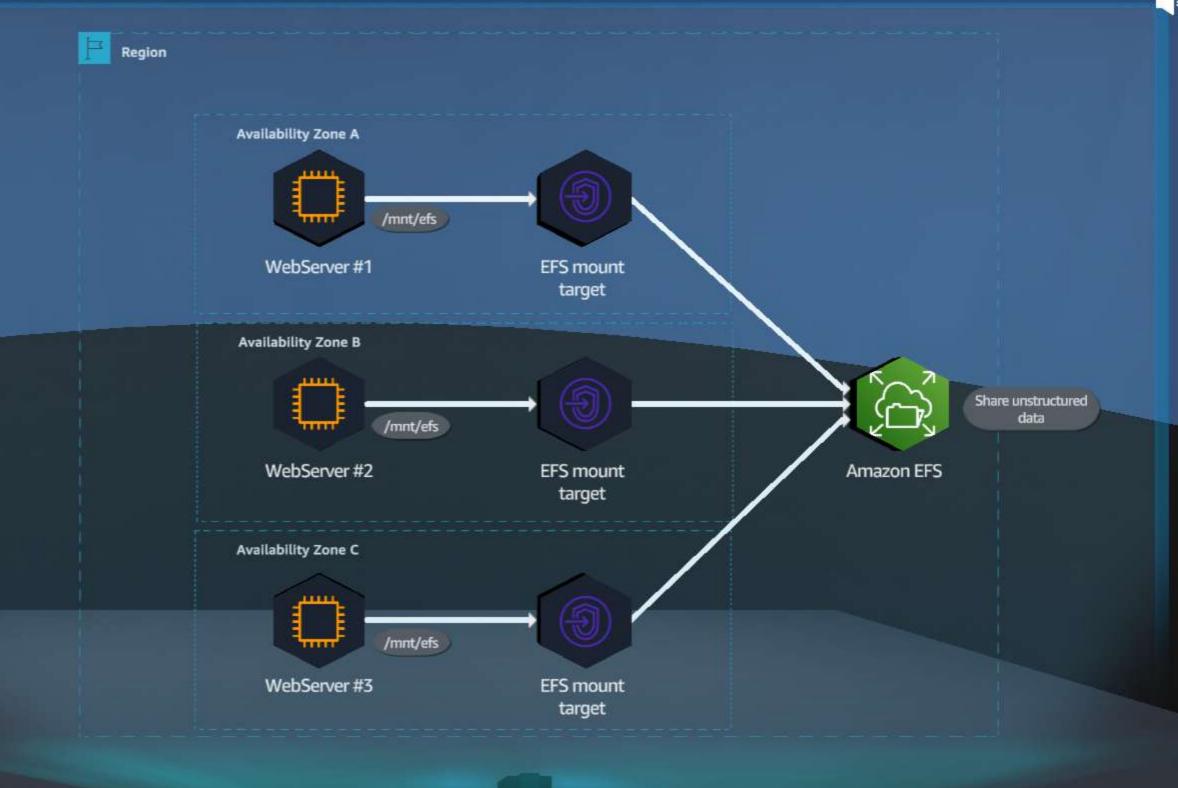
→ Launch and configure an Amazon EFS file system.

- → Mount the file system to an Amazon EC2 instance.
- Connect a second EC2 instance to the same file system.
- → Share files between the two EC2 instances.

DIY

Build on what you have learned.

- Mount an Amazon EFS endpoint to a third EC2 instance.
- → Test that the files are accessible from the EC2 instance.





3 Practice >>>

Steps

File Systems in the Cloud

Step 2

1. In the top navigation bar search box, type:

ec2

- 2. In the search results, under Services, click EC2.
- 3. Go to the next step.

Concept

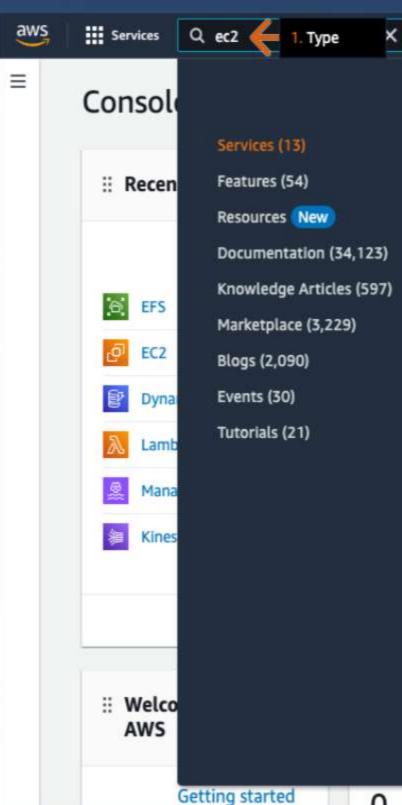
Amazon Elastic File System (Amazon EFS) provides a serverless, set-and-forget elastic file system that you can use to share file data without provisioning or managing storage.

