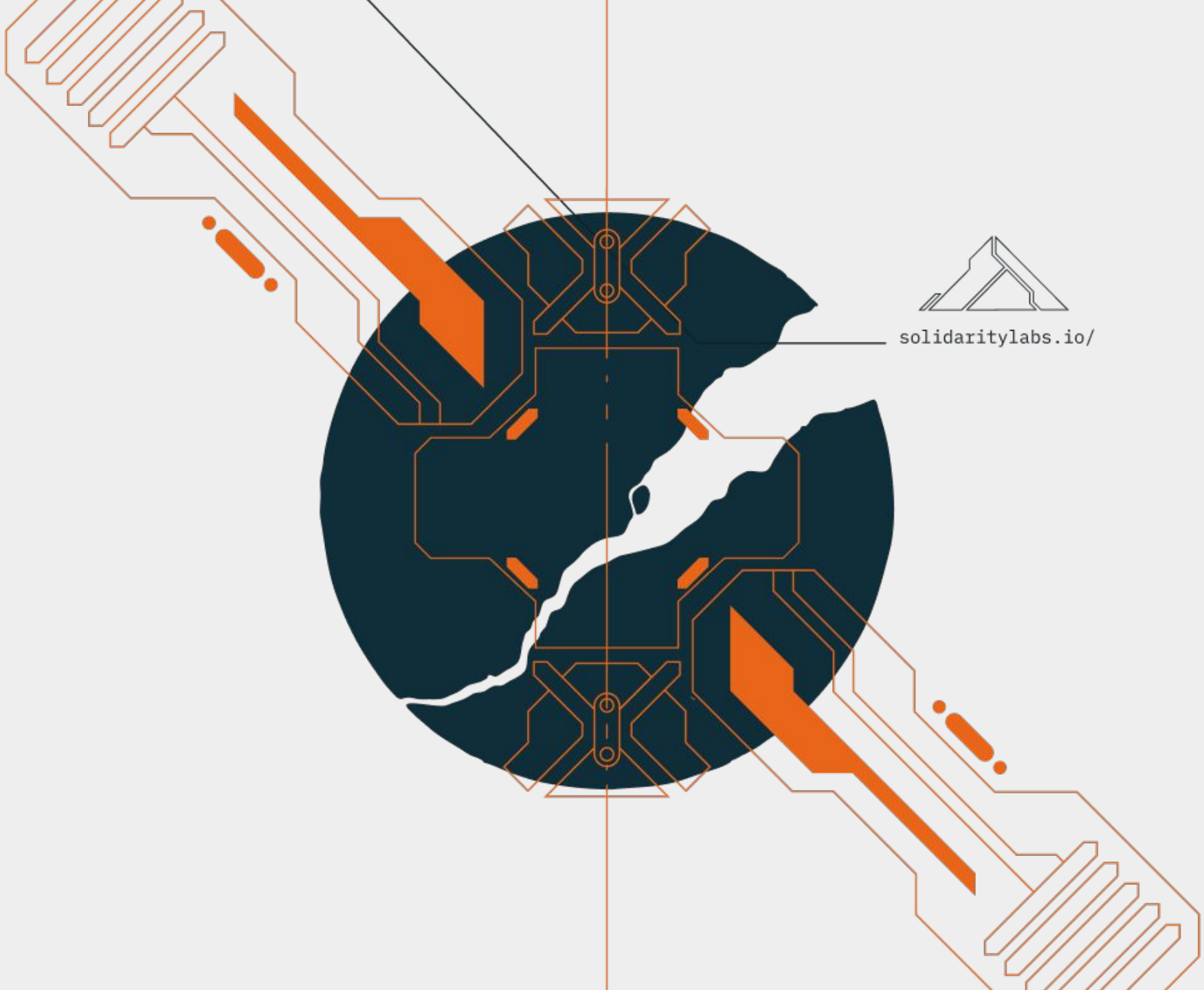
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