Use Debugging System to Troubleshoot ISE

Contents

Introduction

Prerequisites

- Requirements
- Components Used

Background Information

Problem Statement

1- System Folder

- How to Access the System Folder
  - Example of Available System Folders

2-Logging Folder

- Before You Start
- Debug Profile Configuration
- Set Components Levels back to Default
- How to Access Logging Folder
- Some Available System Folders
- Breaking Down Command
  - Explanation:
- Find Needed File

Introduction

This document describes how to troubleshoot and catch errors while they are occurring by running **show logging** commands through the CLI.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Identity Services Engine (ISE).
- Command Line Interface (CLI).

Components Used

The information in this document is based on Identity Services Engine (ISE) 3.3 version.

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.

Background Information

ISE leverages a specific structure to store log files, which are detailed in this article. To achieve this, use the CLI to perform real-time error detection by running show logging commands.

Problem Statement

Cisco Identity Services Engine (ISE) maintains folders for storing local log messages. Depending on the nature of the issue, you can utilize two primary show logging commands to diagnose and troubleshoot:

1- System Folder

The System Folder displays system syslogs, allowing you to view live errors. This logging feature helps you identify system-related issues, such as problems with ISE services.

How to Access the System Folder

You can access this folder from the CLI by using this command:

• **show logging system <LogFile>**

Example of Available System Folders

SSPT33A/admin#**show logging system** 5105179 Jul 17 2024 20:09:49 ade/ADE.log 29542 Jan 02 2024 16:36:28 anaconda/anaconda.log 1012889 Jan 02 2024 16:36:28 anaconda/syslog 564 Jan 02 2024 17:07:06 boot.log 1416192 Jul 06 2024 13:57:25 btmp 292292 Jul 17 2024 20:09:07 lastlog 0 Jan 02 2024 16:31:58 maillog 4623022 Jul 17 2024 20:11:43 messages 548756 Jul 01 2024 23:50:00 sa/sa01 4173362 Jul 17 2024 20:11:11 secure 0 Jan 02 2024 16:31:58 spooler 16896 Jul 17 2024 19:38:55 wtmp SSPT33A/admin#

Example: Information about ISE application service - show logging system ade/ADE.log tail

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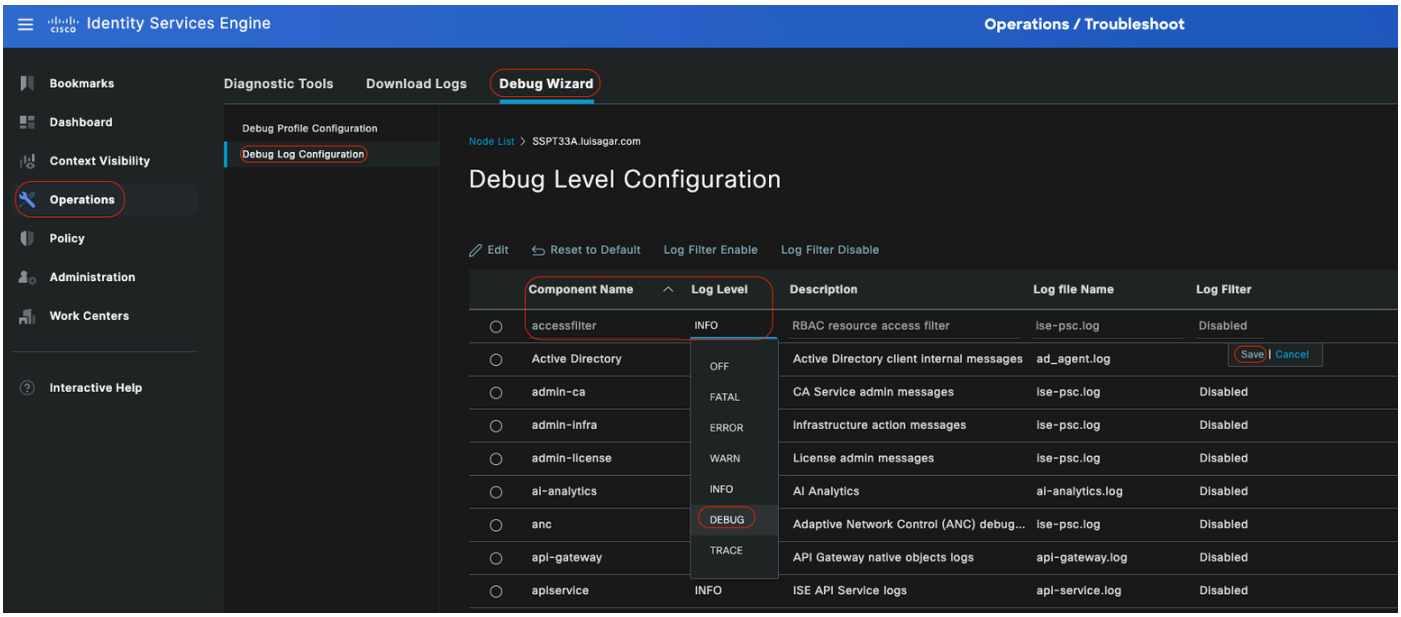
Note: To break logging run, simply press **Ctrl + C** once.