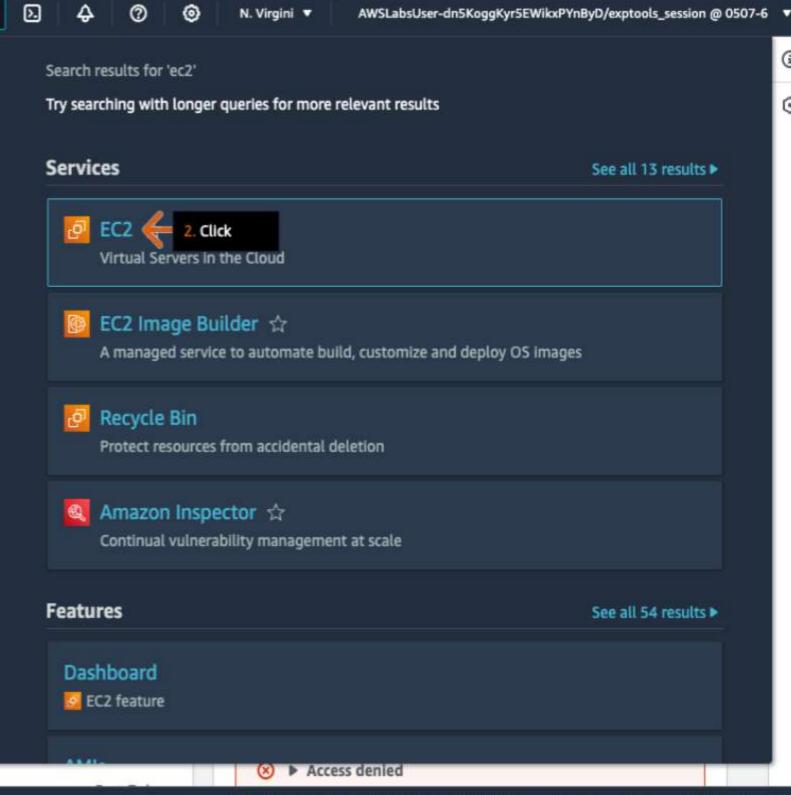












>. CloudShell

AA 2 Plan

(1)

X

2

EC2 Global view [2]

Dedicated Hosts

Security groups

Key pairs

0

In the Cloud Practitioner Edition, launching a lab for an assignment that has already been validated is disabled.

Lab Files

Steps

File Systems in the Cloud

Step 3

1. In the left navigation pane, click Instances.

2. Go to the next step.

Concept

Using Amazon EFS, you can grow and shrink your file systems automatically as you add and remove files, removing the need to provision and manage capacity to accommodate growth.

> Navigate steps: (click or use arrow keys)



EC2 Global View

Events

Console-to-Code New

▼ Instances

Instances Click

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts

Capacity Reservations New

▼ Images

AMIS

AMI Catalog

▼ Elastic Block Store

Volumes

Snapshots

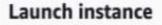
Lifecycle Manager



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

Volumes

Instances (running) **Auto Scaling Groups** Elastic IPs Instances Load balancers Placement groups



Snapshots

To get started, launch an Amazon EC2 instance, which is a virtual server in the cloud.



Migrate a server [2]

Schoduled events

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

Service health

AWS Health Dashboard [2]

US East (N. Virginia)

Zones

Region

Zone ID Zone name

us-east-1a

At 2 Plan

Privacy

use1-az4

Cookie preferences











Terms

Steps

File Systems in the Cloud

Step 4

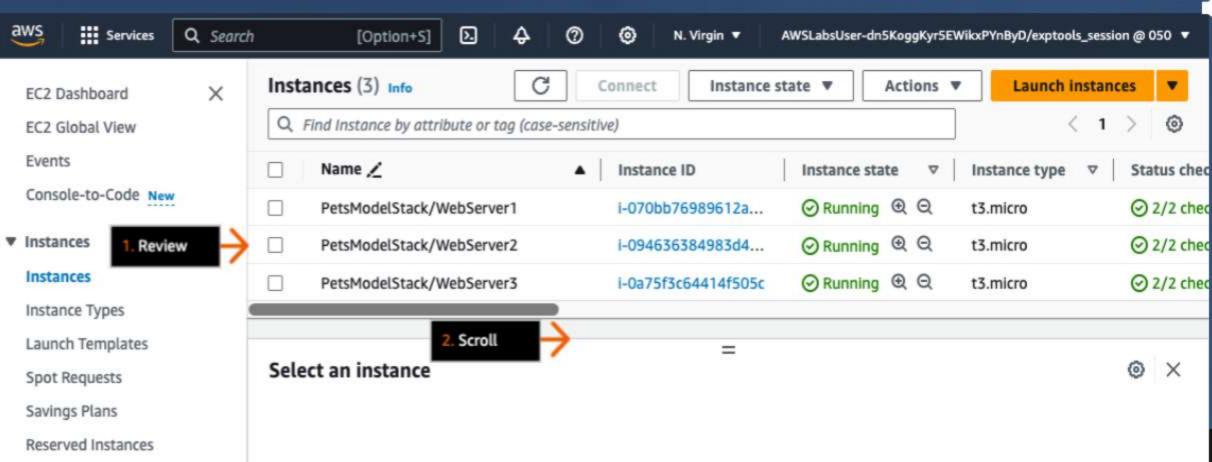
- 1. In the Instances section, review the names of the three existing instances.
- You can safely ignore the instance type if it differs from the example screenshot and any others in the lab.
- 2. To review all of the details, scroll to the right.
- 3. Go to the next step.

Concept

Amazon EFS creates a shared storage file system that is available concurrently to multiple instances in Amazon Flactic Compute Cloud (Amazon FC2)

Navigate steps: (click or use arrow keys)







