

Troubleshoot and Enable Debugs on ISE

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Introduction

This document describes how to troubleshoot and debug to enable when a specific issue occurs on Identity Service Engine (ISE).

Debug Log Configuration

ISE generates logs based on the configuration of the log level set for different types of features. Use these

instructions to change those settings to set the log to debug level.

1. For ISE 2.x versions, Navigate to **Administration > System > Logging > Debug log configuration**:

The screenshot shows the Cisco Identity Services Engine (ISE) administration interface. The top navigation bar includes links for Home, Network Visibility, Operations, Policy, Administration, Work Centers, System, Identity Management, Network Resources, Device Portal Management, pxGrid Services, Feed Service, PassiveID, Threat Centric NAC, Deployment, Licensing, Certificates, Logging, Maintenance, Upgrade, Backup & Restore, Admin Access, and Settings. The 'Logging' tab is selected. On the left, a sidebar lists Local Log Settings, Remote Logging Targets, Logging Categories, Message Catalog, Debug Log Configuration, and Collection Filters. The main panel is titled 'Node List' and displays a table with columns for Node Name and Replication Role. One entry, 'ISETest', is listed under 'Replication Role' STANDALONE. There are 'Edit' and 'Reset to Default' buttons above the table.

For ISE versions 3.x, Navigate to **Operations > Troubleshoot > Debug Wizard > Debug Log Configuration**:

The screenshot shows the Cisco Identity Services Engine (ISE) operations troubleshoot interface. The top navigation bar includes links for Cisco ISE, Diagnostic Tools, Download Logs, and Debug Wizard. The 'Debug Wizard' tab is selected. On the left, a sidebar lists Debug Profile Configuration and Debug Log Configuration. The main panel is titled 'Node List' and displays a table with columns for Node Name and Replication Role. Two entries, 'ISE30LABH1' and 'ISE30LABH2', are listed under 'Replication Role' PRIMARY and SECONDARY respectively. There are 'Edit' and 'Reset to Default' buttons above the table.

2. Choose the node which is affected/or causes the issue and click **Edit**.

3. A list of various log attributes to come up as shown in the image.

The screenshot shows the 'Debug Level Configuration' page for ISE 3.x. The URL is 'Node List > ISE30LABH1.surendrr.lab.local'. The page has 'Edit' and 'Reset to Default' buttons at the top. It displays a table with columns for Component Name, Log Level, Description, and Log file Name. The table lists various system components and their corresponding log files:

Component Name	Log Level	Description	Log file Name
accessfilter	INFO	RBAC resource access filter	ise-psc.log
Active Directory	TRACE	Active Directory client internal messages	ad_agent.log
admin-ca	INFO	CA Service admin messages	ise-psc.log
admin-infra	INFO	infrastructure action messages	ise-psc.log
admin-license	INFO	License admin messages	ise-psc.log
anc	INFO	Adaptive Network Control (ANC) debug messages	ise-psc.log
bootstrap-wizard	INFO	Bootstrap wizard messages	ise-psc.log
ca-service	INFO	CA Service messages	caservice.log
ca-service-cert	INFO	CA Service Cert messages	ise-psc.log
CacheTracker	WARN	PSC cache related debug messages	tracking.log
certprovisioningportal	INFO	Certificate Provisioning Portal debug messages	guest.log
cisco-mnt	INFO	Debug M&T database access logging	ise-psc.log
client-webapp	INFO	Client Provisioning admin server debug messages	guest.log

The list in the preceding image is not complete, but this is the place where the log level of certain services can be enabled.

All the log configurations for any feature described here can be set from this location. This section is referred to as the "debugs" page in related documentation.

Alternatively for ISE 3. x versions, one can choose to enable debugs by feature as well at **Operations > Troubleshoot > Debug Wizard > Debug Profile Configuration** and choose the node to apply those debugs as shown here:

Operations - Troubleshoot - Debug Wizard

Debug Profile Configuration > Debug Nodes

Name	Description	Status	Node Applied
802.1X/MASS	802.1X/MASS	ENABLED	ISE30LAH1.eurendr.lab.local
Active Directory	Active Directory	DISABLED	
Application Server Issues	Application Server Issues	DISABLED	
BYOD portal/Onboarding	BYOD portal/Onboarding	DISABLED	
Context Visibility	Context Visibility	DISABLED	
1 Guest portal	Guest portal	DISABLED	
Licensing	Licensing	DISABLED	
MnT	MnT	DISABLED	
Posture	Posture	DISABLED	
Profiling	Profiling	DISABLED	
Replication	Replication	DISABLED	
TACACS	TACACS	DISABLED	
TrustSec	TrustSec	DISABLED	

Operations - Troubleshoot - Debug Wizard

Debug Profile Configuration > Debug Nodes

Selected profile: Guest portal

Choose on which ISE nodes you want to enable this profile.

