AWS-Elastic FILE SYSTEMS

Amazon Elastic File System (Amazon EFS)

EFS provides simple, scalable, elastic file storage for use with AWS cloud services and on-premises resources. Amazon EFS is built to elastically scale on demand without disrupting applications, growing and shrinking automatically as you add and remove files, so your applications have the storage they need, when they need it.

Amazon EFS is a regional service designed for high availability and durability supporting a broad spectrum of use cases, including web serving and content management, enterprise applications, media and entertainment processing workflows, home directories, database backups, developer tools, container storage, and big data analytics workloads.

How it works:

When mounted on amazon EC2 instances, an amazon EFS file system provides a standard file system interface and file system access semantics, allowing you to seamlessly integrate amazon EFS with your existing applications and tools. Multiple amazon EC2 instances can access an amazon EFS file system at the same time, allowing amazon EFS to provide a common data source for workloads and applications running on more than one amazon EC2 instance.

You can mount your amazon EFS file systems on your on-premises datacenter servers when connected to your amazon VPC with AWS direct connect. You can mount your EFS file systems on on-premises servers to migrate data sets to EFS, enable cloud bursting scenarios, or backup your on-premises data to EFS.

Benefits:

- SIMPLE
- SHARED FILE STORAGE
- SEAMLESS INTEGRATION
- AUTOMATICALLY SCALES
- SCALEABLE PERFORMANCE
- LOW COST
- HIGHLY AVAILABLE AND DURABLE
- OPTIMIZED TRANSFERS
- SECURE

Use cases:

- **Enterprise applications:** Amazon EFS provides the scalability, elasticity, availability, and durability to be the file store for enterprise applications and for applications delivered as a service. Its standard file system interface and file system semantics make it easy to migrate enterprise applications to the AWS cloud or to build new ones.
- **Media & entertainment workflows:** Media workflows like video editing, studio production, broadcast processing, sound design, and rendering often depend on shared storage to manipulate large files. Strong data consistency model with high throughput and shared file access can cut the time it takes to perform these jobs and consolidate multiple local file repositories into a single location for all users.
- **Analytics:** Amazon EFS provides the scale and performance required for big data applications that require high throughput to compute nodes coupled with read-after-write consistency and low-latency file operations. Many analytics workloads interact with data via a file interface, rely on file semantics such as file locks, and require the ability to write to portions of a file. Amazon EFS supports the needed file systems semantics and can scale capacity as well as performance.

Use cases:

- **Home directories:** Amazon efs can provide storage for organizations that have many users that need to access and share common data sets. An administrator can use amazon EFS to create a file system accessible to individuals across an organization and establish permissions for users and groups at the file or directory level.
- **Content management & web serving:**Amazon efs can be used as a durable, high throughput file system for content management systems and web serving applications that store and serve information for a range of applications like web sites, online publications, and archives. Since amazon efs adheres to the expected file system semantics, file naming conventions, and permissions that web developers are accustomed to, it can easily integrate with web applications and can be used for a range of applications like web sites, online publications, and archives.

Use cases:

- **Software development tools:**Amazon efs enables your organization to be more agile and responsive to customer needs. Provision, duplicate, scale, or archive your development, test, and production environments with a few clicks. With the ability to share code and other files in an organized way, shared cloud file storage with efs provides an organized and secure repository that is easily accessible within their cloud development environments. Amazon efs delivers a scalable and highly available solution that is ideal for testing and development workloads.
- **Database backups :** Amazon efs presents a standard file system that can be easily mounted from database servers. They can be an ideal platform to create portable database backups using native application tools or enterprise backup applications. Many businesses want to take advantage of the flexibility of storing database backups in the cloud either for temporary protection during updates or for development and test.