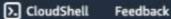












At 2 Plan

Steps

File Systems in the Cloud

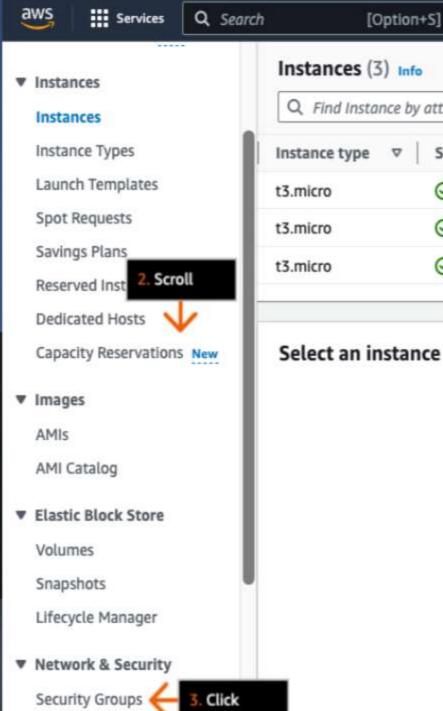
Step 5

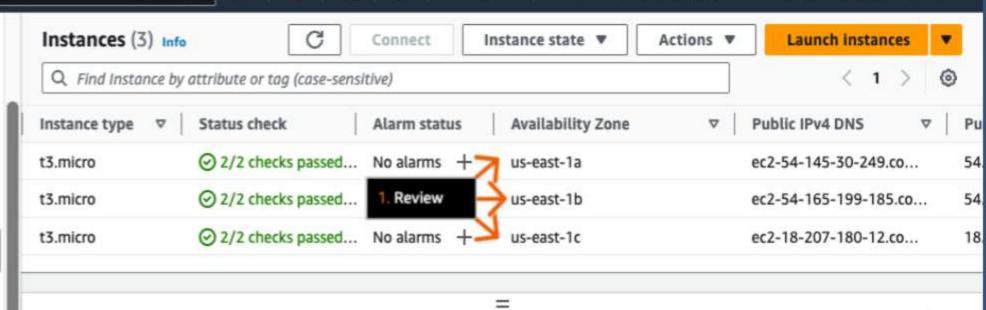
- 1. Under Availability Zone, review the Availability Zone for each instance.
- 2. In the left navigation pane, scroll down to Network & Security.
- 3. Click Security Groups.
- 4. Go to the next step.

Concept

After creating the EFS file system, you create mount targets on each subnet. The mount target enables communication from Amazon EC2 instances on the subnet. Amazon EFS uses the Network File System (NFSv4) protocol. EC2 instances that connect to the file system are NFS clients

Navigate steps: (click or use arrow keys)





N. Virgin ▼

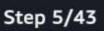
2

0

0

[Option+S]







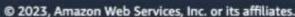






Elastic IPs

Placement Groups



AWSLabsUser-dn5KoggKyr5EWikxPYnByD/exptools_session @ 050 ▼

@ X

Steps

File Systems in the Cloud

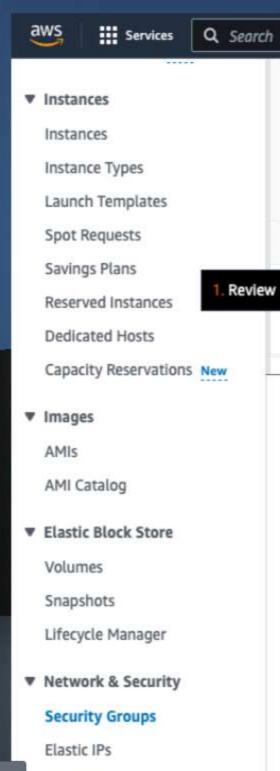
Step 6

- 1. In the Security Groups section, review the Web_Server_SG security group.
- The webserver security group is already linked to the web servers.
- 2. Click Create security group.
- 3. Go to the next step.

Concept

When you create an Amazon EFS mount target, you must attach a security group. The security group determines which EC2 instances can access the file system as NFS clients.

Navigate steps: (click or use arrow keys)



2

[Option+S]

Actions ▼

Q Find resources by attribute or tag

Web_Server_SG

Security Groups (3) Info

Name



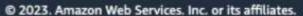








Placement Groups



N. Virgin ▼

Export security groups to CSV

Security group ID

sq-032441eaa0f7bb472

sg-0887ec3ee11b2d3fc

=



AWSLabsUser-dn5KoggKyr5EWikxPYnByD/exptools_session @ 050 ▼

Create security group

Click

webserver

default

Security group name

0

 ∇

Lab Files

Steps

File Systems in the Cloud

Step 7

1. For Security group name, type:

PetModels-EFS-1-SG

2. For Description, type:

Restrict access to web servers only.

- 3. For VPC, on the dropdown menu, choose PetModels.
- You might need to remove the existing VPC by clicking X.
- 4. In the Inbound rules section, click Add rule.
- 5. Go to the next step.

Navigate steps: (click or use arrow keys)

















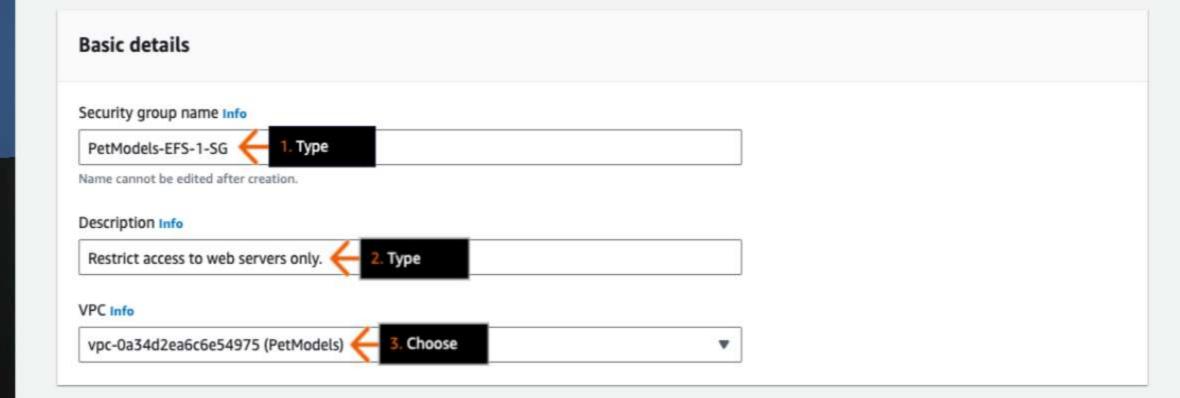
N. Virgin ▼

AWSLabsUser-dn5KoggKyr5EWikxPYnByD/exptools_session @ 050 ▼

Security Groups > Create security group

Create security group Info

A security group acts as a virtual firewall for your instance to control inbound and outbound traffic. To create a new security group, complete the fields below.