Host Name	Persona	Role
3 ISE30LAH1.eurendr.lab.local	Administration, Monitoring, Policy Service, p...	PRI(A), PRI(M)
ISE30LAH2.eurendr.lab.local	Administration, Monitoring, Policy Service, p...	SEC(A), SEC(M)

4 Save

4. After the appropriate debugs are enabled (which are given for specific issues in the next sections), reproduce/recreate the issue.
5. Record the timestamps at which the issue is reproduced.
6. Record the endpoint ID (MAC Addresses) or IP Addresses of the clients that were tested.
7. Set the log levels to their defaults as you choose the attribute and click **Reset to Default**.
8. Navigate to **Operations > Troubleshoot > Download logs**. Choose the node on which the logs must be collected.
9. The support bundle can be found under **Operations > Troubleshoot > Download Logs >** [select the node on which the issue was reproduced/seen].
10. These options are used to generate the file:

- [] Include full configuration database
- Include debug logs
- Include local logs

- [] Include core files
- Include monitor- and report logs
- Include system logs

Set the encryption key to <Encryption key of choice>

Choose the (time range)days on which the issue is recreated/seen.

11. In order to collect the support bundle, click on the **download** button.

The screenshot shows the 'Support Bundle' configuration page. At the top, there are two tabs: 'Support Bundle' (which is selected) and 'Debug Logs'. Below the tabs, there is a list of checkboxes for selecting log types:

- Include full configuration database (with a help icon)
- Include debug logs (with a help icon)
- Include local logs (with a help icon)
- Include core files (with a help icon)
- Include monitoring and reporting logs (with a help icon)
- Include system logs (with a help icon)
- Include policy configuration (with a help icon)

 There are two date input fields: 'From Date' and 'To Date', both with placeholder text '(mm/dd/yyyy)' and small calendar icons. Below these fields is a note: '* Note: Output from the "show tech-support" CLI command will be included along with the selected entries.' Under the 'Support Bundle - Encryption' section, there are two radio buttons: 'Public Key Encryption' (selected) and 'Shared Key Encryption' (with a help icon). Below these are two input fields labeled '* Encryption key' and '* Re-Enter Encryption key', each with a small help icon. At the bottom left, there is a note: '* Note: Log bundle may contain sensitive data. Ensure it is only distributed to authorized personnel.' On the right side, there is a blue 'Create Support Bundle' button.

Upload the support bundle and other details to the case from [here](#).

Problem: Profiling

Attributes to be set to debug level:

- profiler (profiler.log)
- runtime-AAA (prrt-server.log)
- nsf (ise-psc.log)
- nsf-session (ise.psc.log)

Note: When you set the runtime-AAA to debug, it sets prrt-JNI also to debug level. This is expected. If you enable runtime debugs, it can have significant performance issues under heavy load. It is recommended to consult with TAC or enable the debugs in a maintenance window to troubleshoot problems.

Problem: Licensing

Attributes to be set to debug level:

- License (ise-psc.log)

- admin-license (ise-psc.log)

Problem: Posture

Attributes to be set to debug level:

- posture (ise-psc.log)
- portal (guest.log)
- provisioning (ise-psc.log)
- runtime-AAA (prrt-server.log)
- nsf (ise-psc.log)
- nsf-session (ise-psc.log)
- swiss (ise-psc.log)
- client-webapp (guest.log)

Problem: Guest Portal

Attributes to be set to debug level:

- guestaccess (guest.log)
- guest-admin (guest.log)
- guest-access-admin (guest.log)
- profiler (profiler.log)
- runtime-AAA (prrt-server.log)
- saml (guest.log) (enable this only if saml is in use)
- nsf (guest.log)
- nsf-session (guest.log)

Problem: dot1x/mab

Attributes to be set to debug level:

- runtime-AAA (prrt-server.log)
- nsf (ise-psc.log)
- nsf-session (ise-psc.log)

Problem: Replication

Attributes to be set to debug level:

- Replication-Deployment (replication.log and ise-psc.log)
- Replication-JGroup (replication.log and ise-psc.log)
- Replication Tracker (tracking.log)
- hibernate (hibernate.log)
- JMS (replication.log)

Problem: SAML-Related Issues

Attributes to be set to debug level:

- opensaml (ise-psc.log)
- saml (ise-psc.log)

Problem: Application Server Issues

Attributes to be set to debug level:

