**AWS DOCKER TROUBLESHOOTING**

This guide will help you troubleshoot THE PROJECT **after** its been pushed via the pipeline

**Things to note:**

### **Amazon ECR Registry in use**

238974323615.dkr.ecr.eu-central-1.amazonaws.com/connectivitytools-staging

### **Details**

1. **Registry ID**: 238974323615
2. **Region**: eu-central-1
3. **Repository Name**: connectivitytools-staging

### **Images Built and Pushed**

The pipeline builds and pushes the following images to this ECR repository:

1. giga
2. giga-api
3. giga-calc-worker ( Might not be visible or will miss on the list , but doesn’t affect the system )

Each image is tagged and stored in connectivitytools-staging.

### **Confirming ECR Registry in AWS**

To verify the repository and images in AWS:

1. **Log in to AWS Management Console**.
2. Navigate to **ECR** in the region eu-central-1.
3. Locate the repository: connectivitytools-staging.
4. Check the images and tags under the repository to ensure successful pushes.

**Doing the tests**

### **Verify Amazon ECR (Elastic Container Registry)**

The ECR repository is where your Docker images are stored. Let’s confirm the images are in place:

#### **Steps:**

1. **Log in to AWS Console**:
   1. Go to [**https://aws.amazon.com/**](https://aws.amazon.com/) and log in.
   2. Ensure you're in the **eu-central-1** region (check the region dropdown at the top-right corner).
2. **Navigate to ECR**:
   1. Search for "ECR" in the AWS services search bar and click **Elastic Container Registry**.
3. **Find Your Repository**:
   1. Locate the repository **connectivitytools-staging**.
   2. Click on it to view the list of images.
4. **Verify Images**:
   1. Check if the images (giga, giga-api, giga-calc-worker) are present.
   2. Confirm they have the latest tags (e.g., latest or specific tags from the pipeline).

### **2. Launch Docker Containers on AWS**

To test if the images work properly, deploy them on AWS ECS (Elastic Container Service) or EC2 (Elastic Compute Cloud).

#### **Option A: Use ECS (Recommended for Production)**

1. **Navigate to ECS**:
   1. Search for **ECS** in the AWS services search bar and open **Elastic Container Service**.
2. **Create a Cluster**:
   1. Click on **Clusters** → **Create Cluster**.
   2. Choose **Networking only (AWS Fargate)** or **EC2 Linux + Networking** (if you want to use EC2 instances).
   3. Follow the prompts to create the cluster.
3. **Create a Task Definition**:
   1. Go to **Task Definitions** → **Create New Task Definition**.
   2. Select **Fargate** or **EC2** depending on your cluster type.
   3. Add containers:
      1. **Image**: Use 238974323615.dkr.ecr.eu-central-1.amazonaws.com/connectivitytools-staging:giga (and others as needed).
      2. **Port Mappings**: Map the ports (e.g., 8000:8000 for NGINX).
4. **Run the Task**:
   1. Go to your cluster → **Tasks** → **Run New Task**.
   2. Choose the task definition and run it.
5. **Verify Logs**:
   1. Click on the task → **Logs** to check if the containers are running without errors.

#### **Option B: Use EC2 ( If option 1 fails )**

If you prefer to manually test the containers on an EC2 instance:

1. **Launch an EC2 Instance**:
   1. Open the **EC2** service.
   2. Launch a new instance with the **Amazon Linux 2** AMI or any Linux distribution you prefer.
   3. Ensure you allow inbound traffic for ports like 8000, 3306, 5672, etc., in the Security Group.
2. **Install Docker**:
   1. Connect to the instance using SSH.
   2. Run the following commands:

sudo yum update -y  
sudo yum install docker -y  
sudo service docker start  
sudo usermod -aG docker ec2-user

1. **Log in to ECR**:
   1. Run the following to authenticate:

aws ecr get-login-password --region eu-central-1 | docker login --username AWS --password-stdin 238974323615.dkr.ecr.eu-central-1.amazonaws.com

1. **Pull Images**:
   1. Pull your images from ECR:

docker pull 238974323615.dkr.ecr.eu-central-1.amazonaws.com/connectivitytools-staging:giga

1. **Run Containers**:
   1. Start the containers manually:

docker run -p 8000:8000 238974323615.dkr.ecr.eu-central-1.amazonaws.com/connectivitytools-staging:giga

1. **Verify Access**:
   1. Open your browser or use Postman to access the endpoint:

http://<EC2\_PUBLIC\_IP>:8000

### **3. Verify Application Logs**

Check for any errors in the application logs to ensure everything is running smoothly.

1. **ECS Logs**:
   1. In ECS, view logs under **Tasks → Logs**.
2. **CloudWatch Logs**:
   1. Navigate to **CloudWatch** in the AWS Console.
   2. Check if your ECS or EC2 containers are pushing logs there.