

Module 10 – Hands-On: Creating a Lustre File System and Mounting it

Step 1: Launch an Amazon Linux 2 instance with a custom TCP rule of port 988 open

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks
fsxlustre-demo-instance	i-0ff5f5e470b7855e0	t2.micro	us-east-1d	running	2/2 checks successful

Private DNS	ip-172-31-42-116.ec2.internal	Availability zone	us-east-1d
Private IPs	172.31.42.116	Security groups	launch-wizard-37. view inbound rules . view outbound rules
Secondary private IPs			
VPC ID	vpc-8a0c6cf0 (Default VPC)		
Subnet ID	subnet-91a1f0cd		
Network interfaces	eth0		
IAM role	-	Source/dest. check	True
Key pair name	yobro	T2/T3 Unlimited	Disabled

Security Groups associated with i-0ff5f5e470b7855e0

Ports	Protocol	Source	launch-wizard-37
988	tcp	0.0.0.0/0, ::/0	✓
22	tcp	0.0.0.0/0	✓

Step 2: Click on Create File System to start the process

FSx > File systems

File systems (0) Refresh Attach Actions Create file system

Filter file systems

File system name	File system ID	File system type	Status	Deployment Type	Storage capacity	Storage type	Creation time
Empty file systems							
You don't have any file systems.							
Create file system							

Step 3: Then choose FSx for Lustre, then go down and click Next button

Select file system type

File system options

☐ Amazon FSx for Windows File Server

FSx
Amazon FSx
for Windows File Server

☒ Amazon FSx for Lustre

FSx
Amazon FSx
for Lustre

Step 4: Then put in the details to create a File system

File system details

File system name - optional [Info](#)

hands-on-lustre

Maximum of 256 Unicode letters, whitespace, and numbers, plus + - = . _ : /

Deployment type [Info](#)

Choose persistent for longer-term storage, scratch for temporary storage and shorter-term data processing

☒ Persistent

☐ Scratch

Storage capacity [Info](#)

1.2 TiB

Supported sizes: 1.2 TiB or increments of 2.4 TiB

Throughput per unit of storage [Info](#)

Throughput (MB/s) per unit of storage (TiB)

☒ 50 MB/s/TiB (up to 1.3 GB/s/TiB burst)

☐ 100 MB/s/TiB (up to 1.3 GB/s/TiB burst)

☐ 200 MB/s/TiB (up to 1.3 GB/s/TiB burst)

Step 5: Under Network & Security, the VPC security group should be the same group as your EC2 instance you created in Step 1. The security group should allow inbound traffic from TCP port 988. After that go down and click Create File System.

Network & security

Virtual Private Cloud (VPC) [Info](#)

Specify the VPC from which your file system is accessible.

Default VPC | vpc-8a0c6cf0

VPC Security Groups [Info](#)

Specify VPC Security Groups to associate with your file system's network interface.

Choose VPC security group(s)


sg-067469a153c2a5c7c (launch-wizard-37) X

The VPC Security Groups associated with your file system's network interfaces must allow inbound Lustre traffic (TCP port 988).


Subnet [Info](#)




Specify the subnet in which your file system's network interface resides.

subnet-6cb7e442 (us-east-1b)

 'fs-0ace00aa28b31f97e' is now available [View file system](#) X

[FSx](#) > [File systems](#)

File systems (1)  [Attach](#) [Actions](#) [Create file system](#)

	File system name	File system ID	File system type	Status	Deployment Type	Storage capacity	Storage type	
	hands-on-lustre	fs-0ace00aa28b31f97e 	Lustre	 Available	Persistent	1,200 GiB	SSD	20 20

Step 6: Now install a Lustre client in your Linux EC2 instance using these commands.

