

Configure EC2 instance logs to be sent to CloudWatch

Step1. Set up IAM Role for the EC2 Instance: CloudWatchAgentServerRole

Step2: Install the CloudWatch Agent on the EC2 Instance

```
sudo yum install amazon-cloudwatch-agent -y # Amazon Linux
```

Step3: Configure the CloudWatch Agent

```
nano
/opt/aws/amazon-cloudwatch-agent/bin/config.json
{
  "logs": {
    "logscollected": {
      "files": {
        "collectlist": [
          {
            "filepath": "/var/log/messages",
            "loggroupname": "EC2InstanceLogs",
            "logstreamname": "{instanceid}",
            "timestamp_format": "%b %d %H:%M:%S"
          }
        ]
      }
    }
  }
}
```

Step4.1: Start and Verify the CloudWatch Agent

```
sudo
/opt/aws/amazon-cloudwatch-agent/bin/amazon-cloudwatch-agent-ctl
-a fetch-config -m ec2 -s -c file:configuration_file_path
```

-a (action): fetch-config, start, stop, status, restart, test, metrics causes the agent to load the latest version of the CloudWatch agent configuration file, and

-m (mode):

-c (configFile)

-s: starts the agent.

configuration_file_path: /opt/aws/amazon-cloudwatch-agent/bin/config.json

Step4.2: Verify agent is running

```
sudo systemctl status
amazon-cloudwatch-agent
```

Step4.3: Check logs to ensure data is sent

```
tail -f
/opt/aws/amazon-cloudwatch-agent/logs/amazon-cloudwatch-agent.log
```

Step5: Verify Logs in CloudWatch: CloudWatch > LogGroups and confirm your log

Step6: Integrate Application Log like Spring

To integrate your application logs (stored in **/home/ec2-user/api.log**) with CloudWatch, follow these steps:

Step6.1: Update the CloudWatch Agent Configuration

Open or create the CloudWatch agent configuration file:

```
{
  "logs": {
    "logscollected": {
      "files": {
        "collectlist": [
          {
            "filepath": "/home/ec2-user/api.log",
            "loggroupname": "MyApplicationLogs",
            "logstreamname": "{instanceid}-api-log",
            "timestamp_format": "%Y-%m-%d %H:%M:%S"
          }
        ]
      }
    }
  }
}
```

Step6.2: Start and restart CloudWatch Agent

```
sudo
/opt/aws/amazon-cloudwatch-agent/bin/amazon-cloudwatch-agent-ctl \
-a start -m ec2 -c
file:/opt/aws/amazon-cloudwatch-agent/bin/config.json -s -s
```

OR, if the agent is already running, restart it

```
sudo systemctl restart amazon-cloudwatch-agent
```

Step6.3: Verify Log upload

Check the CloudWatch Agent logs for issues:

```
tail -f
/opt/aws/amazon-cloudwatch-agent/logs/amazon-cloudwatch-agent.log
```

Go to the **CloudWatch ManagementConsole > LogGroups** and confirm your log