Use OpenAPI to Retrieve ISE Deployment Information on ISE 3.3

Contents

Introduction

This document describes the procedure for utilizing openAPI to manage Cisco Identity Services Engine (ISE) deployment.

Background

In modern enterprise networks, security and management have become increasingly complex and critical. To address these challenges, From Cisco ISE 3.1 onwards, newer APIs are available in the OpenAPI format, which offers robust network access control and policy management capabilities. The admin is now able to check ISE deployment more efficiently through OpenAPI, and take action proactively rather than waiting for problem reports from endusers.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Cisco Identity Services Engine (ISE)
- REST API
- Python

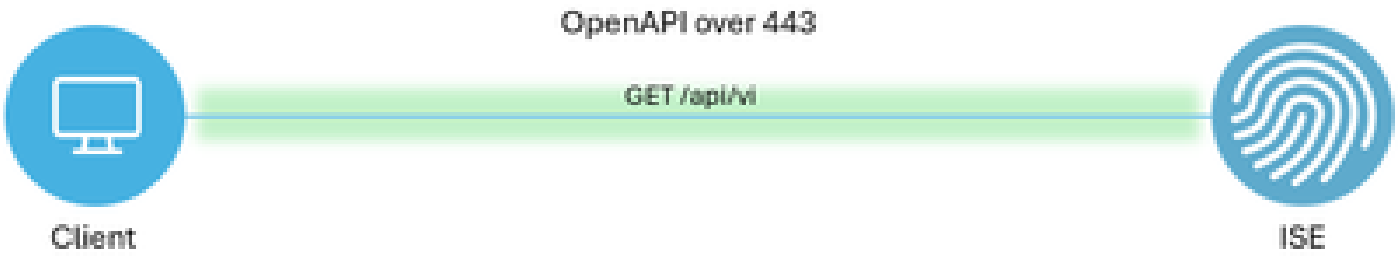
Components Used

- ISE 3.3
- Python 3.10.0

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Configure

Network Diagram

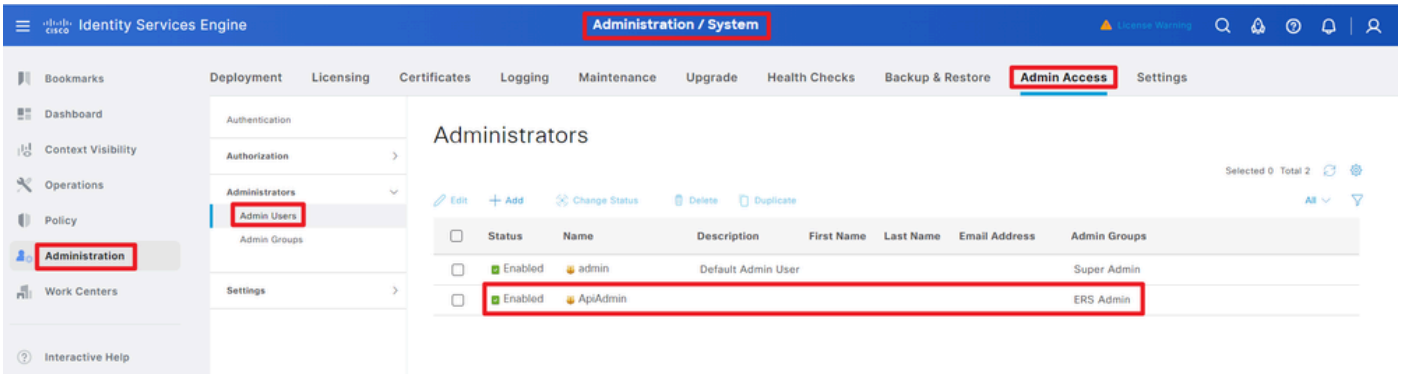


Topology

Configuration on ISE

Step 1: Add an Open API admin account

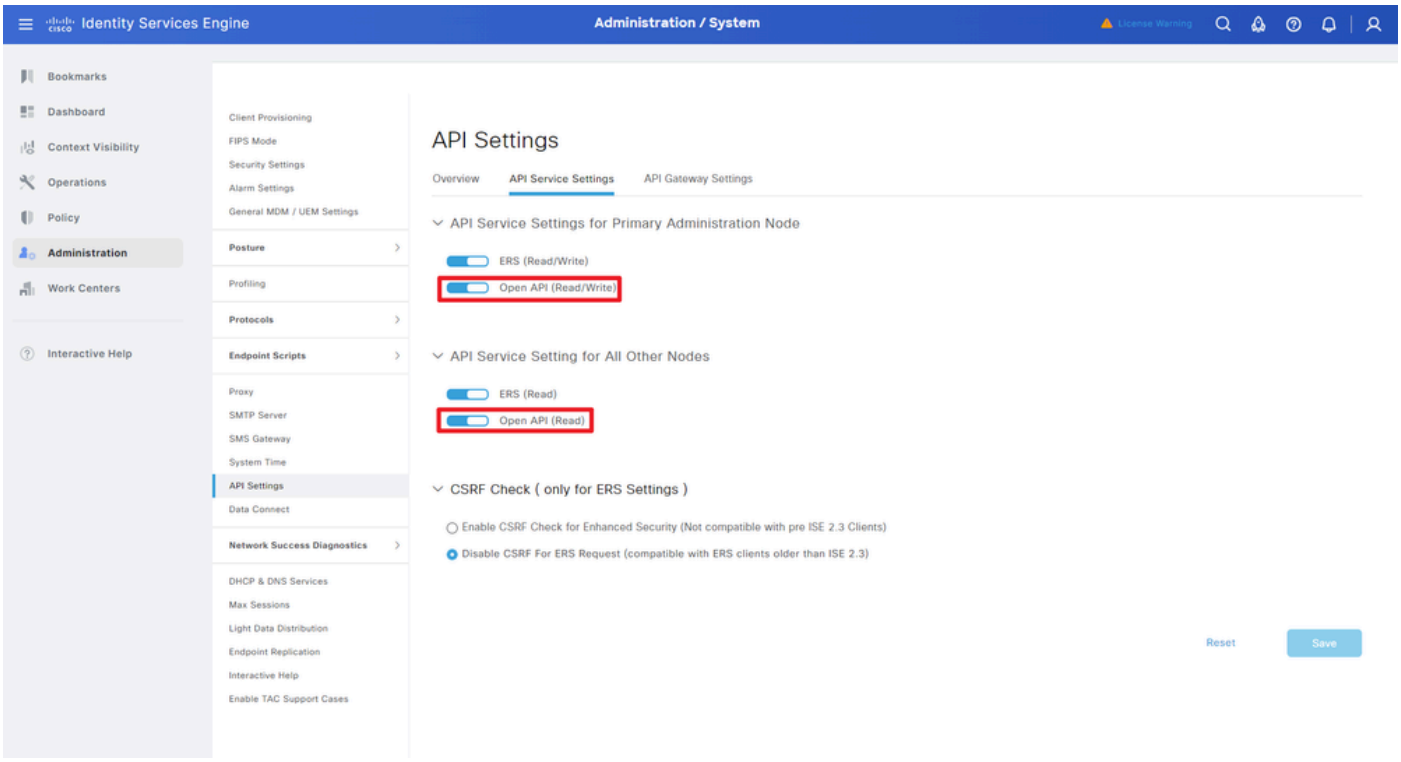
TTo add an API admin, navigate to**Administration > System > Admin Access > Administrators > Admin Users > Add.**