To install `--sudo amazon-linux-extras install -y lustre2.10`

```

ec2-user@ip-172-31-42-119:~
[ec2-user@ip-172-31-42-119 ~]$ sudo amazon-linux-extras install -y lustre2.10
Installing lustre-client
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Cleaning repos: amzn2-core amzn2extra-docker amzn2extra-lustre2.10
12 metadata files removed
4 sqlite files removed
0 metadata files removed
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core | 2.4 kB 00:00
amzn2extra-docker | 1.8 kB 00:00
amzn2extra-lustre2.10 | 1.7 kB 00:00
(1/7): amzn2-core/2/x86_64/group_gz | 2.5 kB 00:00
(2/7): amzn2-core/2/x86_64/updateinfo | 199 kB 00:00
(3/7): amzn2extra-lustre2.10/2/x86_64/primary_db | 4.7 kB 00:00
(4/7): amzn2extra-docker/2/x86_64/updateinfo | 69 B 00:00
(5/7): amzn2extra-docker/2/x86_64/primary_db | 64 kB 00:00
(6/7): amzn2extra-lustre2.10/2/x86_64/updateinfo | 69 B 00:00
(7/7): amzn2-core/2/x86_64/primary_db | 39 MB 00:00
Resolving Dependencies
--> Running transaction check
--> Package lustre-client.x86_64 0:2.10.8-1.amzn2 will be installed
--> Finished Dependency Resolution

Dependencies Resolved
  
```

Step 7: Now go to the FSx console, choose the file system and click Attach button to check out the steps

FSx > File systems

File systems (1) Refresh Attach Actions Create file system

Filter file systems



	File system name	File system ID	File system type	Status	Deployment Type	Storage capacity	Storage type	
	hands-on-lustre	fs-0f5447ad43cdf5b75	Lustre	Available	Persistent	1,200 GiB	SSD	20 30

Step 8: Use the commands provided in the Attach file system

Attach file system
✕

VMware Cloud on AWS)

▼ Prerequisites

1. Create or select your Linux EC2 instance in the same AWS VPC as your file system.
2. Open an SSH client and connect to your EC2 instance. ([Find out how to connect.](#) )
3. [Install the open-source Lustre client](#) , which is supported on most Linux distributions.

▼ Attach instruction

1. Open a terminal
2. Create a new directory on your EC2 instance, for example `/fsx`

```
o sudo mkdir /fsx
```
3. sudo mount -t lustre -o noatime,flock fs-0f5447ad43cdf5b75.fsx.us-east-1.amazonaws.com@tcp:/dokgxbmv /fsx

From Amazon Elastic Kubernetes Service (EKS) use the Amazon FSx for Lustre CSI Driver

Close

Step 9: Use the commands provided in the Attach file system

```
ec2-user@ip-172-31-42-119:~
[ec2-user@ip-172-31-42-119 ~]$ sudo mkdir fsx
[ec2-user@ip-172-31-42-119 ~]$ ls
fsx
[ec2-user@ip-172-31-42-119 ~]$
```

```
[ec2-user@ip-172-31-42-119 fsx]$ sudo mount -t lustre -o noatime,flock fs-0f5447ad43cdf5b75.fsx.us-east-1.amazonaws.com@tcp:/dokgxbmv /fsx
[ec2-user@ip-172-31-42-119 fsx]$ df -T
```

Filesystem	Type	1K-blocks	Used	Available	Use%	Mounted on
devtmpfs	devtmpfs	485468	0	485468	0%	/dev
tmpfs	tmpfs	503480	0	503480	0%	/dev/shm
tmpfs	tmpfs	503480	468	503012	1%	/run
tmpfs	tmpfs	503480	0	503480	0%	/sys/fs/cgroup
/dev/xvda1	xfs	8376300	1308336	7067964	16%	/
tmpfs	tmpfs	100700	0	100700	0%	/run/user/1000
172.31.50.204@tcp:/dokgxbmv	lustre	1168351232	4608	1168344576	1%	/fsx

Step 10: We have successfully mounted the Lustre file system. Now, unmount the file system and delete it.

```
[ec2-user@ip-172-31-42-119 fsx]$ sudo umount /fsx
[ec2-user@ip-172-31-42-119 fsx]$ df -T
```

Filesystem	Type	1K-blocks	Used	Available	Use%	Mounted on
devtmpfs	devtmpfs	485468	0	485468	0%	/dev
tmpfs	tmpfs	503480	0	503480	0%	/dev/shm
tmpfs	tmpfs	503480	468	503012	1%	/run
tmpfs	tmpfs	503480	0	503480	0%	/sys/fs/cgroup
/dev/xvda1	xfs	8376300	1308548	7067752	16%	/
tmpfs	tmpfs	100700	0	100700	0%	/run/user/1000