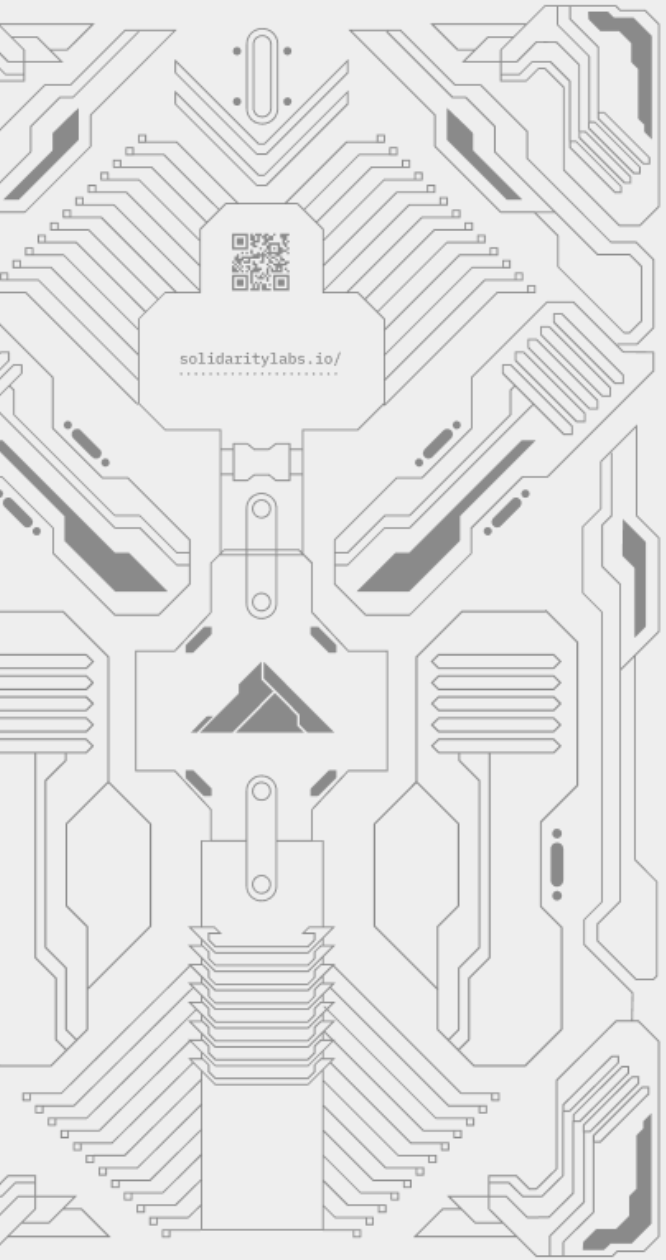
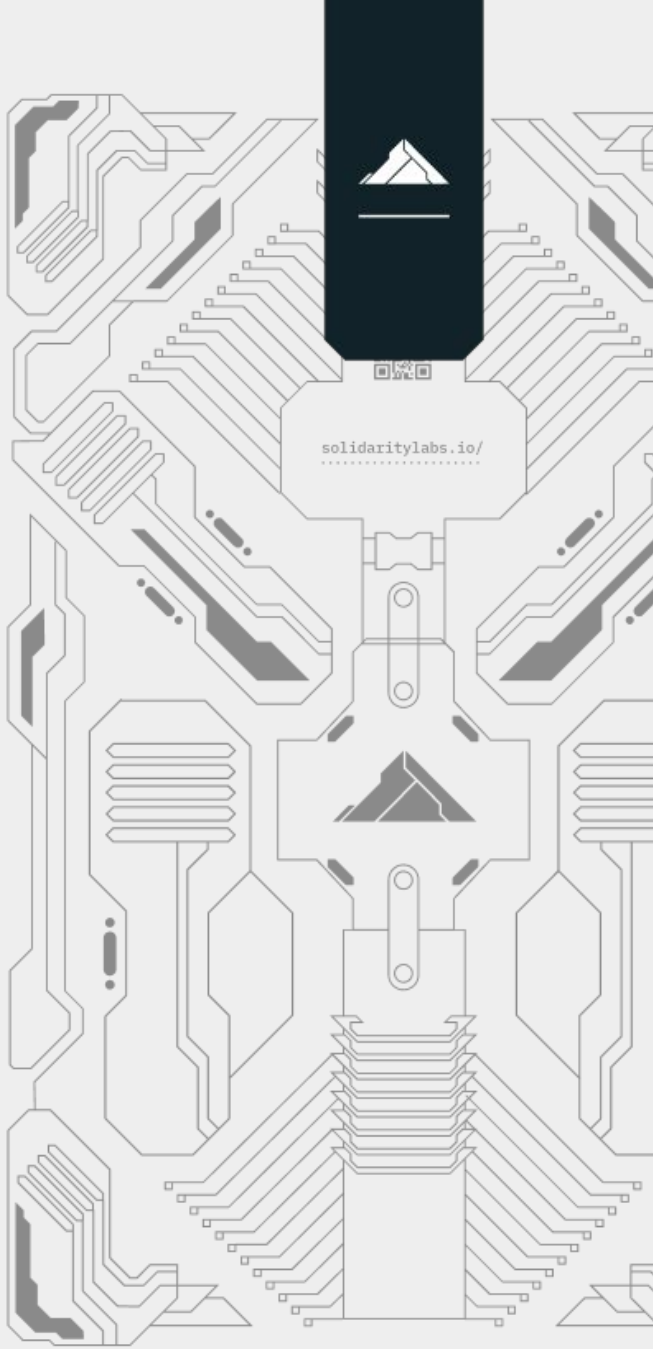