API Admin

Step 2: Enable Open API on ISE

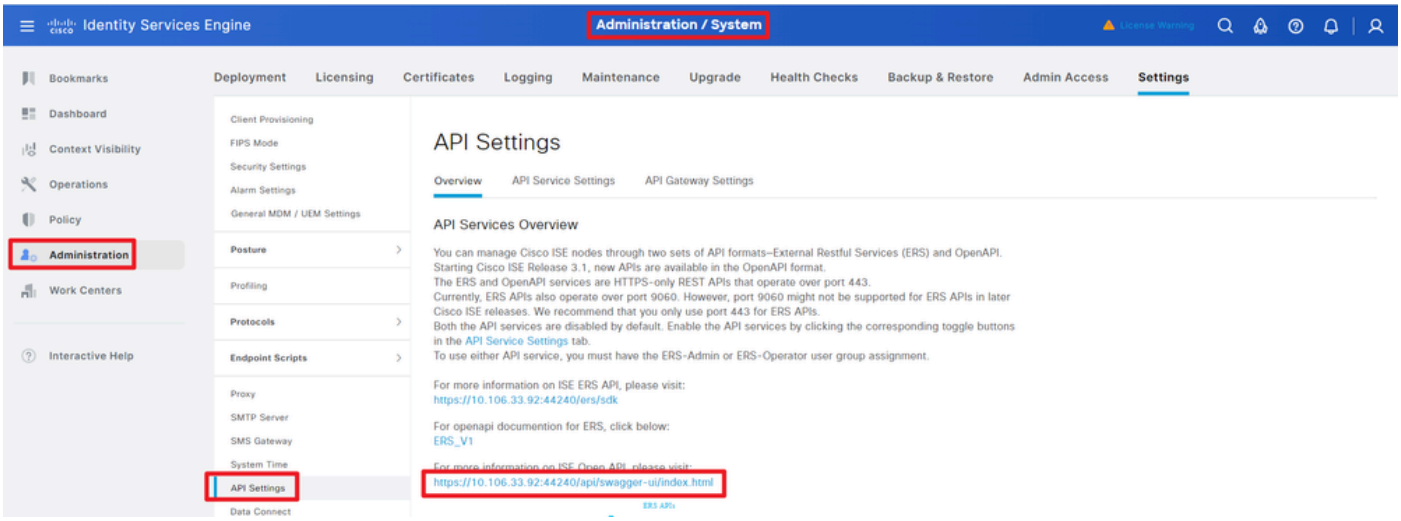
Open API is disabled by default on ISE. To enable it, navigate to **Administration > System > Settings > API Settings > API Service Settings**. Toggle the Open API options. Click ***Save***.



Enable OpenAPI

Step 3: Explore ISE open API

Navigate to **Administration > System > Settings > API Settings > Overview**. Click open API visit link.



Visit OpenAPI

Python Examples

Retrieve The List Of All The Nodes That Are Deployed In The Cluster

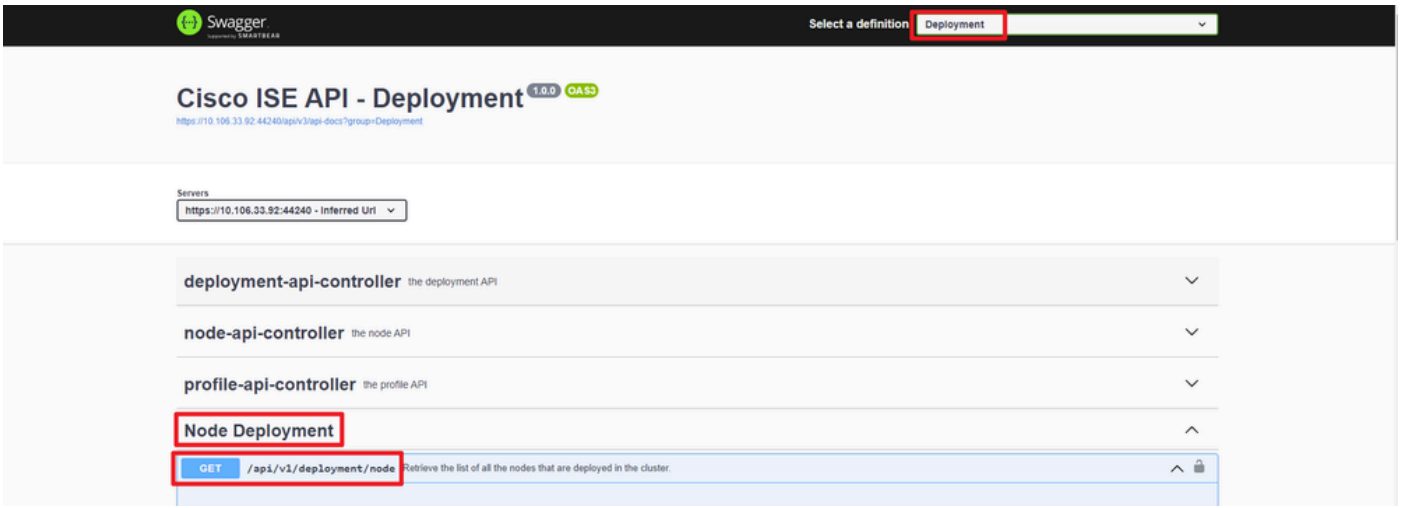
The API lists all the nodes that are deployed in the cluster.

