AWS Storage Gateway

AWS Storage Gateway is a hybrid cloud storage service that enables your on-premises applications to seamlessly use AWS cloud storage. It provides a bridge between your on-premises data and the AWS cloud, enabling you to store data in the cloud for scalability, backup, and cost-efficiency while maintaining low-latency access to data through local caches.

Types of AWS Storage Gateways:

1. **File Gateway**: Provides a file interface that allows you to store files as objects in Amazon S3.
2. **Volume Gateway**: Provides cloud-backed storage volumes that can be mounted as iSCSI devices.
3. **Tape Gateway**: Offers a virtual tape library (VTL) that you can use with existing backup software.

Steps to Create an AWS Storage Gateway

Here are the general steps to create and configure an AWS Storage Gateway:

1. Create a Gateway in the AWS Management Console

- **Sign in to AWS Console**: Go to the AWS Management Console and sign in to your account.
- **Navigate to Storage Gateway**: Search for "Storage Gateway" in the search bar and select it.
- **Create Gateway**:
    - Click "Create gateway."
    - Choose the gateway type based on your requirements (File, Volume, or Tape).
    - Select the activation method, either through a Virtual Machine (VM) on-premises or an EC2 instance in AWS.

2. Deploy the Storage Gateway Appliance

- **Download the Gateway VM**: Download the OVA file (if deploying on-premises) or launch the EC2 instance (if deploying in AWS).
- **Deploy VM**: Deploy the VM on your virtualization platform (e.g., VMware ESXi, Microsoft Hyper-V, or KVM).
- **Configure Network**: Set up the network settings for the VM, ensuring it has access to the internet for activation.

3. Activate the Gateway

- **Obtain Activation Key**: After deploying the VM, you'll receive an IP address. Access this IP to get the activation key.
- **Enter Activation Key**: In the AWS Console, enter the activation key to activate the gateway.
- **Name the Gateway**: Give your gateway a name and select the AWS Region.

4. Configure Local Disks

- **Configure Local Cache**: Allocate local storage on your VM or instance for caching frequently accessed data.
- **Upload Buffer**: Assign local disks for the upload buffer, which temporarily stores data before it's uploaded to AWS.

5. Create and Configure Storage Resources

- **File Gateway**: Create file shares that map to Amazon S3 buckets.
- **Volume Gateway**: Create storage volumes that can be mounted as iSCSI devices.
- **Tape Gateway**: Create virtual tapes to be used with your backup application.

6. Connect and Use

- **Mount File Shares/Volumes**: Connect your on-premises servers to the file shares or volumes using NFS, SMB, or iSCSI.
- **Configure Access**: Set up permissions, encryption, and other access controls as needed.

7. Monitor and Manage

- **Monitor Performance**: Use CloudWatch metrics to monitor the performance and health of your gateway.
- **Backup and Recovery**: Implement backup and recovery solutions using AWS Backup or your preferred backup software.