Dredge

A Open Source Framework for Cloud Incident Response



/intro

Santi Abastante

Cloud Security Engineer
Incident Responder
CTO | CEO
@Solidaritylabs

Why Dredge?

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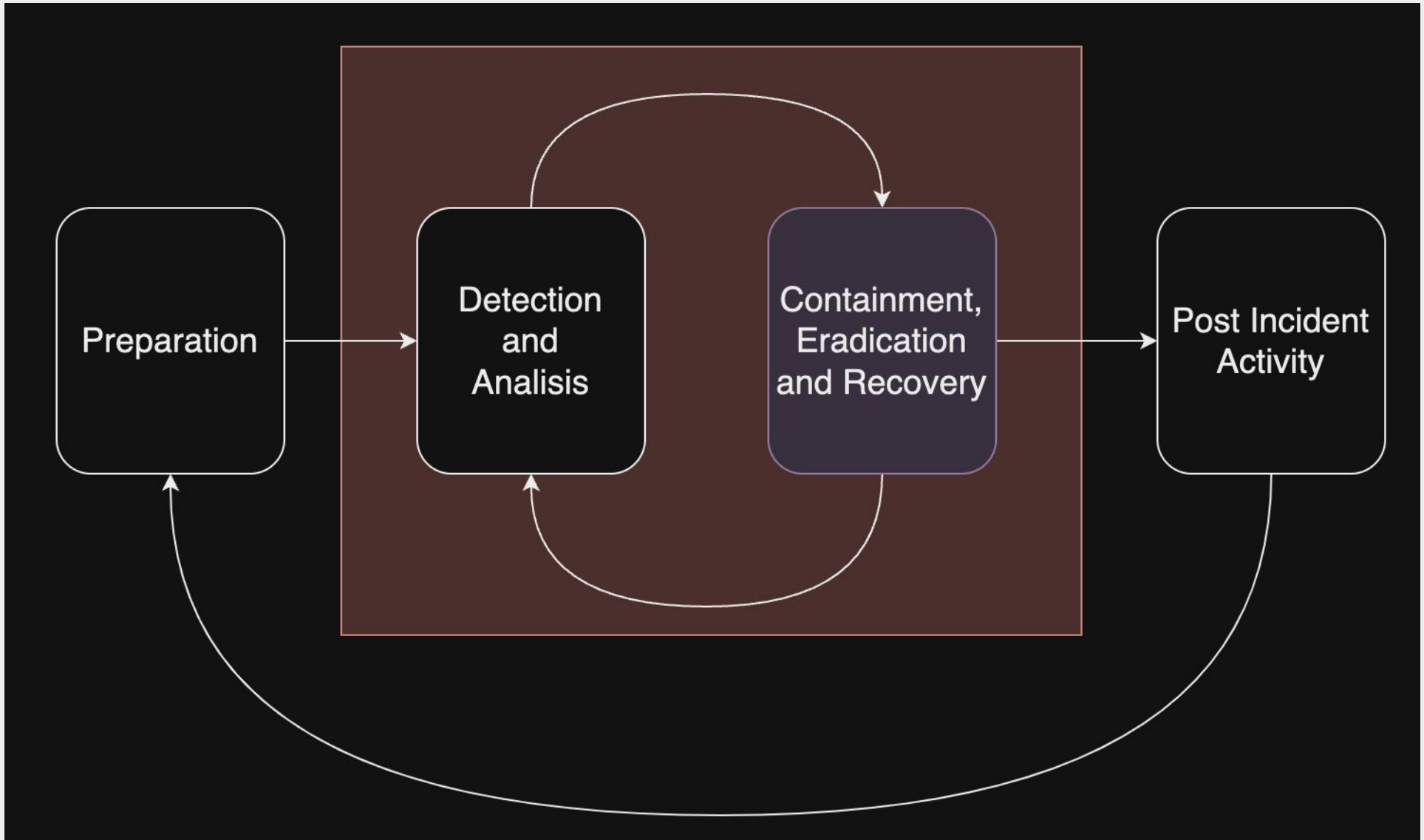
Cyber IR Cycle



CSIRT Perpsective

With Preparation

Without Preparation

SOLIDARITY LABS

- Log Retriever
  - Get data from aws buckets
  - Get logs and events from API
  - Get pod and k8s logs
- Threat Hunting
  - Search for malicious events
  - VirusTotal Integration
  - Shodan Integration
- Incident Response
  - Network Isolate Servers
  - Block Users or Disable Creds
  - Make S3 bucket private
- Cloud Status
  - Get data like users, servers, etc
  - Create timeline from API Calls
  - CSV Reporting