2- Logging Folder

The Logging Folder displays application syslogs, allowing you to view live errors. This logging feature helps you identify issues related to specific features, such as communication issues, Posture, Guest services, Profiling, and so on.

Before You Start

Most of the time when you are replicating an issue, you first need to set proper components at the debug or trace level. Navigate to **Operation > Troubleshoot > Debug Wizard > Debug Log Configuration**, select the **node**, click the **log level** under the **Component Name**, select the **Log Level** that you require, then click **Save**.



Setting Component

Note: Take into consideration, you need to set components levels back to default after recreating issue.

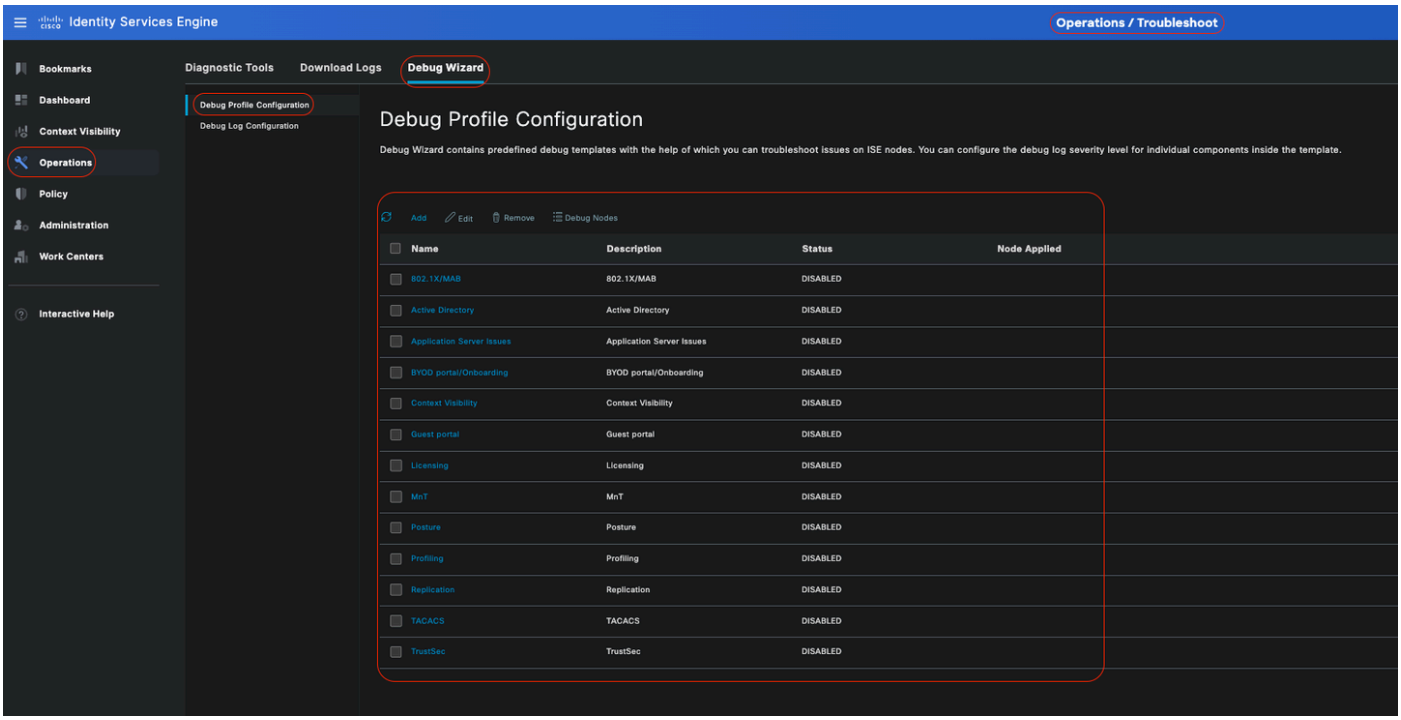
Warning: Enabling debug logging for **runtime-aaa, runtime-logging, and runtime-config** significantly impacts system performance. These logs must not be set to debug for **more than 15 minutes** to avoid performance degradation.