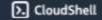
Inbound rules info



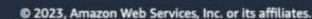












AA 2 Plan



Lab Files

Steps

File Systems in the Cloud

Step 8

- 1. To configure the new rule, for Type, choose NFS.
- 2. Under Source, click the search field.
- 3. In the dropdown menu, choose the webserver security group.
- 4. Go to the next step.

Concept

EFS file systems require an inbound NFS rule. By selecting a security group as the incoming source, any EC2 instances linked to the security group you select will have NFS client access to the file system.

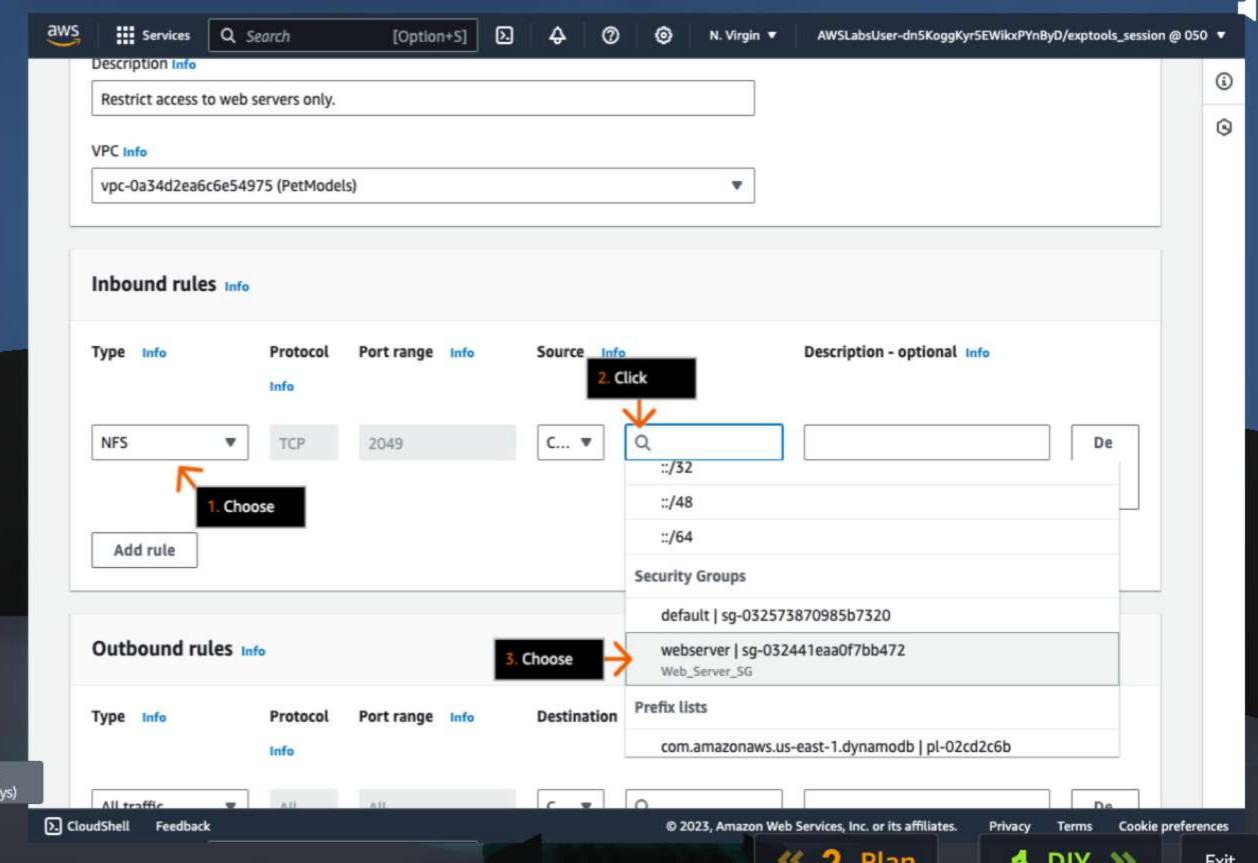
> Navigate steps: (click or use arrow keys)