Use cases:

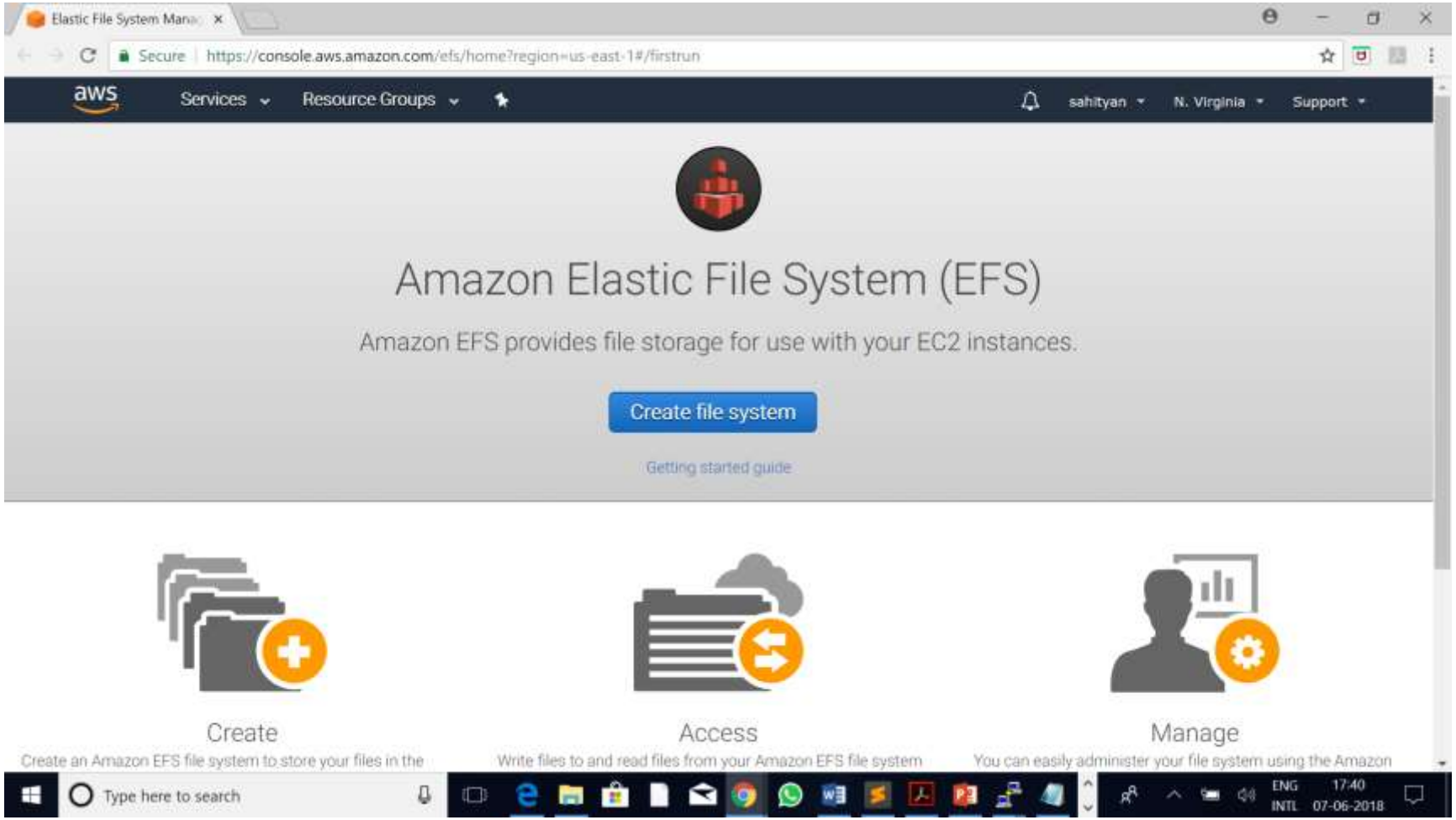
- **Container storage:** Containers are ideal for building microservices because they're quick to provision, easily portable, and provide process isolation. Containers that need access to the original data each time they start, require a shared file system that they can connect to regardless of which instance they're running on. Amazon efs provides persistent shared access to file data, which is ideal for container storage