1. Setting Up Dredge

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Dredge Config File

```
configs:
  start_date: '2023-09-29'
  end_date: '2023-09-30'
  destination_folder: 'logs_dredge'
  output_file: 'test1'
  shodan_api_key: '9R6Y860tl9q--------------------------'
  vt_api_key: '5294a7d0ff16------------------046aa2528dc0a4205'

gcp_configs:
  enabled: False
  cred_files: ['logtesting-.json']

aws_configs:
  enabled: False
  profiles: ['demo-env']
  profile_region: 'us-east-1'
  regions: ['us-east-1']

  event_history:
    enabled: False
  guardduty:
    enabled: False
  lb:
    enabled: False
    buckets: ['alb-logs-solidarity-tes']
```

Demo 1

Setting up dredge with config file

2. Log Retriever

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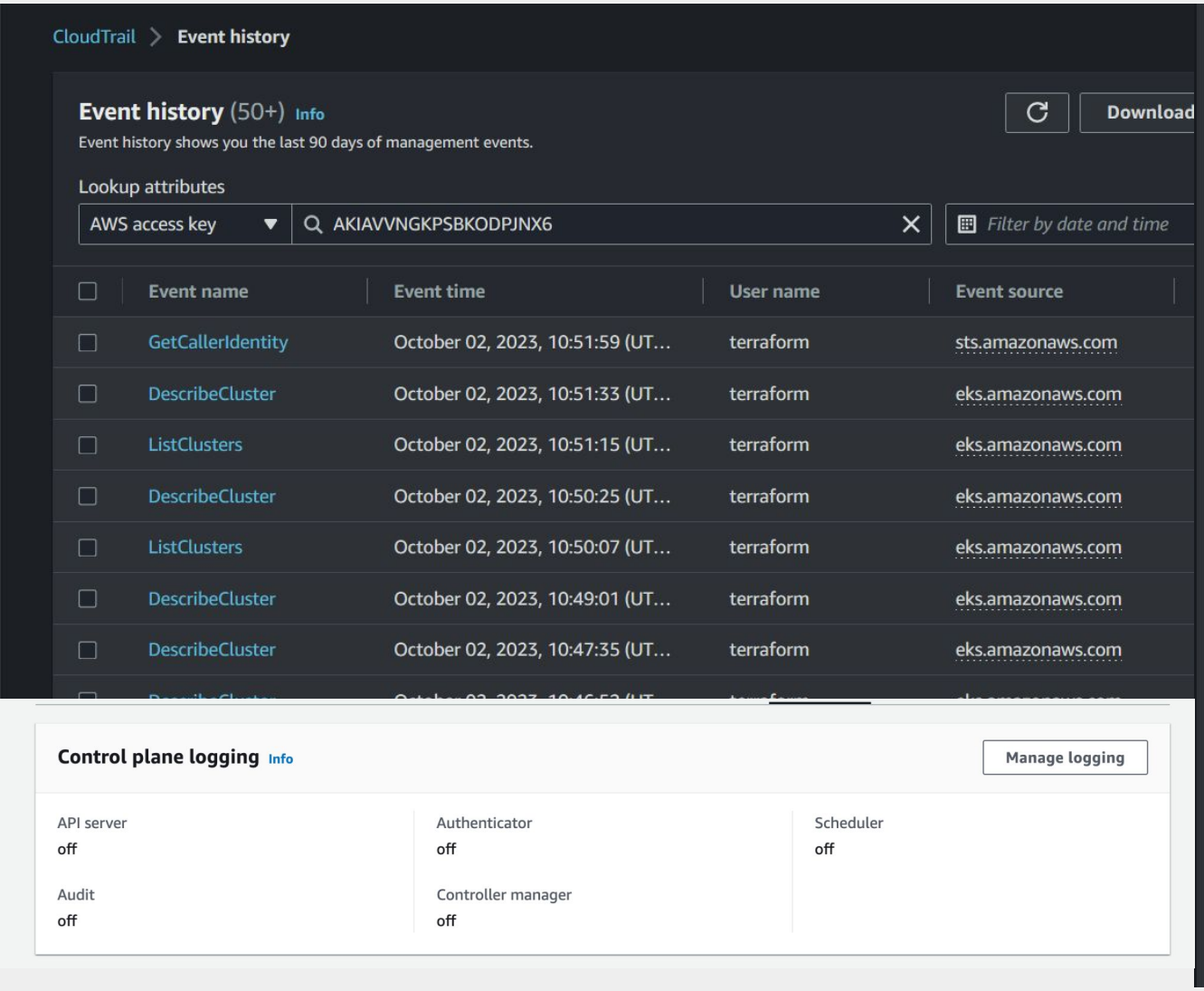
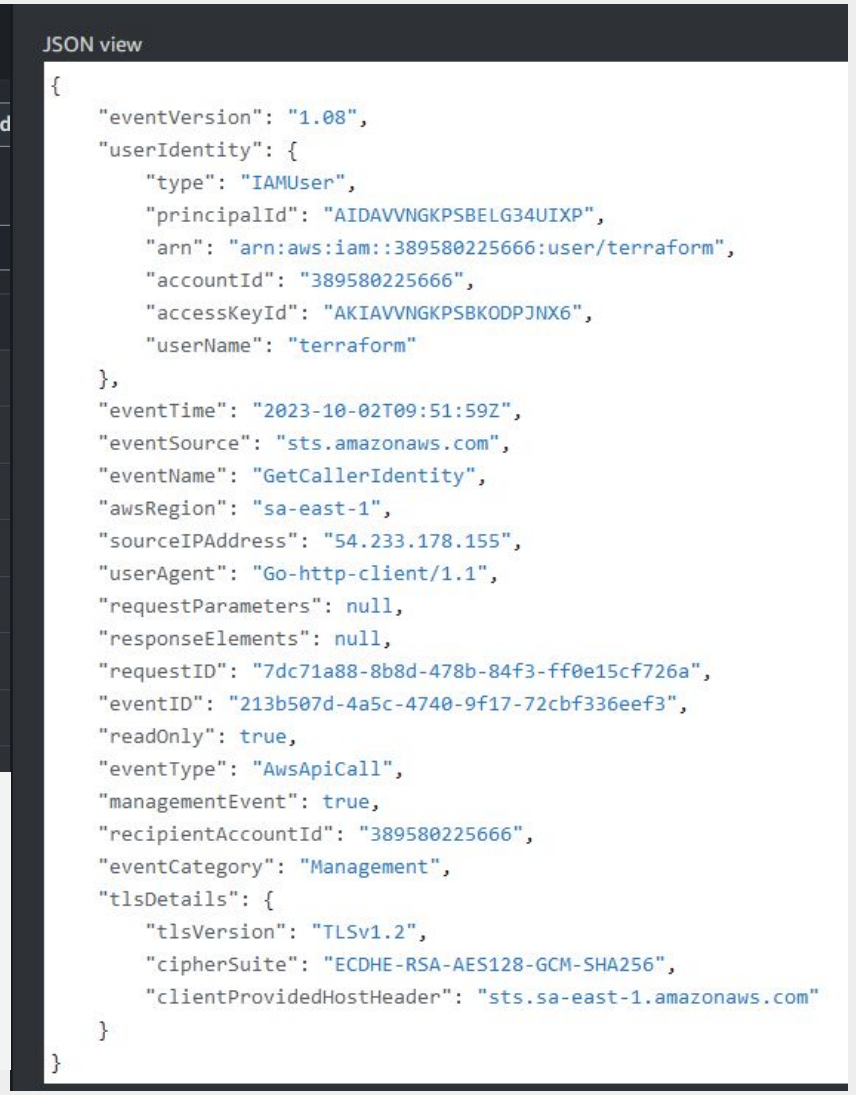
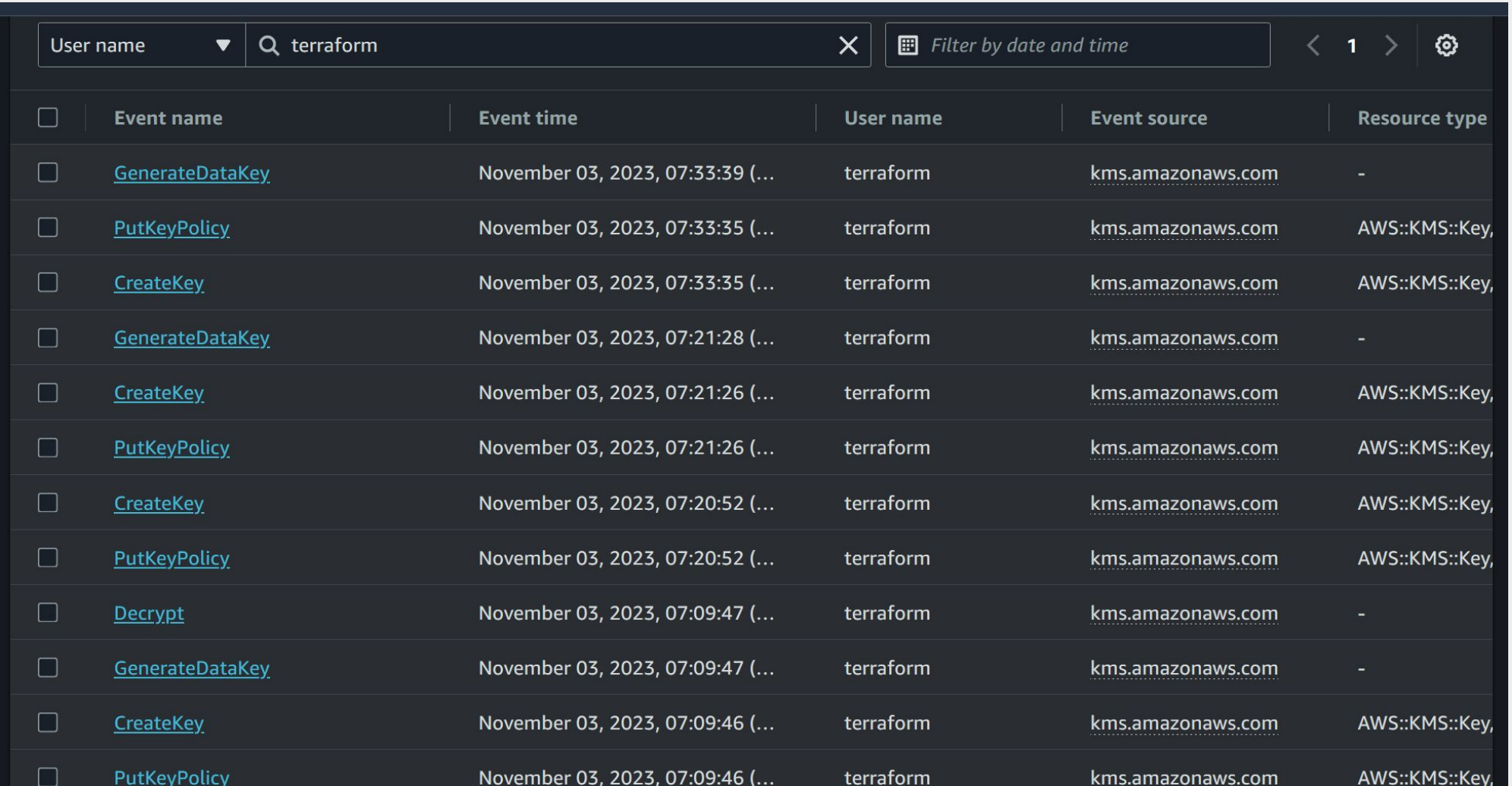
Logging and Monitoring