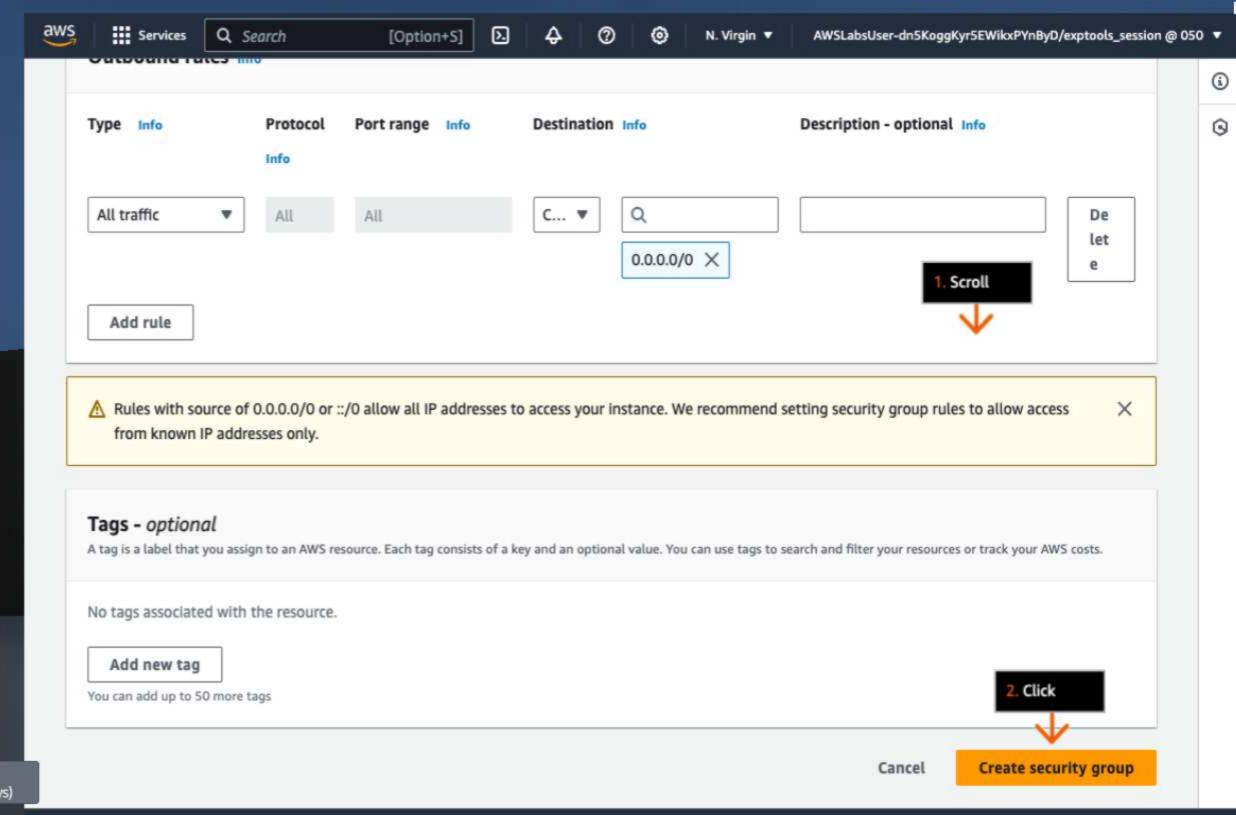


Steps

File Systems in the Cloud

Step 9

- 1. Scroll down to the bottom of the page.
- 2. Click Create security group.
- 3. Go to the next step.



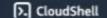
Navigate steps: (click or use arrow keys)

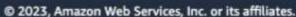












Lab Files

Steps

File Systems in the Cloud

Step 10

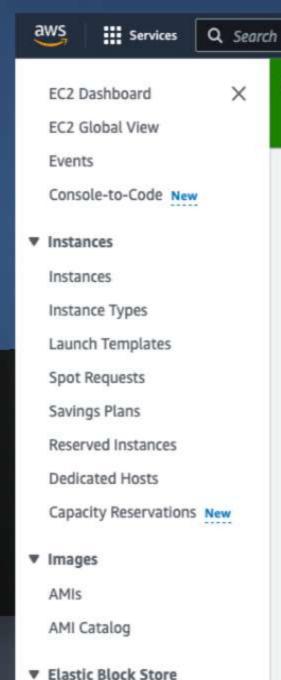
1. Under Security group name, review the name.

2. Go to the next step.

Concept

After the Amazon EFS security group is created, you are prepared to create the file system.

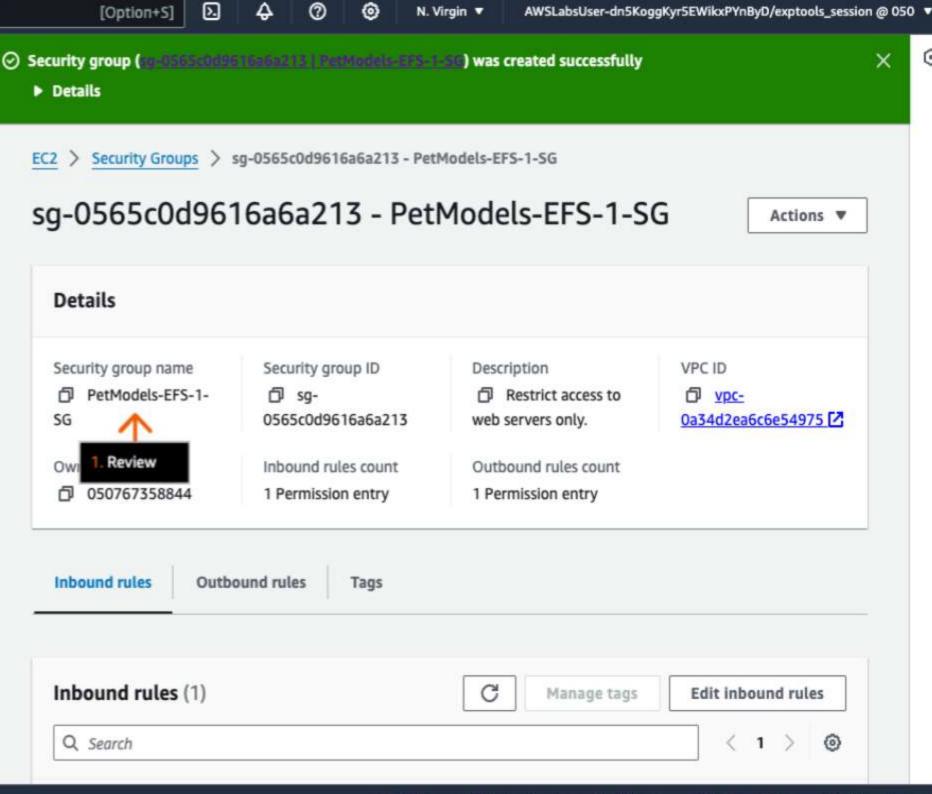
> Navigate steps: (click or use arrow keys)



Volumes

Snapshots

Lifecycle Manager



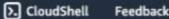














AA 2 Plan

Lab Files

Steps

File Systems in the Cloud

Step 11

1. In the top navigation bar search box, type:

efs

2. In the search results, under Services, click EFS.

3. Go to the next step.

Concept

Amazon EFS is built to scale on demand, up to petabytes of storage capacity, without disrupting applications.

