TNGS Learning Solutions

AWS Solutions Architect

Online Course

Elastic File Service (EFS)

Elastic File Service (EFS)

- Amazon Elastic File System (Amazon EFS) is a scalable, fully managed file storage service provided by Amazon Web Services (AWS).

- It is designed to provide highly available and durable file storage that can be easily shared across multiple Amazon EC2 instances or on-premises servers.

Elastic File Service (EFS)

- **Fully Managed Service**: Amazon EFS is a fully managed service, meaning AWS takes care of the infrastructure management, hardware provisioning, and maintenance tasks. This allows you to focus on using your file storage without worrying about operational overhead.

- **Elastic Scalability**: EFS can automatically scale storage capacity up or down as your data storage needs change. You don't need to pre-provision storage or manage capacity planning.

Elastic File Service (EFS)

- **Multi-AZ Availability**: EFS is designed for high availability and durability. It replicates data across multiple Availability Zones (AZs) within an AWS region, ensuring that your data is accessible even if one AZ experiences a failure.

- **File System Sharing**: EFS is a network file system that can be accessed by multiple Amazon EC2 instances concurrently. It supports the Network File System (NFS) protocol, allowing you to mount and access the file system from Linux-based EC2 instances.

Elastic File Service (EFS)

- **POSIX File System Compatibility**: Amazon EFS is designed to be compatible with the POSIX file system, making it suitable for a wide range of applications and workloads, including those that require file locking and strong consistency.

- **Performance Modes**: EFS offers two performance modes: General Purpose (the default) and Max I/O. General Purpose mode provides good performance for most workloads, while Max I/O mode is optimized for workloads with high levels of parallelism.

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- **Encryption**: Data at rest in EFS is automatically encrypted using encryption keys managed by AWS Key Management Service (KMS). You can also enable encryption in transit by using the NFSv4 protocol with Transport Layer Security (TLS).

- **Access Control**: EFS allows you to configure access control through POSIX permissions, similar to traditional file systems. You can define permissions for users and groups at the file and directory levels.

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- **Lifecycle Management**: You can define lifecycle policies to automatically move files that are infrequently accessed to a lower-cost storage class, such as EFS Infrequent Access (EFS IA).

- **Data Backup**: While EFS is designed for durability, you can also create backups of your file system using AWS Backup, Amazon DataSync, or by taking snapshots of your file system.

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- **Integration**: EFS integrates seamlessly with various AWS services and features, such as AWS Lambda for serverless computing, AWS Identity and Access Management (IAM) for access control, and AWS CloudWatch for monitoring.

- **Cross-Region Replication**: EFS now supports cross-region replication, allowing you to replicate your file systems to a different AWS region for disaster recovery and low-latency access.

Elastic File Service (EFS)

- Amazon EFS is particularly useful for workloads that require shared file storage, such as content management systems, data analytics, development and build environments, and applications that involve collaboration and data sharing among multiple instances.

- It provides a scalable and cost-effective solution for managing file-based data in AWS.