Step 1: Required information for an API call.

Method	GET
URL	https://<ISE-PAN-IP>/api/v1/deployment/node

Credentials	Use Open API account credentials
Headers	Accept : application/json Content-Type : application/json

Step 2: Locate the URL that is utilized to retrieve deployment information.



API URI

Step 3: Here is the example of Python Code. Copy and paste the content. Replace the ISE IP, username, password. Save as a python file to execute.

Ensure the good connectivity between ISE and the device running the python code example.

<#root>

```
from requests.auth import HTTPBasicAuth
import requests

requests.packages.urllib3.disable_warnings()

if __name__ == "__main__":

   url = "
https://10.106.33.92/api/v1/deployment/node
"
    headers = {
"Accept": "application/json", "Content-Type": "application/json"
}
    basicAuth = HTTPBasicAuth(
"ApiAdmin", "Admin123"
)

    response = requests.get(url=url, auth=basicAuth, headers=headers, verify=False)
    print("Return Code:")
    print(response.status_code)
    print("Expected Outputs:")
```

```
print(response.json())
```

Here is the example of expected outputs.

Return Code:
200
Expected Outputs:
{'response': [{'hostname': 'ISE-BGL-CFME01-PAN', 'fqdn': 'ISE-BGL-CFME01-PAN.cisco.com', 'ipAddress': '192.168.20.240', 'roles': ['PrimaryAdmin'], '

