### **AWS Infra Setup\_Few Common Errors:**

### **1. AccessDenied or 403 Forbidden**

* **What it means:** You’re not allowed to access a resource.
* **Why it happens:** Missing IAM permissions, wrong bucket policy, or misconfigured roles.
* **Fix:**
  + Check IAM policies attached to the user/role.
  + Update S3 bucket or resource policies.
* **Analogy:** You tried to enter a building without a key card or permission slip.

### **2. InvalidClientTokenId or SignatureDoesNotMatch**

* **What it means:** Your credentials are invalid or expired.
* **Why it happens:** Using old access keys or the wrong region.
* **Fix:**
  + Regenerate credentials or set the correct AWS region using aws configure.
  + Check time sync on your system (important for signing requests).
* **Analogy:** Giving an expired or mismatched ID when checking into a hotel.

### **3. BucketAlreadyExists (S3)**

* **What it means:** The S3 bucket name is already taken globally.
* **Why it happens:** Bucket names must be globally unique in AWS.
* **Fix:**

Choose a new, unique name (e.g., with timestamp or random string).

* **Analogy:** Trying to register a Gmail ID that someone already owns.

### **4. ThrottlingException**

* **What it means:** You’re sending too many requests in a short time.
* **Why it happens:** Hitting AWS service limits (e.g., API rate limits).
* **Fix:**
  + Add retries with exponential backoff.
  + Request a limit increase via AWS Support if needed.
* **Analogy:** Trying to get into a crowded club too quickly – the bouncer slows you down.

### **5. ResourceNotFoundException**

* **What it means:** The AWS resource you're referencing doesn’t exist.
* **Why it happens:** Wrong resource ID, deleted resource, or wrong region.
* **Fix:**
  + Double-check resource names, IDs, or ARN.
  + Ensure you're in the correct AWS region.
* **Analogy:** Sending a letter to an address that doesn’t exist anymore.

**6. RequestExpired**

* **What it means:** Your request's timestamp is too old or too far in the future.
* **Why it happens:** Your system clock is not synced properly.
* **Fix:** Sync your computer time using NTP or system settings.
* **Analogy:** Trying to use a train ticket after its departure time.

**7. InstanceLimitExceeded (EC2)**

* **What it means:** You've hit the limit of EC2 instances for your account.
* **Why it happens:** AWS has default soft limits per region/account.
* **Fix:**
  + Request a quota increase via the AWS Service Quotas page.
  + Terminate unused instances.
* **Analogy:** Booking hotel rooms when you’ve already maxed out your quota.

**8. InsufficientInstanceCapacity**

* **What it means:** AWS doesn't have enough capacity in the selected zone for your instance type.
* **Why it happens:** You chose a popular or large instance type in a crowded AZ.
* **Fix:**
  + Try a different AZ or instance type.
  + Use Spot Instances or Auto Scaling Groups with flexible types.
* **Analogy:** You went to book a hotel room, but they’re all full in that location.

**9. InvalidAMIID.NotFound**

* **What it means:** The AMI (Amazon Machine Image) you specified doesn’t exist.
* **Why it happens:** The AMI ID is wrong or private in another region/account.
* **Fix:**
  + Use aws ec2 describe-images to get the correct AMI.
  + Confirm visibility (public/private/shared).
* **Analogy:** Trying to use a recipe that was removed from the cookbook.

### **10. DependencyViolation (when deleting a resource)**

* **What it means:** You’re trying to delete a resource that’s still being used.
* **Why it happens:** Resource dependencies still exist (e.g., EBS volume attached to an EC2).
* **Fix:**Detach dependencies (e.g., volumes, ENIs) before deletion.
* **Analogy:** You can't tear down a building if people are still inside.