LAB:

1. Create EC2 INSTANCES
2. Download , Install & Config httpd webserver
3. Create Load Balancer and attach to the EC2 instances
4. Code a index.html and deploy
5. Go to browse & check the website status
6. Create EFS & Mount on EC2 instance & Create index.html on document root(/var/www/html)

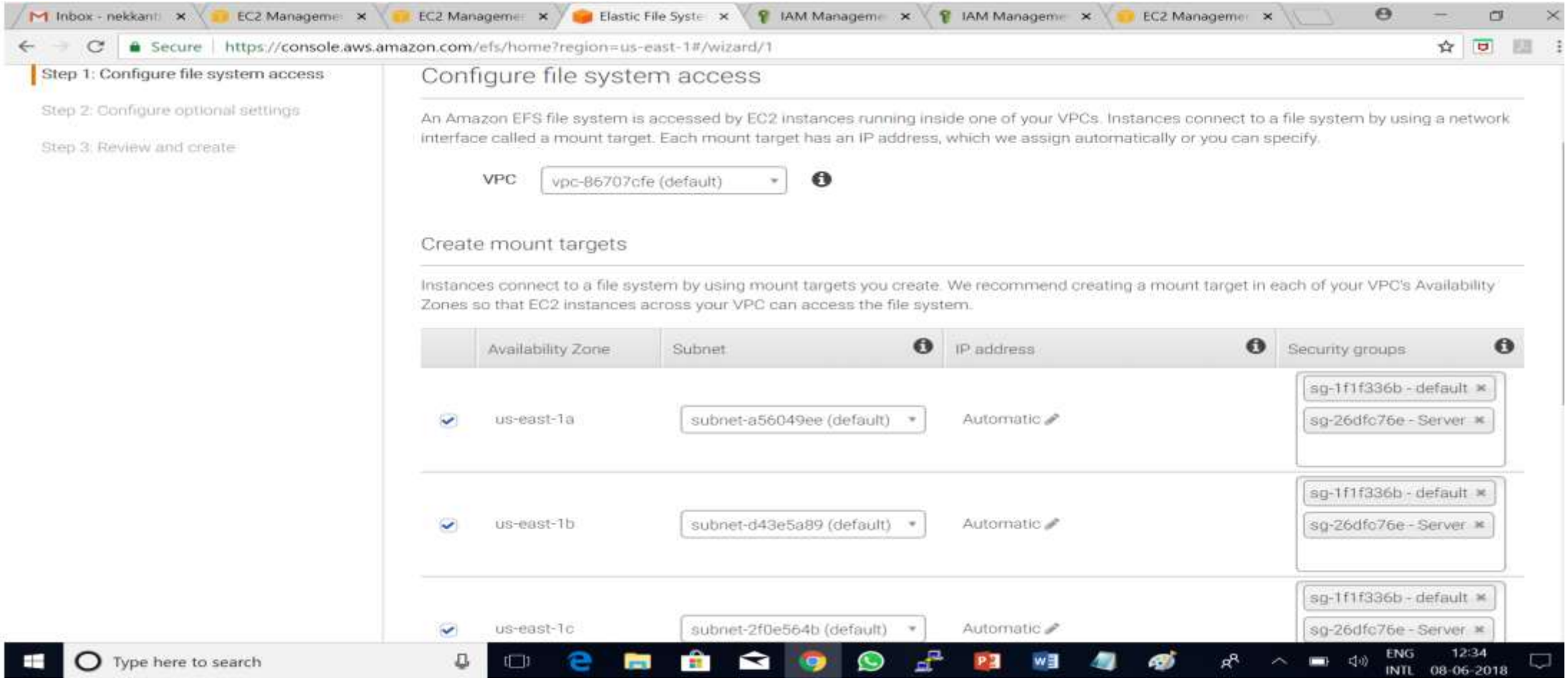
Creating Elastic File Systems

Step 1: Services-→Storage → EFS



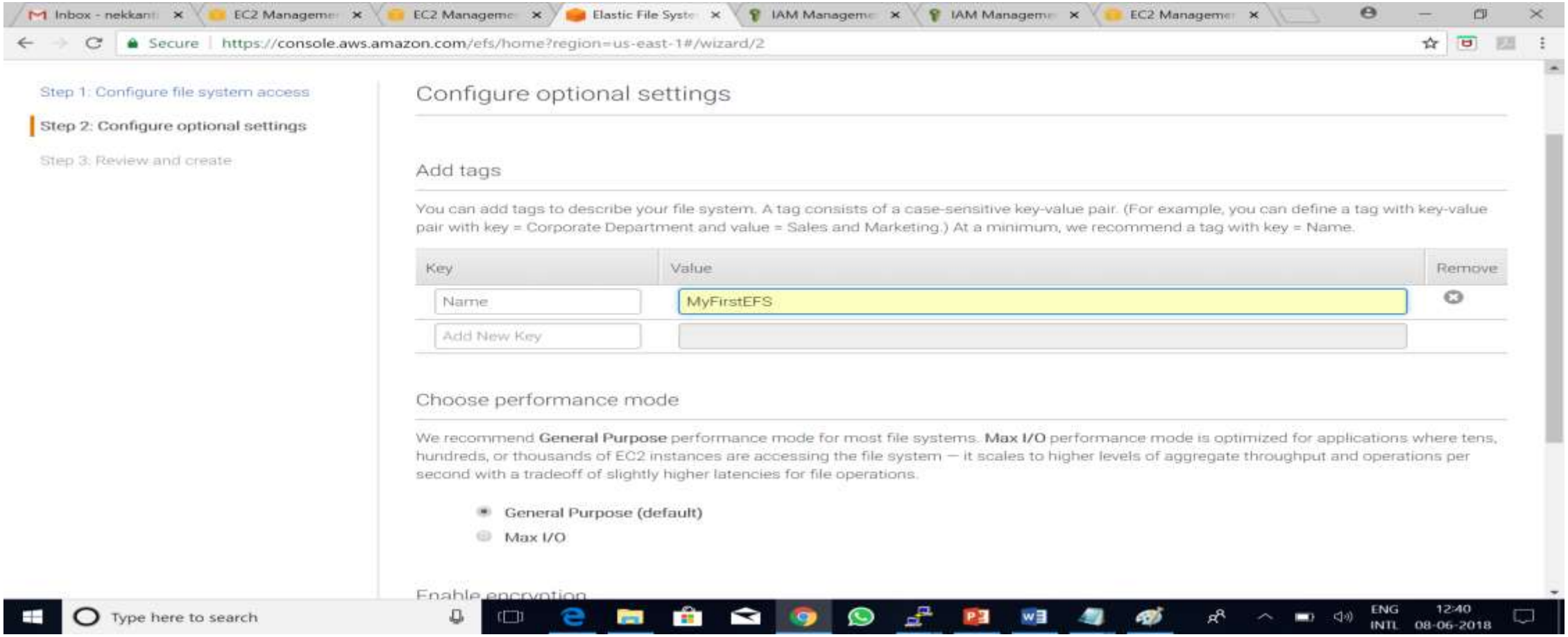
Click on “Create file system”

Step 2:Select the default VPC and Click on “Next Step”& Add Server to security group