Debug Profile Configuration

Debug Wizard contains predefined debug templates with the help of which you can troubleshoot issues on ISE nodes. You can configure the debug log severity level for individual components inside the template. It provides predefined debug templates that simplify the process of setting up detailed logging for various components.

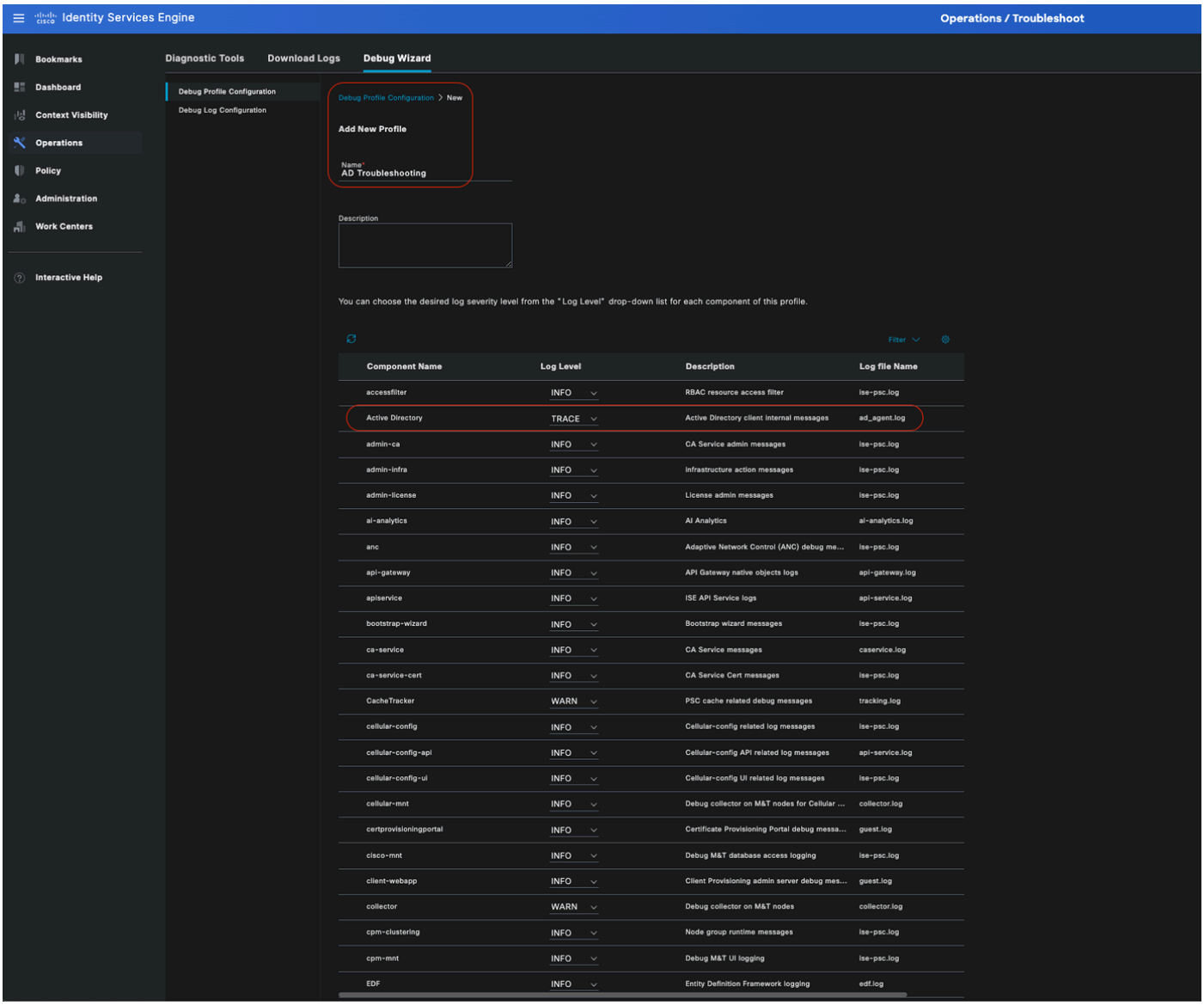
These templates are designed to address common troubleshooting scenarios, making it easier for administrators to quickly configure and activate the necessary debug settings.