> Navigate steps: (click or use arrow keys)

EC2 Dashboard

EC2 Global View

Events

Console-to-Code New

▼ Instances

Instances

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts

Capacity Reservations

▼ Images

AMIS

AMI Catalog

▼ Elastic Block Store

Volumes

Snapshots

Lifecycle Manager

Services (18)

Features (20)

Resources New

Documentation (9,679)

Knowledge Articles (356)

Marketplace (103)

Blogs (1,378)

Events (21)

Tutorials (12)

Search results for 'efs'

Try searching with longer queries for more relevant results

Services

See all 18 results ▶

0

2. Click

Managed File Storage for EC2



DataSync 🏠

DataSync simplifies, automates, and accelerates moving data



AWS Transfer Family 🏠

Fully managed support for SFTP, FTPS, FTP, and AS2



MediaStore 🌣

Store and deliver video assets for live or on-demand media workflows

Features

See all 20 results ▶

Access points

EFS feature



AA 2 Plan

Lab Files

Steps

File Systems in the Cloud

Step 12

1. On the Amazon EFS console home page, click Create file system.

2. Go to the next step.

Concept

To create Amazon EFS resources, such as a file system and access points, a user must have AWS Identity and Access Management (IAM) permissions for the corresponding API action and resource.

> Navigate steps: (click or use arrow keys)

Elastic File System

File systems

Access points

AWS Backup [2]

AWS DataSync [2]

AWS Transfer [2]

Documentation [2]

Amazon Elastic File System

Scalable, elastic, cloud-native NFS file system

Amazon Elastic File System (Amazon EFS) provides a simple, scalable, elastic file system for general purpose workloads for use with AWS Cloud services and on-premises resources.

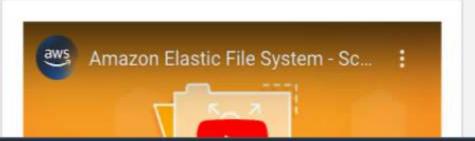
Create file system

Create an EFS file system with recommended settings.

Create file system



What is Amazon Elastic File System?



Pricing

With EFS, there are no minimum fees. You pay only for the storage that you use, the data that you read and write, and any additional throughput that you provision.

Estimate your cost using the AWS Pricing Calculator [2]

















At 2 Dlan

Steps

File Systems in the Cloud

Step 13

1. In the pop-up box, for Name, type:

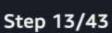
PetModels-EFS-1

- 2. For VPC, choose the PetModels VPC.
- 3. Click Customize.
- 4. Go to the next step.

Concept

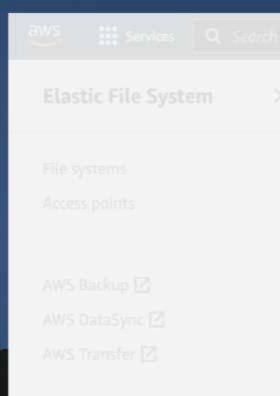
You can choose to use Standard or One Zone storage classes in Amazon EFS. Standard stores data within and across multiple Availability Zones (AZs). One Zone stores data redundantly within a single AZ, at a lower price than Standard for Navigate steps: workloads that don't require n (click or use arrow keys)

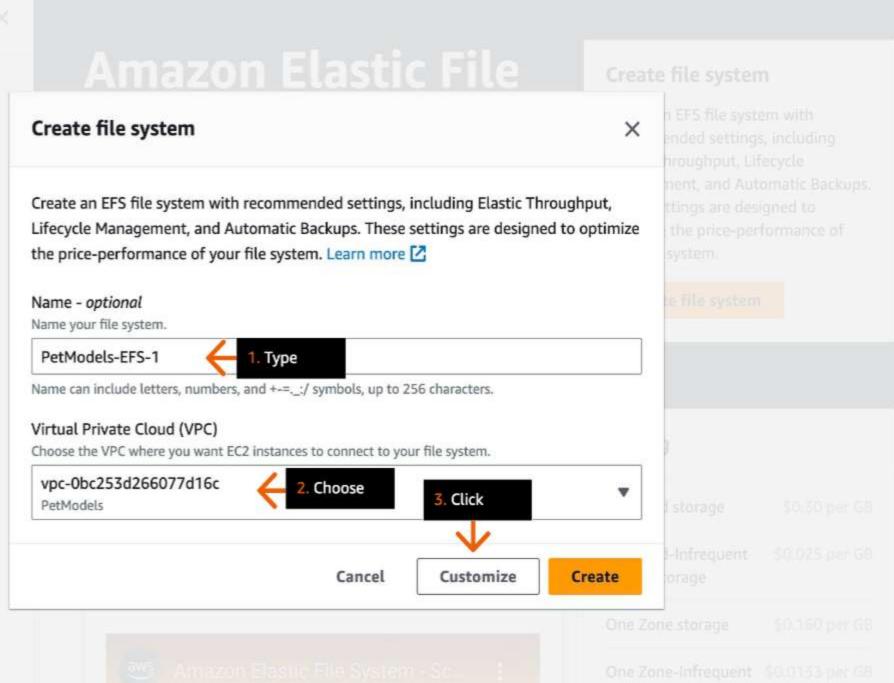












A DIV

Steps

File Systems in the Cloud

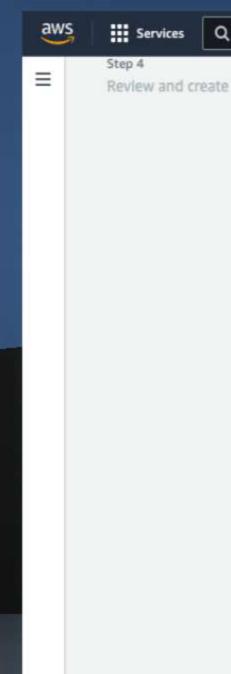
Step 14

- 1. Under Automatic backups, clear the check box to deselect Enable automatic backups.
- 2. Under Lifecycle management, for Transition into Infrequent Access (IA), choose None.
- 3. For Transition into Archive, choose None.
- 4. Scroll down to the Performance settings section.
- 5. Go to the next step.

Concept

You can disable automatic backups and lifecycle management to reduce costs until you are in production.

> Navigate steps: (click or use arrow keys)



File system type

[Option+S]

Q Search

2

Choose to either store data across multiple Availability Zones or within a single Availability Zone. Learn more

N. Virgin ▼



Offers the highest levels of availability and durability by storing file system data across multiple Availability Zones within an AWS Region.