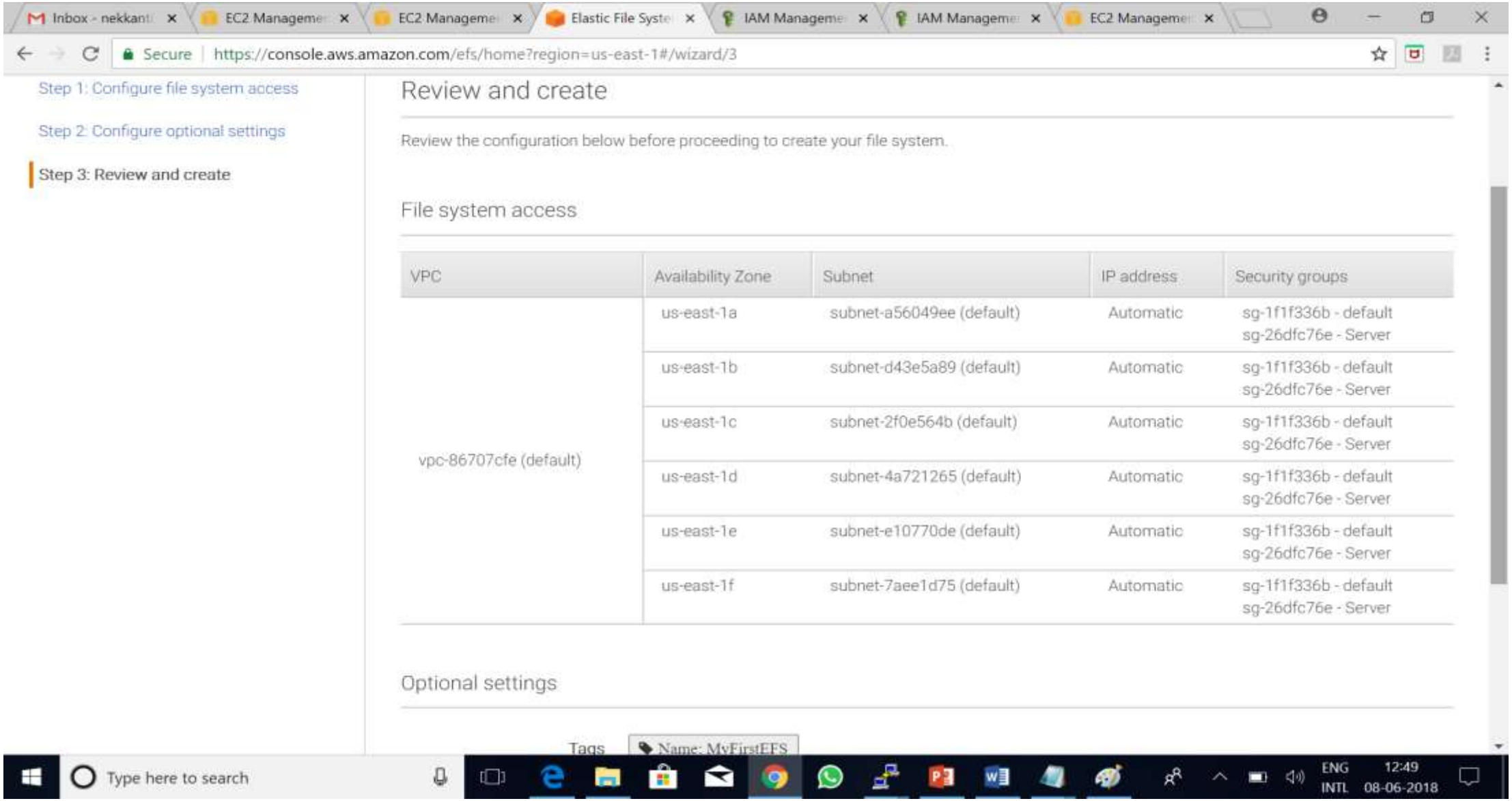
Click on “Next”