To use or configure a template, you can navigate to **Operation > Troubleshoot > Debug Wizard > Debug Profile Configuration:**



Debug Profile Configuration

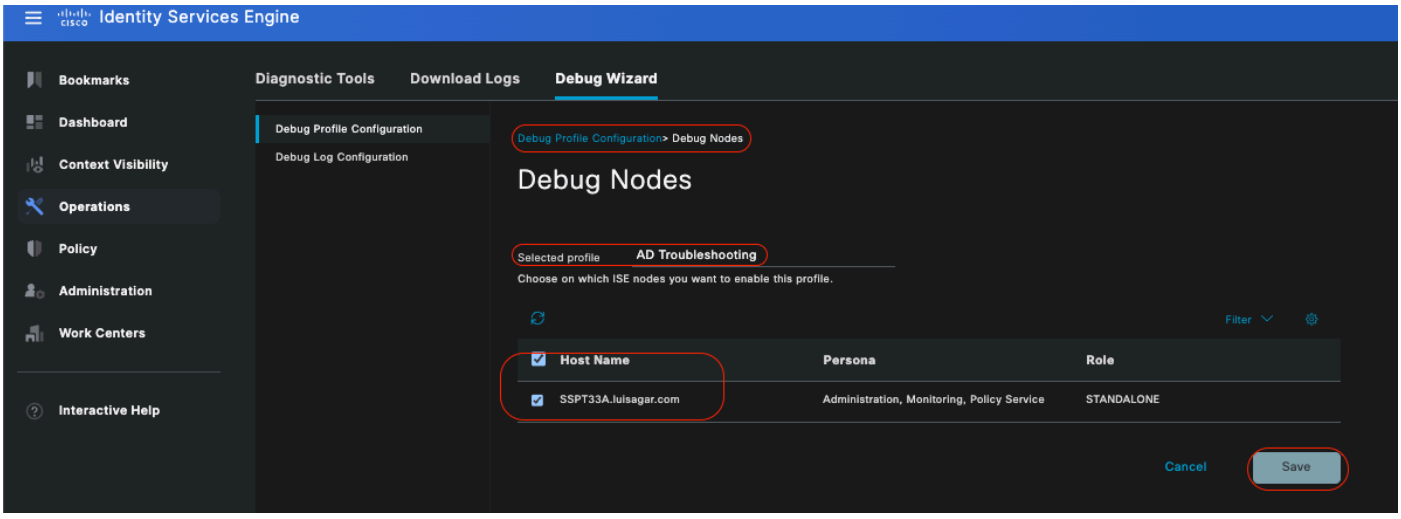
There are already some predefined templates, or click **Add** to build your own.