One Zone

Provides continuous availability to data within a single Availability Zone within an AWS Region.

AWSLabsUser-dn5KoggKyr5EWikxPYnByD/exptools_session @ 050 ▼

Automatic backups

Automatically backup your file system data with AWS Backup using recommended settings. Additional pricing applies. Learn more

Enable automatic backups Clear



Me recommend that you create a backup policy for your file system.

Lifecycle management

Transition into Standard

Automatically save money as access patterns change by moving files into the Infrequent Access (IA) or Archive storage class. Learn more

w

Transition into Infrequent Access (IA)

Transition files to IA based on the time since they were last accessed in Standard storage.

Transition files back to Standard storage based on when

they are first accessed in IA or Archive storage.

Transition into Archive-new

Transition files to Archive based on the time since they were last accessed in Standard storage.

None



. Choose

Scroll

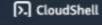






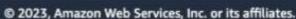














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None

None

Choose

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Services











N. Virgin ▼

In the Cloud Practitioner Edition, launching a lab for an assignment that has already been validated is disabled.

Lab Files

Steps

File Systems in the Cloud

Step 15

1. In the Performance settings section, for Throughput mode, choose the radio button to select Bursting.

- 2. Click Next.
- 3. Go to the next step.

Encryption

Choose to enable encryption of your file system's data at rest. Uses the AWS KMS service key (aws/elasticfilesystem) by default. Learn more [2]

- Enable encryption of data at rest
- Customize encryption settings

Performance settings

Provides more flexible

higher throughput levels for

workloads with a range of

performance requirements.

Throughput mode

Choose a method for your file system's throughput limits. Learn more

Enhanced

Choose

Bursting

Provides throughput that scales with the amount of storage for workloads with basic performance requirements.

▶ Additional settings

▶ Tags optional

. Click

Cancel

Next

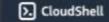
Navigate steps: (click or use arrow keys)











At 2 Plan

Steps

File Systems in the Cloud

Step 16

- 1. To remove the subnet, under Mount targets, for AZ us-east-1c, click Remove.
- 2. For AZ us-east-1b, click Remove.
- 3. To remove the security group, for AZ useast-1a, under Security groups, click the X in the existing security group.
- 4. Go to the next step.

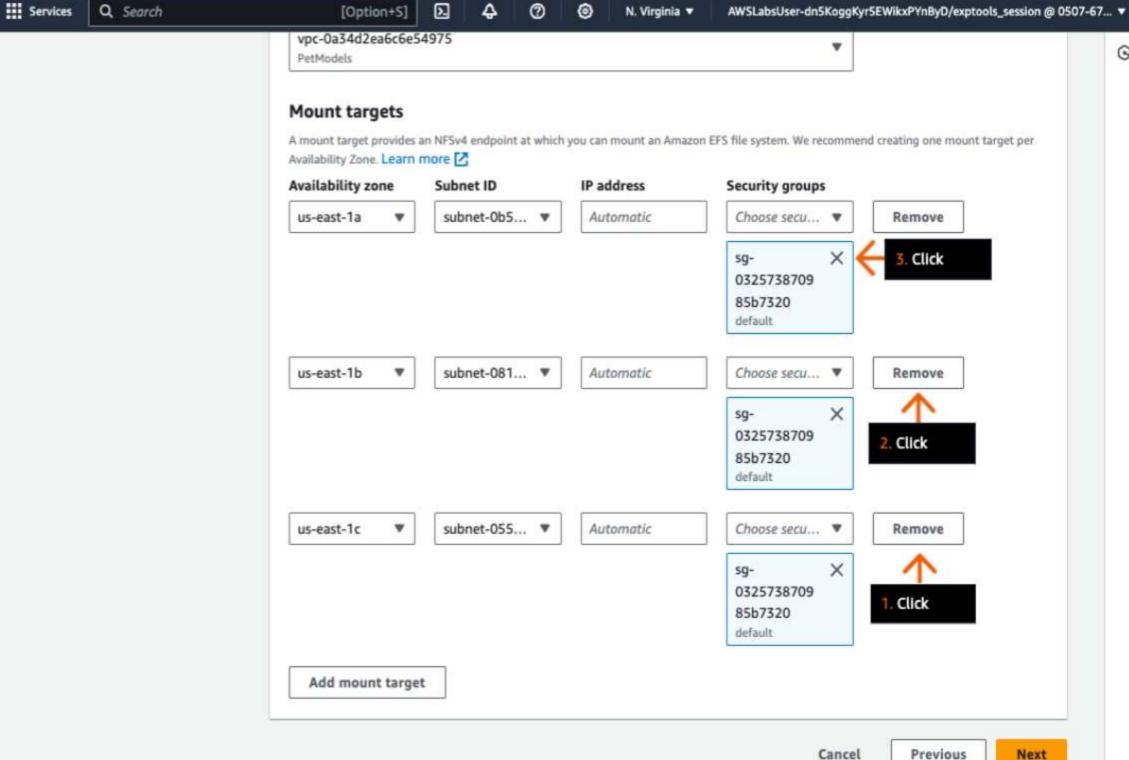
Concept

For simplicity during testing, you can start with a single mount target in a single Availability Zone.

Step 16/43

Navigate steps: (click or use arrow keys)





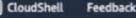


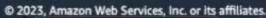












A DIV W

Step 1

Step 2

Step 4

File system settings

Network access

Step 3 - optional

File system policy

Review and create

≡

Network access

Network

Me recommend enabling the EFS service-linked role using AWS IAM. Service-linked roles allow you to easily delegate permissions to AWS services and gain additional transparency into when they are used on your behalf, Learn more

Virtual Private Cloud (VPC) Learn more [2] Choose the VPC where you want EC2 instances to connect to your file system.

vpc-0a34d2ea6c6e54975 PetModels

Mount targets

A mount target provides an NFSv4 endpoint at which you can mount an Amazon EFS file system. We recommend creating one mount target per Availability Zone. Learn more [2]



Cancel

w

Previous

Next

In the Cloud Practitioner Edition, launching a lab for an assignment that has already been validated is disabled.