Step 3:Configure optional setting by providing tag’s



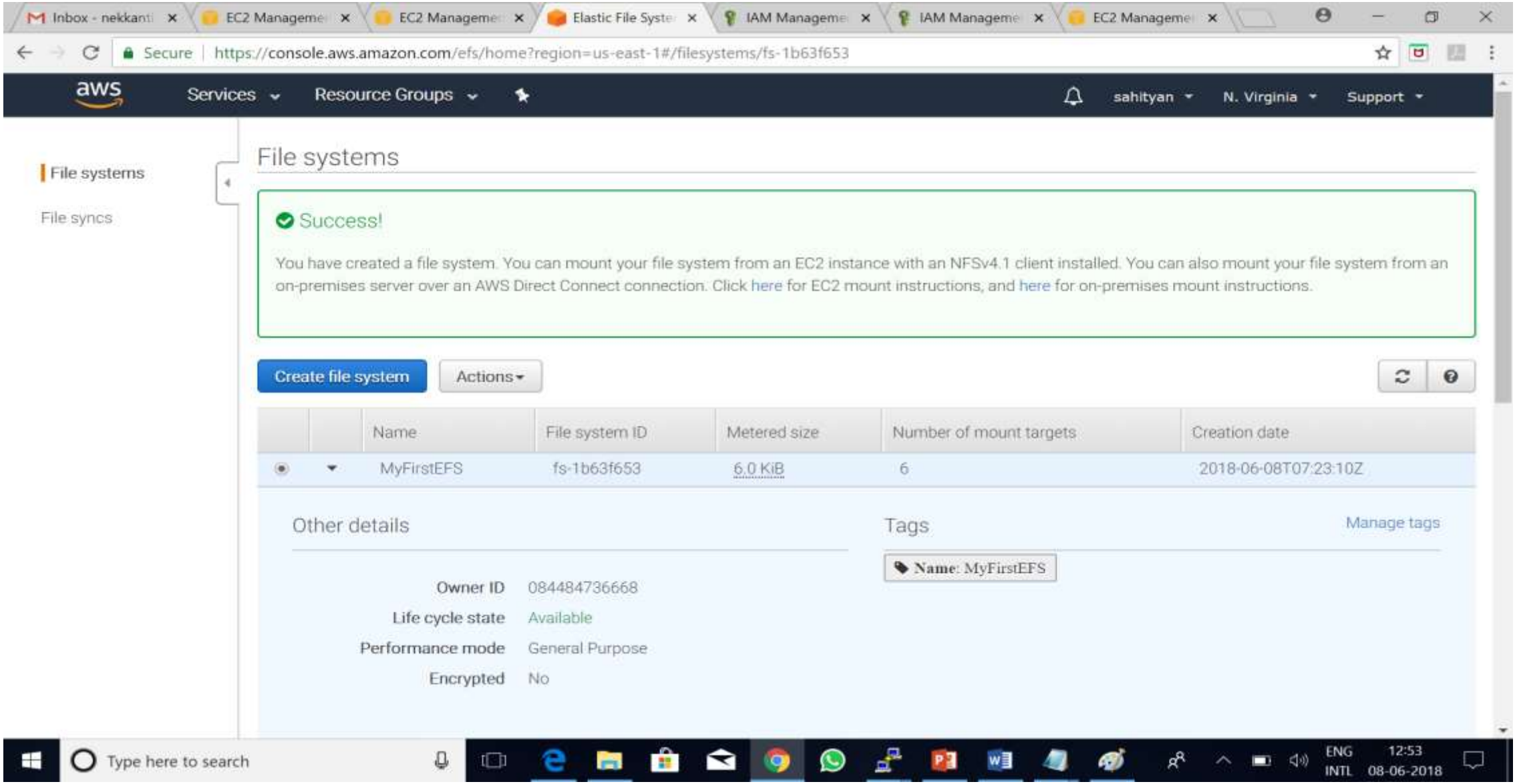
Click on “Next step”