Adding new template

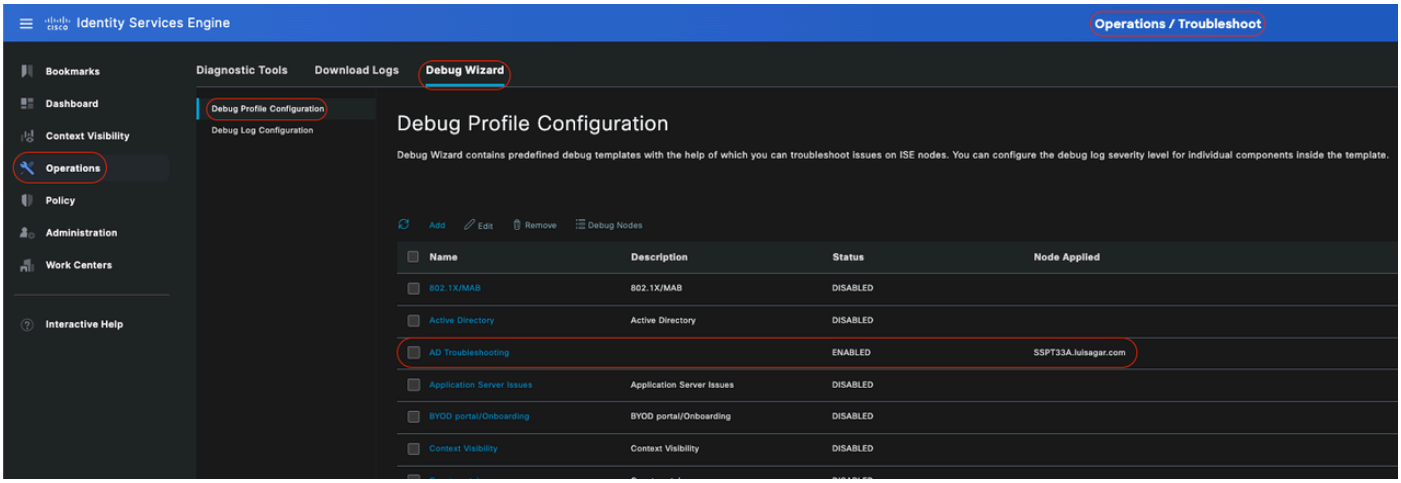
Enable a template.

By enabling a template, the component level that you have modified takes effect. Select **Template**, and click **Debug Nodes**. Select the **node** you want to apply the template to then click **Save**:



Debug Nodes

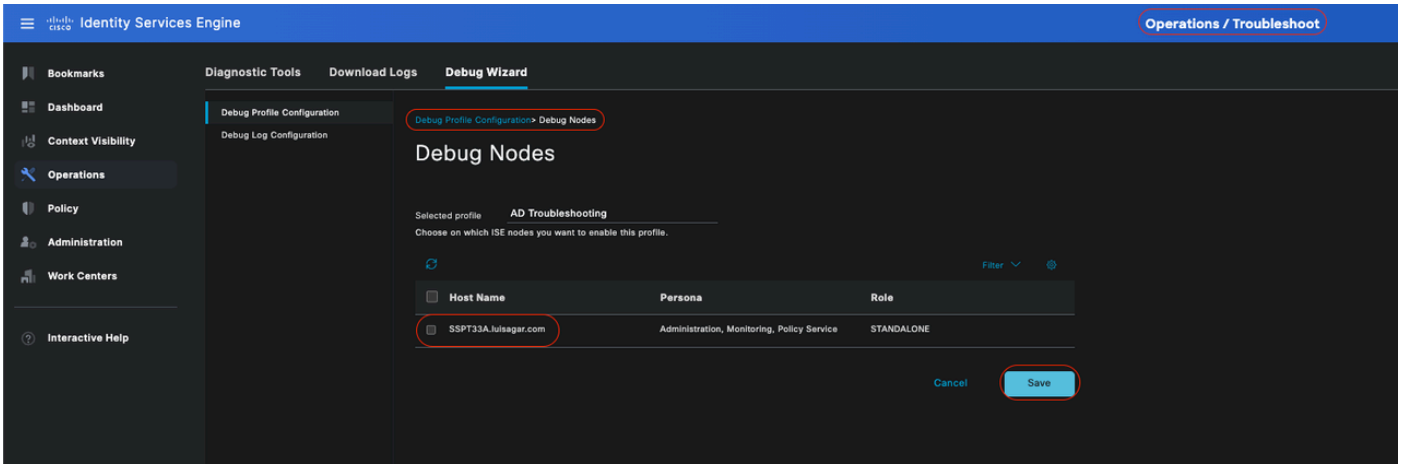
Now, the template must have the node assigned to it:



Verifying

Note: None of the component levels take effect until you use the template on a specific node.