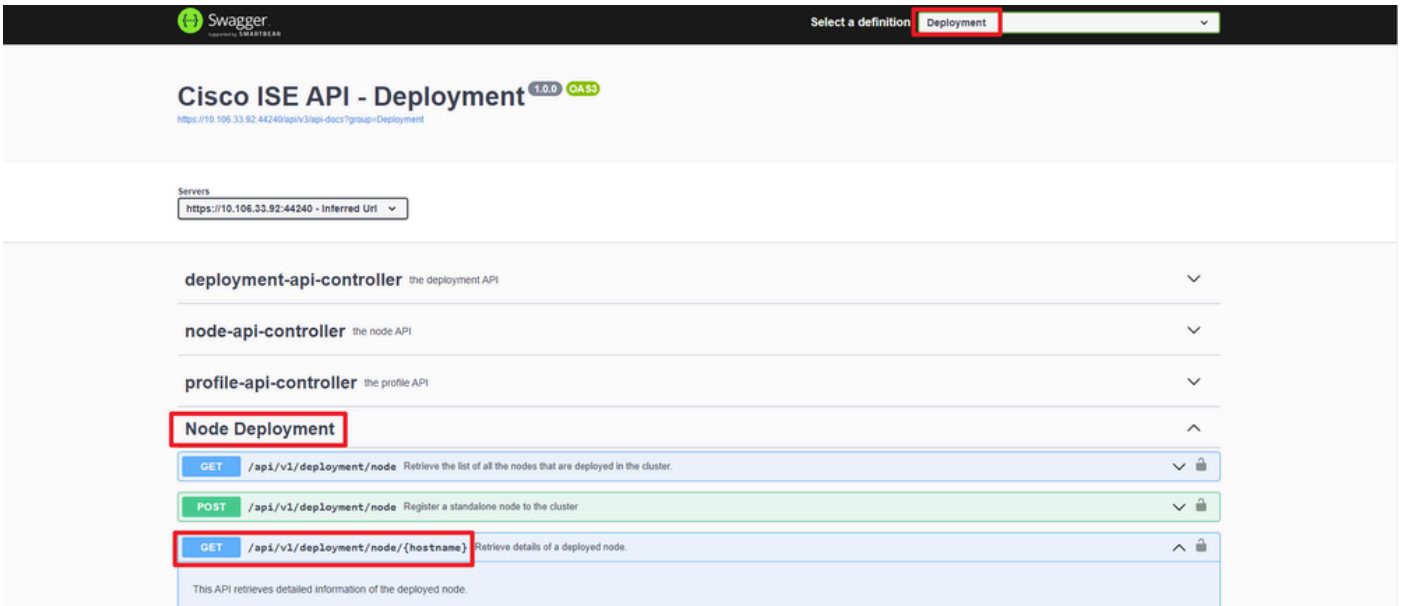
Retrieve Details Of A Deployed Node

This API retrieves detailed information of the specific ISE node.

Step 1: Required information for an API call.

Method	GET
URL	https://<ISE-PAN-IP>/api/v1/deployment/node/<ISE-Node-Hostname>
Credentials	Use Open API account credentials
Headers	Accept : application/json Content-Type : application/json

Step 2: Locate the URL that is utilized to retrieve the specific ISE node information.



API URI

Step 3. Here is the example of Python Code. Copy and paste the content. Replace the ISE IP, username, password. Save as a python file to execute.

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<#root>

```
from requests.auth import HTTPBasicAuth
import requests

requests.packages.urllib3.disable_warnings()

if __name__ == "__main__":

   url = "
https://10.106.33.92/api/v1/deployment/node/ISE-DLC-CFME02-PSN
"
    headers = {
"Accept": "application/json", "Content-Type": "application/json"
}
    basicAuth = HTTPBasicAuth(
"ApiAdmin", "Admin123"
)

    response = requests.get(url=url, auth=basicAuth, headers=headers, verify=False)
    print("Return Code:")
    print(response.status_code)
    print("Expected Outputs:")
    print(response.json())
```

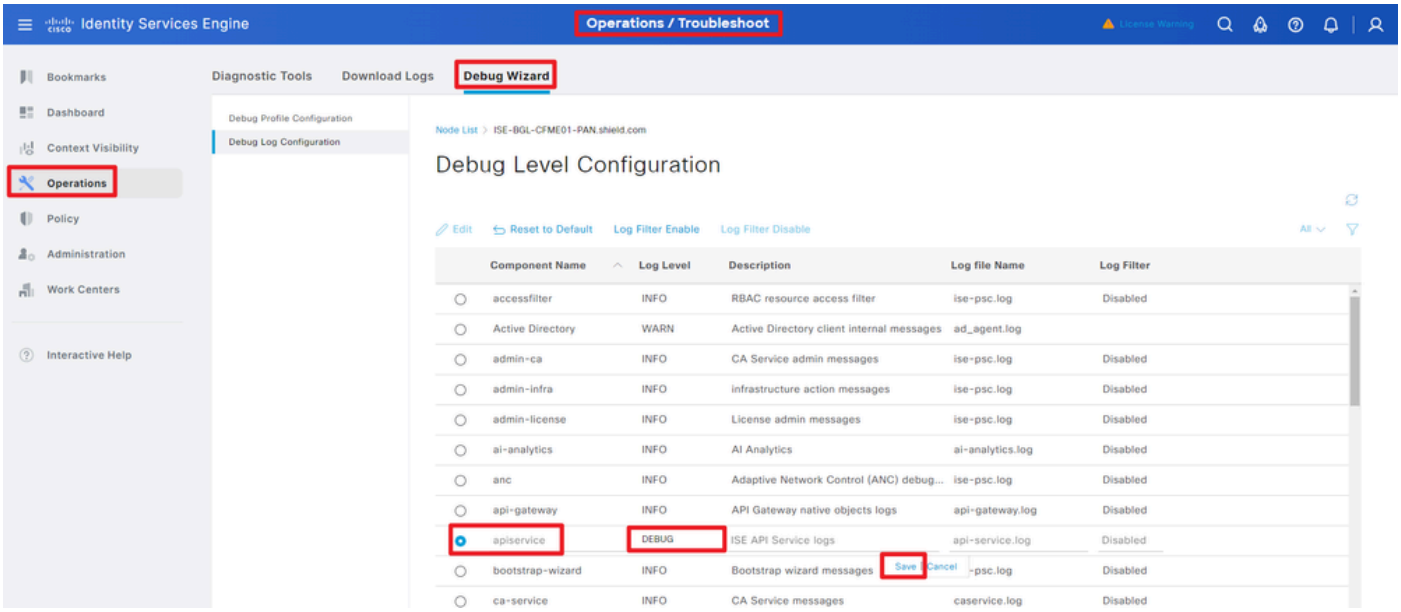
Here is the example of expected outputs.

```
Return Code:
200
Expected Outputs:
{'response': {'hostname': 'ISE-DLC-CFME02-PSN', 'fqdn': 'ISE-DLC-CFME02-PSN.cisco.com', 'ipAddress': '192.168.41.240', 'roles': [], 'services': ['Sessio
```