Event History API Logs



Event name	Event time	User name	Event source	Resource type
GenerateDataKey	November 03, 2023, 07:33:39 (...	terraform	kms.amazonaws.com	-
PutKeyPolicy	November 03, 2023, 07:33:35 (...	terraform	kms.amazonaws.com	AWS::KMS::Key,
CreateKey	November 03, 2023, 07:33:35 (...	terraform	kms.amazonaws.com	AWS::KMS::Key,
GenerateDataKey	November 03, 2023, 07:21:28 (...	terraform	kms.amazonaws.com	-
CreateKey	November 03, 2023, 07:21:26 (...	terraform	kms.amazonaws.com	AWS::KMS::Key,
PutKeyPolicy	November 03, 2023, 07:21:26 (...	terraform	kms.amazonaws.com	AWS::KMS::Key,
CreateKey	November 03, 2023, 07:20:52 (...	terraform	kms.amazonaws.com	AWS::KMS::Key,
PutKeyPolicy	November 03, 2023, 07:20:52 (...	terraform	kms.amazonaws.com	AWS::KMS::Key,
Decrypt	November 03, 2023, 07:09:47 (...	terraform	kms.amazonaws.com	-
GenerateDataKey	November 03, 2023, 07:09:47 (...	terraform	kms.amazonaws.com	-
CreateKey	November 03, 2023, 07:09:46 (...	terraform	kms.amazonaws.com	AWS::KMS::Key,
PutKeyPolicy	November 03, 2023, 07:09:46 (...	terraform	kms.amazonaws.com	AWS::KMS::Key,

Demo 2

Getting API Logs from IAM User

Context: Cloudtrail API Call

SOLIDARITY LABS

JSON view


```
{
    "eventVersion": "1.08",
    "userIdentity": {
        "type": "IAMUser",
        "principalId": "AIDA5QRO535XCIIFRHW5J",
        "arn": "arn:aws:iam::928885104494:user/terraform",
        "accountId": "928885104494",
        "accessKeyId": "AKIA5QRO535XMI26V6HI",
        "userName": "terraform"
    },
    "eventTime": "2023-11-03T10:33:35Z",
    "eventSource": "kms.amazonaws.com",
    "eventName": "CreateKey",
    "awsRegion": "sa-east-1",
    "sourceIPAddress": "181.239.142.48",
    "userAgent": "Boto3/1.26.113 Python/3.10.12 Linux/4.4.0-19041-Microsoft Botocore/1.29.113",
    "requestParameters": {
        "keyUsage": "ENCRYPT_DECRYPT",
        "description": "Your new KMS Key Description",
        "customerMasterKeySpec": "SYMMETRIC_DEFAULT",
        "bypassPolicyLockoutSafetyCheck": false,
        "keySpec": "SYMMETRIC_DEFAULT",
        "origin": "AWS_KMS"
    },
    "responseElements": {
```