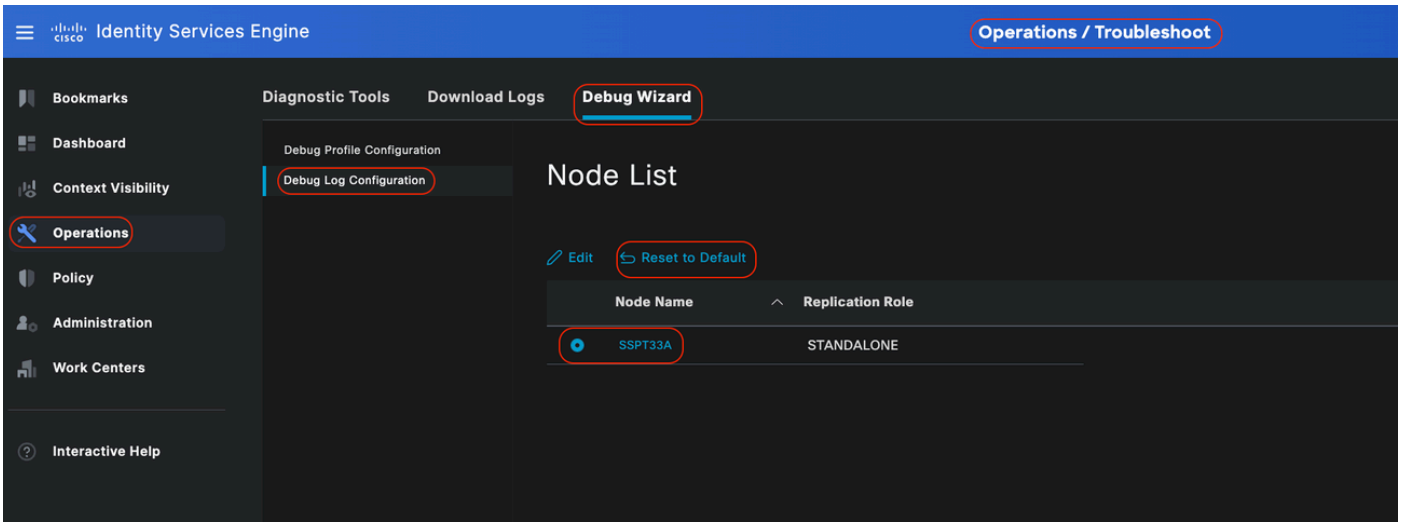
Disable **Debug Profile** template. Select the **template**. Click **Debug Nodes**. Uncheck the **node** where template is applied to, and click **Save**:



Disabling Template

Set Components Levels back to Default

Navigate to **Operation > Troubleshoot > Debug Wizard > Debug Log Configuration**. Select the **node**. Click **Reset toDefault**, then **Yes**.



Reset to Default

Warning: if you use the **Reset to Default** option while a **Debug Profile** template is enabled, the **Debug Profiletemplate** remains enabled, but the components return to their default settings, causing a mismatch. It is important not to use the **Reset to Default** option if there are **Debug Profile templates** enabled.

For more detailed information and specific examples, refer to the official Cisco documentation as this document provides a comprehensive matrix of components and debug logs: Troubleshoot and Enable Debugs on ISE

How to Access Logging Folder

You can access this folder from the CLI by using this command:

• show logging application <logfile>

Some Available System Folders

SSPT33A/admin#**show logging application** 11947 Jul 18 2024 12:20:28 ad_agent.log 96501 Jul 18 2024 13:29:33 collector.log 116751 Jul 18 2024 13:30:00 guest.log 196958 Jul 18 2024 13:01:20 ise-elasticsearch.log 5136021 Jul 18 2024 13:31:24 ise-psc.log 172755 Jul 18 2024 13:29:04 profiler.log 10596813 Jul 18 2024 13:31:10 prrt-server.log 28496 Jul 18 2024 12:37:04 redis.log 3489 Jul 18 2024 12:36:44 replication.log

Example: Information about ISE Guest service - show logging application profiler.log tail

Example: Information about ISE Guest service - **show logging application guest.log tail**

