# Deploying an Application on AWS

## Step 1: Set Up AWS CLI & IAM User

1. Install AWS CLI:  
 - Download from https://aws.amazon.com/cli/  
 - Install using `pip install awscli`  
2. Configure AWS CLI:  
 ```bash  
 aws configure  
 ```  
 - Enter Access Key, Secret Key, Region, and Output format.  
3. Ensure you have the correct IAM permissions for deployment.

## Step 2: Deploy an Application to AWS EC2

1. Launch an EC2 instance:  
 - Go to AWS Console → EC2 → Launch Instance.  
 - Select an Amazon Linux 2 or Ubuntu AMI.  
 - Configure security group (allow SSH, HTTP/HTTPS).  
2. Connect to EC2:  
 ```bash  
 ssh -i my-key.pem ec2-user@your-instance-ip  
 ```  
3. Install Dependencies & Run Application:  
 ```bash  
 sudo yum update -y # For Amazon Linux  
 sudo apt update -y # For Ubuntu  
 sudo yum install nginx -y # Install web server  
 ```

## Step 3: Deploy Using AWS Elastic Beanstalk (Optional)

1. Install EB CLI:  
 ```bash  
 pip install awsebcli --upgrade  
 ```  
2. Initialize Elastic Beanstalk:  
 ```bash  
 eb init -p python-3.8 my-app  
 eb create my-env  
 ```  
3. Deploy the application:  
 ```bash  
 eb deploy  
 ```

## Step 4: Debugging & Monitoring

1. Check EC2 Logs:  
 ```bash  
 sudo journalctl -u nginx --no-pager | tail -50  
 ```  
2. Monitor using AWS CloudWatch:  
 - Set up log groups and metrics for monitoring.  
3. Debug failed deployments:  
 ```bash  
 eb logs  
 ```