Demo 3

Getting Log from S3 Bucket

Demo 4

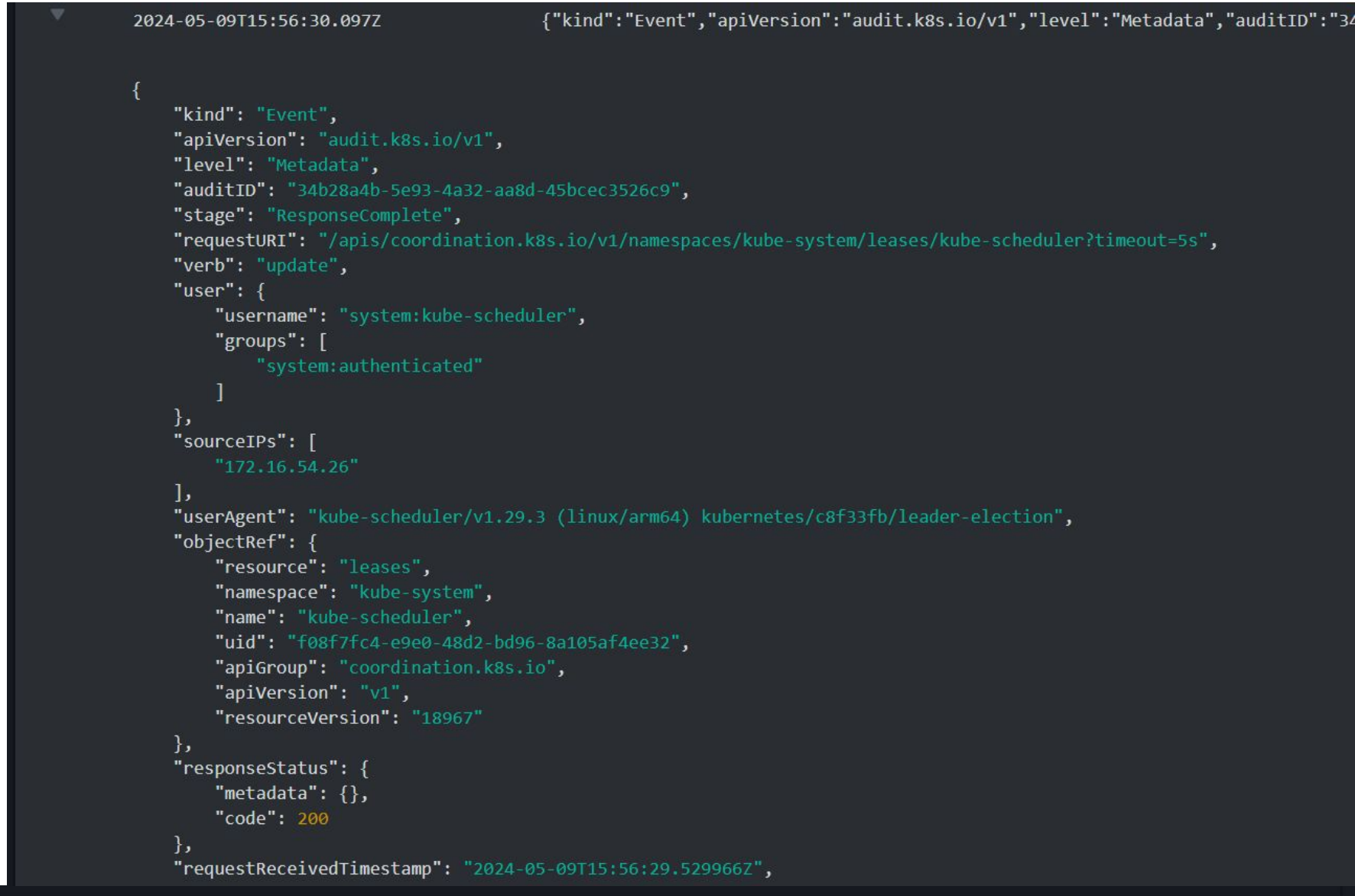
Getting Guardduty Events

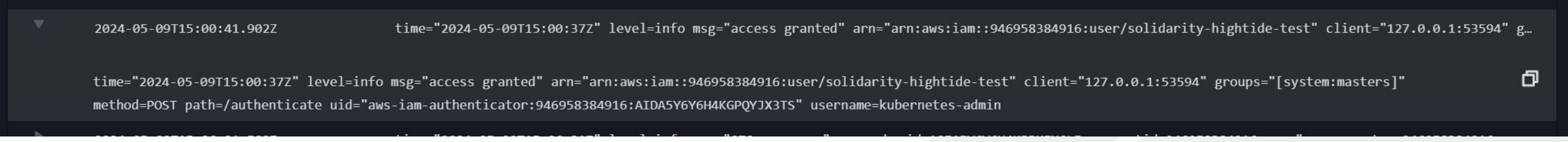
Demo 5

Getting Kubernetes Logs

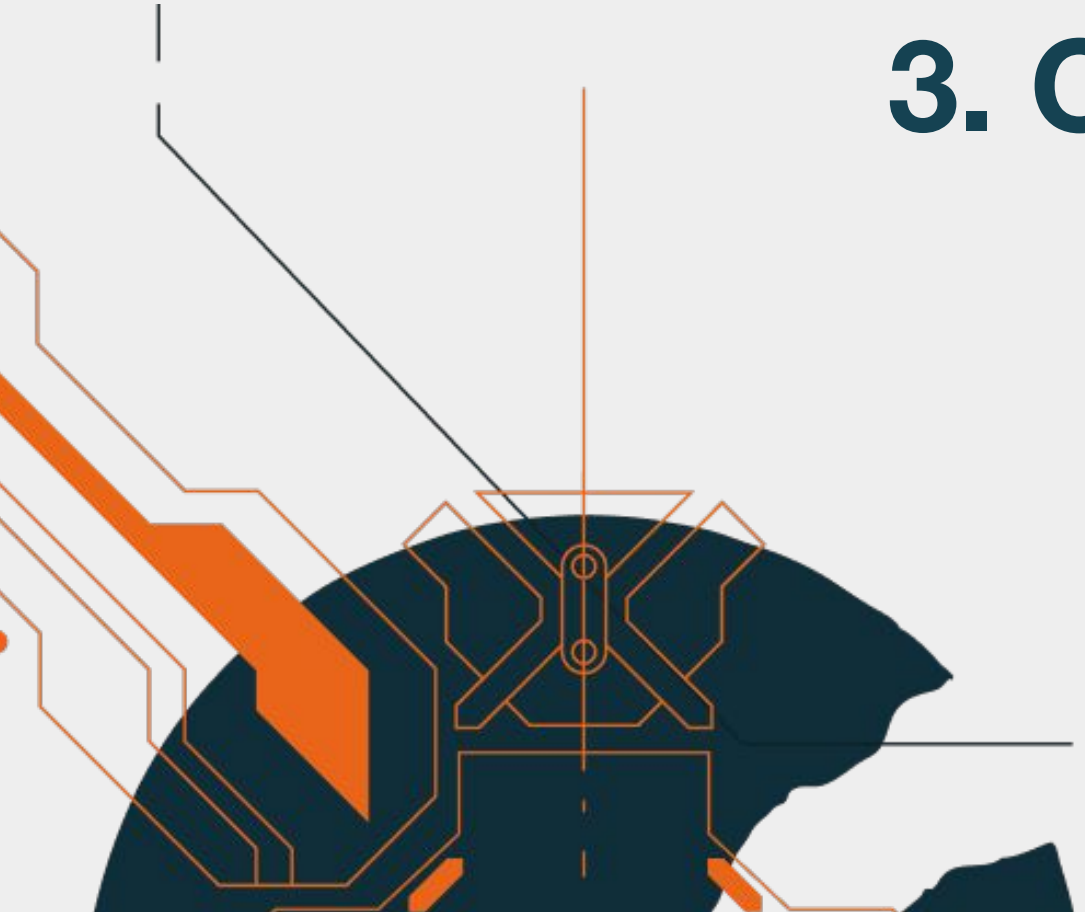
K8s Logs

1. API Server Logs
2. **Audit Logs**
3. **Authenticator**
4. Control Manager
5. Scheduler





3. Cloud Status for IR



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Demo 6

Getting AWS IAM Users

Demo 7

Getting EC2 Servers


Demo 8
Getting Serverless Functions

4. Incident Response

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Demo 9

Iam Disable User Access Key

Demo 10

Iam Delete User

Demo 11

Network Isolate EC2 Instance

Demo 12

Enabling Detection Mechanisms

Demo 13

Disable S3 Public Access

5. Threat Hunting

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Demo 14

Getting IPs

Demo 15

VT Enrichment

Demo 16

IoC Hunting in AWS

Demo 17

Hypothesis Based Hunting in AWS

Questions?

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