Lab Files

Steps

File Systems in the Cloud

Step 17

1. For AZ us-east-1a, under Security group, choose the PetModels-EFS-1-SG security group.

- 2. Click Next.
- 3. Go to the next step.

Concept

By attaching your custom security group to the mount target, you control where the source of incoming traffic to the file system can originate.

> Navigate steps: (click or use arrow keys)

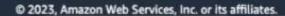












AA 2 Plan

DIV M

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Step 2

Step 4

Network access

Step 3 - optional

File system policy

Review and create

In the Cloud Practitioner Edition, launching a lab for an assignment that has already been validated is disabled.

Lab Files

Steps

File Systems in the Cloud

Step 18

- 1. In the File system policy step, click Next.
- 2. Go to the next step.

File system policy - optional Step 1 File system settings

Policy options

2

Select one or more of these common policy options, or create a custom policy using the editor. Learn more [2]

- Prevent root access by default*
- Enforce read-only access by default*
- Prevent anonymous access
- Enforce in-transit encryption for all clients
- * Identity-based policies can override these default permissions.
- Grant additional permissions

Policy editor {JSON}

Clear

0

Manual changes will prevent the use of the polioptions on the left until the editor is cleared.

Cancel

Previous

Next

Click

Navigate steps: (click or use arrow keys)







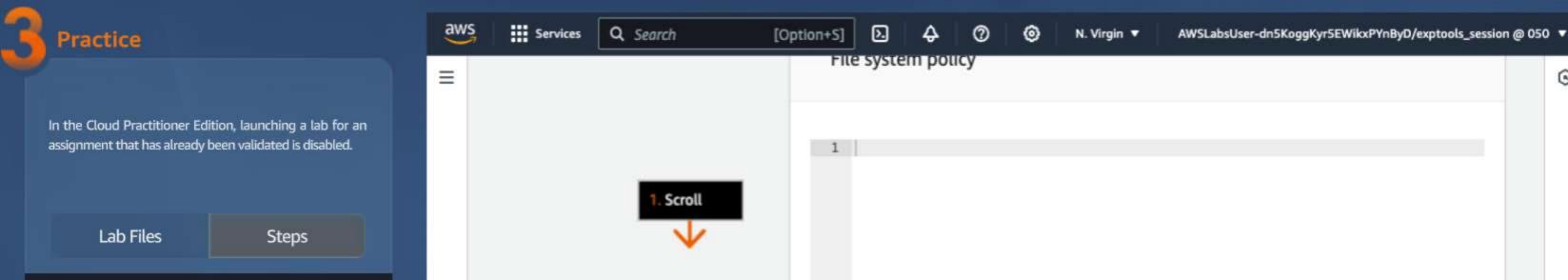






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File Systems in the Cloud

Step 19

- 1. In the Review and create step, scroll down to the bottom of the page.
- 2. Click Create.
- 3. Go to the next step.

Previous Cancel Feedback © 2023, Amazon Web Services, Inc. or its affiliates.

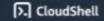








Navigate steps: (click or use arrow keys)



0

2. Click

Create

Lab Files

Steps

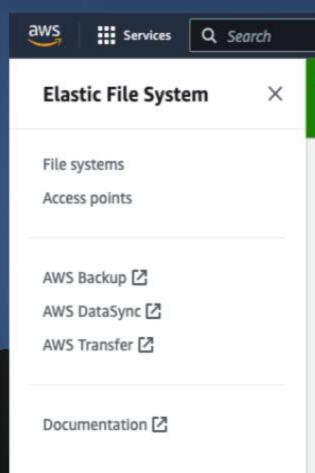
File Systems in the Cloud

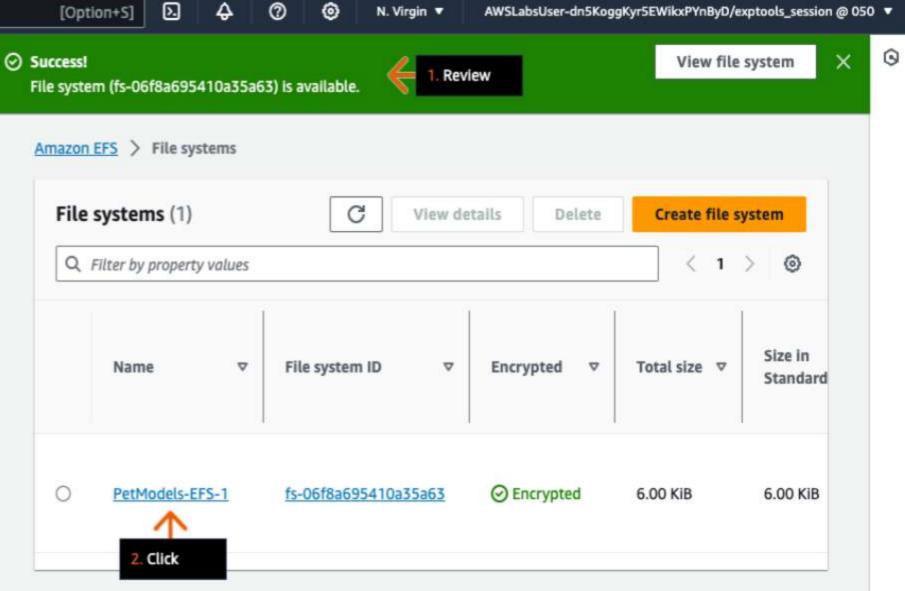
Step 20

- 1. In the success alert, review the message.
- 2. In the File systems section, under Name, click PetModels-EFS-1.
- 3. Go to the next step.

Concept

After the new file system is available, you can use automatically created commands to mount the file system.





Navigate steps: (click or use arrow keys)