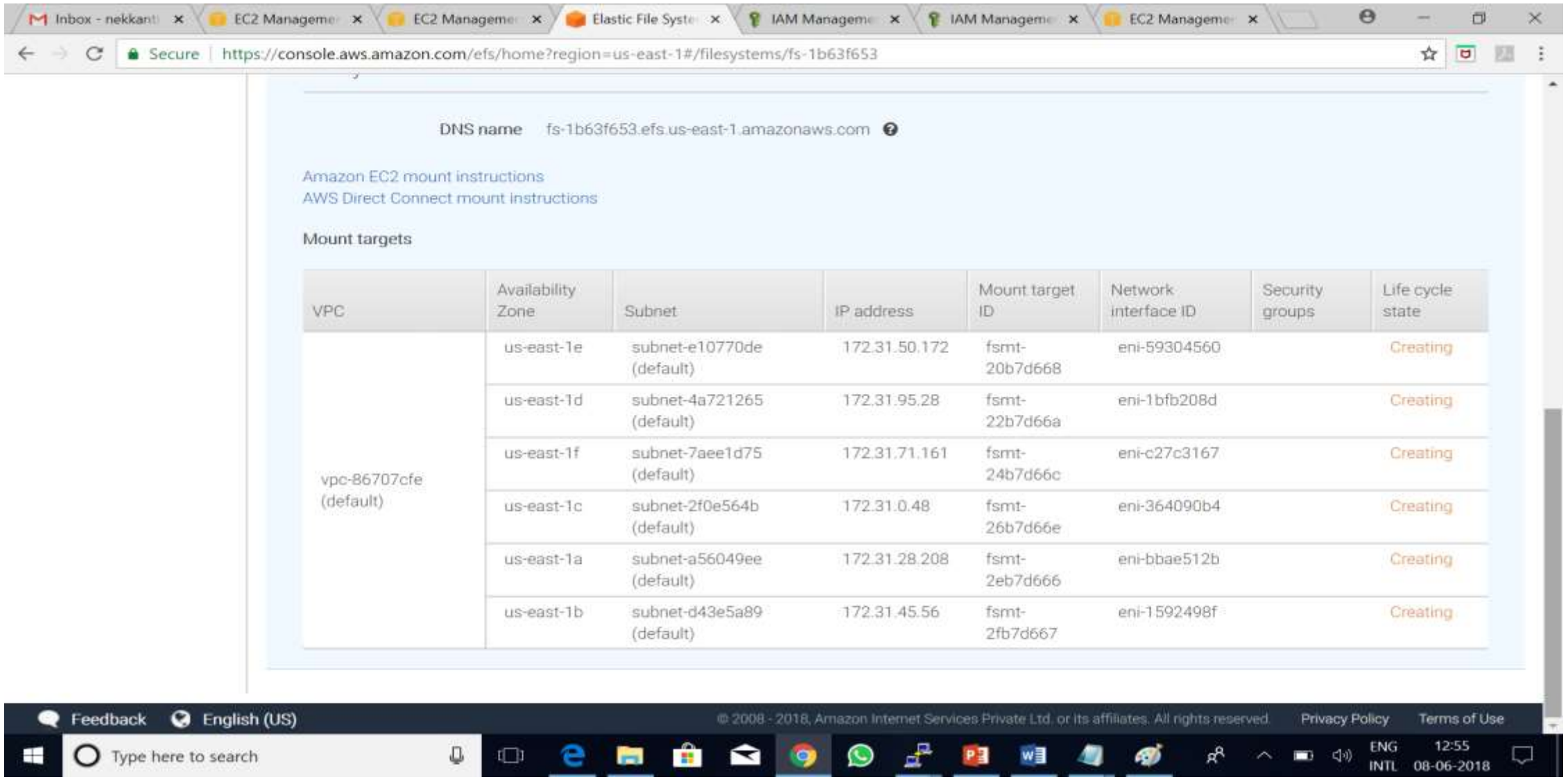
Step 4: Review and Create



Click on Create File System

Step 5: Finally creating FS




Inbox - nekkanti
EC2 Manageme
EC2 Manageme
Elastic File Syste
IAM Manageme
IAM Manageme
EC2 Manageme
Secure
https://console.aws.amazon.com/efs/home?region=us-east-1#/filesystems/fs-1b63f653
DNS name
fs-1b63f653.efs.us-east-1.amazonaws.com
Amazon EC2 mount instructions
AWS Direct Connect mount instructions