Besides looking for a specific message, use a key-word to look for it. Example: Information about ISE - show logging application localStore/iseLocalStore.log | include 70000\ NOTICE\

SSPT33A/admin#**show logging application localStore/iseLocalStore.log | include 70000\ NOTICE** 2024-07-18 00:03:28.668 -05:00 0000423187 70000 NOTICE System-Stats: ISE Utilization, ConfigVersionId=14667, SysStatsUtilizationCpu=5.41%, SysStatsUtilizationNetwork=eth0: rcvd = 2052\; sent = 4062 \;rcvd_dropped = 0\; sent_dropped = 0, SysStatsUtilizationNetwork=cni-podman1: rcvd = 1577511\; sent = 115782 \;rcvd_dropped = 0\; sent_dropped = 0, SysStatsUtilizationNetwork=veth2f590a1a: rcvd = **2024-07-18 00:08:46.369 -05:00 0000423194 70000 NOTICE System-Stats: ISE Utilization, ConfigVersionId=14667,** SysStatsUtilizationCpu=1.36%, SysStatsUtilizationNetwork=eth0: rcvd = 1959\; sent = 3012 \;rcvd_dropped = 0\; sent_dropped = 0, SysStatsUtilizationNetwork=cni-podman1: rcvd = 1576019\; sent = 114411 \;rcvd_dropped = 0\; sent_dropped = 0, SysStatsUtilizationNetwork=veth2f590a1a: rcvd =

SysStatsUtilizationDiskSpace=8% /opt, SysStatsUtilizationDiskSpace=1% /mnt/encpart, SysStatsUtilizationDiskSpace=8% /opt/podman/containers/storage/overlay, AverageRadiusRequestLatency=0, AverageTacacsRequestLatency=0, DeltaRadiusRequestCount=0, DeltaTacacsRequestCount=0, SysStatsUtilizationLoadAvg=0.40, SysStatsCpuCount=16, SysStatsProcessMemoryMB=18082, ActiveSessionCount=0,

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Note: This command **show logging application localStore/iseLocalStore.log | include 70000\ NOTICE** does not work depending on your patch level or ISE release (earlier). You can alternatively run this command **show logging application localStore/iseLocalStore.log | include "70000 NOTICE"**



Note: To break logging, simply press **Ctrl + C** once.

Breaking Down Command

SSPT33A/admin#**show logging application guest.log | include portalwebaction**

Explanation:

- show: This command is used to display information.
- logging: Refers to logs or log files.
- application: Specifies the application or process whose logs you want to view.
- **guest.log**: Specifies the log file named guest.log.
- **include**: This part of the command filters the output to include only lines that match a specific pattern or keyword.
- **portalwebaction**: The keyword or pattern to search for within the output of the previous command (show logging application guest.log).

Find Needed File

If you are unsure of the specific log name, you can filter to see further options. This is an example.
Click **enter** to see output:

ise3-3a/admin#**show logging application | include pxgrid** 14059847 Jul 18 2024 20:46:09 pxgrid/pxgrid-server.log 5367398 Jul 12 2024 23:59:39 pxgrid/pxgrid-server.log.2024-07-12-1 16261440 Jul 13 2024 23:59:44 pxgrid/pxgrid-server.log.2024-07-13-1 16261440 Jul 14 2024 23:59:49 pxgrid/pxgrid-server.log.2024-07-14-1 16261794 Jul 15 2024 23:59:53 pxgrid/pxgrid-server.log.2024-07-15-1 16261625 Jul 16 2024 23:59:58 pxgrid/pxgrid-server.log.2024-07-16-1 16261479 Jul 17 2024 23:59:45 pxgrid/pxgrid-server.log.2024-07-17-1 0 Jul 12 2024 15:42:36 pxgrid/pxgrid_dbsync_summary.log 0 Jul 12 2024 15:42:36 pxgrid/pxgrid_internal_dbsync_summary.log 16744 Jul 15 2024 20:45:49 pxgriddirect-connector.log 2841 Jul 15 2024 20:45:44 pxgriddirect-service.log 6277 Jul 12 2024 16:33:53 pxgriddirect-service.log.2024-07-12-1 ise3-3a/admin#