

# **AWS EC2 Security Group Update**

## **Standard Operating Procedure (SOP)**

### **Overview**

This SOP outlines the process for programmatically updating an EC2 Security Group using Python. It includes the steps for adding or removing inbound/outbound rules and ensuring that the security group is configured correctly for the desired access.

### **Platform**

AWS

### **Code Language**

Python

### **Required Dependencies**

- boto3
- AWS SDK for Python

### **Credentials Required**

- AWS\_ACCESS\_KEY\_ID
- AWS\_SECRET\_ACCESS\_KEY
- AWS\_REGION

### **Input Parameters**

1. instance\_id
  - Type: String
  - Description: The EC2 instance ID to associated with the Internet gateway.
  - Required: true
  - Default: i-0854edc8c9bc21c94
  - Validation Rules: Must be a valid instance ID.
2. region

- type: string
- description: region associated with ec2 route table
- required: true
- default: us-east-1

### 3. security\_group\_id

- type: string
- description: The security group ID associated with the EC2 instance
- required: true
- default: sg-03ebb2cfca10fa9f2

## Logic Flow

### 1. Pre-Creation Validation

- Validate AWS credentials
- Validate EC2 instance ID
- Validate Security Group ID

### 2. Post-Creation Configuration

- Verify Route Addition

### 3. Error Handling Scenarios

- Invalid instance ID
- Insufficient Permissions

## Success Criteria

- The security group is successfully updated with the specified rule.
- The rule appears in the security group's list of inbound or outbound rules.
- Action is logged for auditing purposes.

## **Monitoring Considerations**

- Verify Route Addition
- Audit Logs
- Monitor Security Group Metrics

## **Tags**

- aws
- security-group
- security
- networking
- ec2