Mount targets
VPC
Availability Zone
Subnet
IP address
Mount target ID
Network interface ID
Security groups
Life cycle state
vpc-86707cfe (default)
us-east-1e
subnet-e10770de (default)
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Feedback
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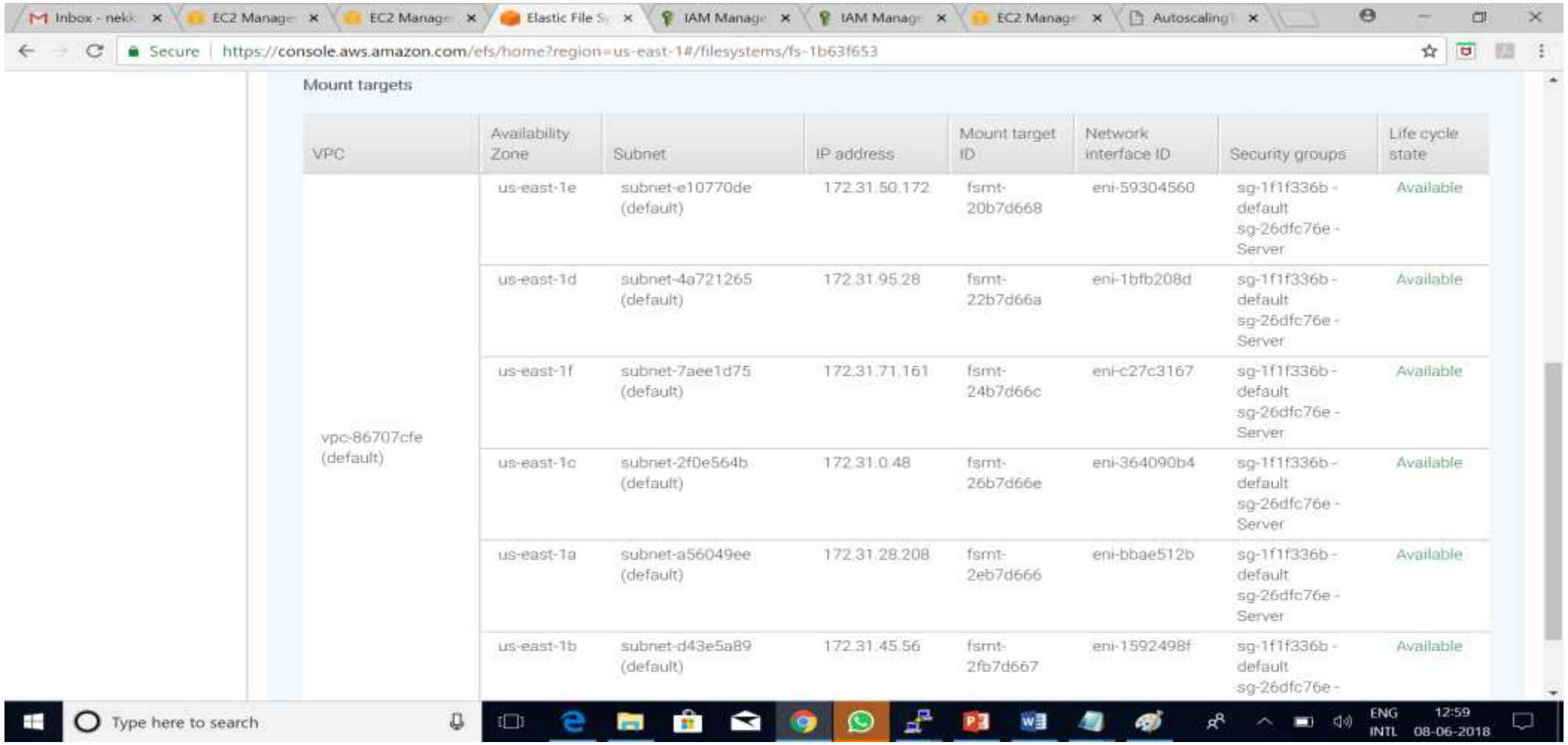
08-06-2018

Step 6: Wait until Life cycle state changed to available