Troubleshoot

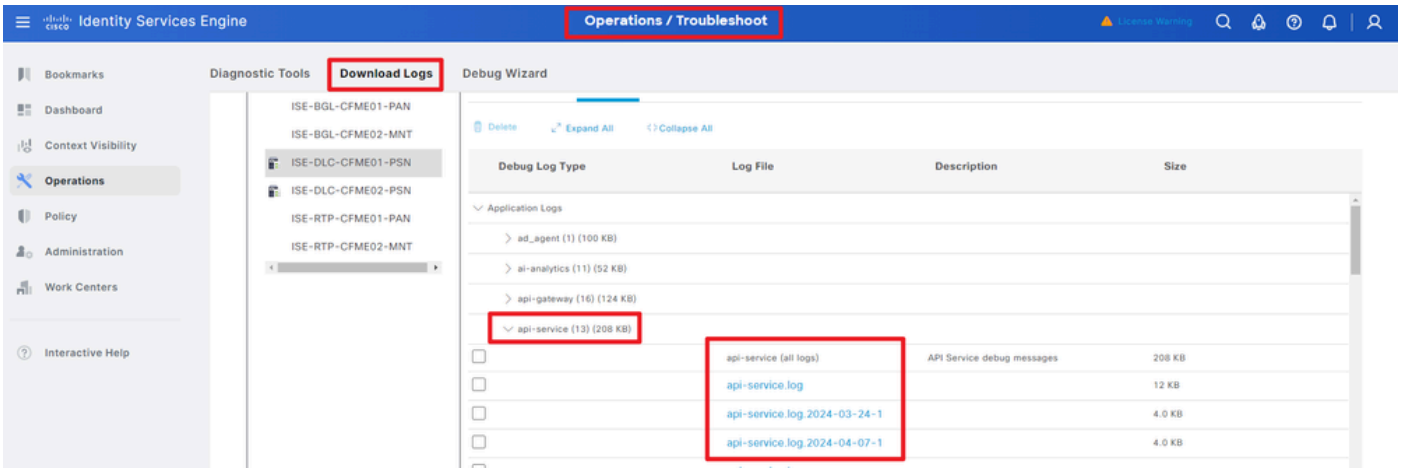
To troubleshoot issues that are related to the Open APIs, set the**Log Level**for the**apiservice**component to**DEBUG**in the**Debug Log Configuration**window.

To enable debug, Navigate to **Operations > Troubleshoot > Debug Wizard > Debug Log Configuration > ISE Node > apiservice.**



API Service Debug

To download debug logs, Navigate to ***Operations > Troubleshoot > Downlaod Logs > ISE PAN Node > Debug Logs.***



Download Debug Logs