- org-apache (appserver/catalina.out)
- org-apache-cxf (appserver/catalina.out)
- org-apache-digester (appserver/catalina.out)

Problem: Sponsor Portal

Attributes to be set to debug level:

- sponsorportal (ise-psc.log)
- portal (guest.log)
- runtime-AAA (prrt-server.log)
- nsf (ise-psc.log)
- nsf-session (ise-psc.log)

Problem: BYOD portal/Onboarding

Attributes to be set to debug level:

- client (guest.log)
- client-webapp (guest.log)
- scep (ise-psc.log)
- ca-service (ise-psc.log)
- admin-ca (ise-psc.log)
- runtime-AAA (prrt-server.log)
- nsf (ise-psc.log)
- nsf-session (ise-psc.log)
- profiler (profiler.log)

Problem: MDM

Attributes to be set to **TRACE** level:

- portal (guest.log)
- mdmport (ise-psc.log)
- external-mdm (ise-psc.log)
- runtime-AAA (prrt-server.log)
- nsf (ise-psc.log)
- nsf-session (ise-psc.log)

Problem: Certificate Provisioning Portal

Attributes to be set to debug level:

- ca-service (caservice.log)
- admin-ca (ise-psc.log)
- clientprovisioningportal (ise-psc.log)
- portal (guest.log)

Problem: My Devices Portal

Attributes to be set to debug level:

- portal (guest.log)
- mydevices (ise-psc.log)
- profiler (profiler.log)

Problem: TrustSec

Attributes to be set to debug level:

- sxp (sxp_appserver/sxp.log)
- sgtbinding (sxp_appserver/sxp.log)
- runtime-AAA (prrt-server.log)
- nsf (ise-psc.log)
- nsf-session (ise-psc.log)

Problem: Vulnerability Assessment and Trust Centric NAC

Attributes to be set to debug level:

- va-runtime (varuntime.log)
- va-service (varuntime.log and vaaggregation.log)
- TC-NAC (ise-psc.log)
- anc (ise-psc.log)

Problem: ODBC Identity Store Related Issues

Attributes to be set to debug level:

- odbc-id-store (prrt-management.log and prrt-server.log)

Problem: RBAC Issues

Attributes to be set to debug level:

- accessfilter (ise-psc.log)

Problem: pxGrid

Attributes to be set to TRACE level:

- pxgrid (pxgrid/)

Problem: Log/Reports

Attributes to be set to debug level:

- cpm-mnt (ise-psc.log)
- report (ise-psc.log)
- cisco-mnt (ise-psc.log)
- runtime-logging (prrt-server.log)
- collector (collector.log)

Problem: Active Directory

Attributes to be set to **TRACE** level:

- Active Directory (ad_agent.log)
- identity-store-AD (ad_agent.log)
- runtime-AAA (prrt-server.log)
- nsf (ise-psc.log)
- nsf-session (ise-psc.log)

Problem: PassiveID

Attributed to be set to debug level:

- PassiveID (passiveid*)
- runtime-AAA (prrt-server.log)
- Active Directory (ad_agent.log)
- collector (collector.log) (on PassiveID,MnT nodes and on active pxGrid node if sessions are published)
- pxGrid (pxgrid/) (on secondary MnT and active pxGrid node if the sessions are published)

Problem: REST Services

Attributes to be set to debug level:

- ers (ise-psc.log)

Problem: TACACS

Attributes to be set to debug level:

- runtime-AAA (prrt-server.log)

Problem: Wireless Setup

Attributes to be set to debug level:

- wirelesssetuphelper (/wifisetup)

Problem: Context Visibility

Attributes to be set to debug level:

- vcs (ise-elasticsearch.log)
- vcs-db (ise-elasticsearch.log)

Problem: RabbitMQ Messaging

- ise-messaging (ise-messaging/)

Problem: Light Session Directory

- Light-Session-Directory (lsd.log)

Problem: SSE Connector/Smart Call Home

- sse-connector (connector.log)

Problem: UDN

- UDN (udn.log)

Problem: Endpoint Scripts

- endpoint-script (ise-psc.log)

LDAP

- runtime-aaa (prrt-server.log)

Debugs Required to Troubleshoot more Generic Issues

Problem: Portal Issues

Attributes to be set to debug level:

- portal (guest.log)
- portal-session-manager (guest.log)
- portal-web-action (guest.log)
- previewportal (preview section in every portal configuration page) (guest.log)

Problem: Policy and Rules Evaluation Issues

Attributes to be set to debug level:

- RuleEngine-Policy-IDGroups (ise-psc.log)
- RuleEngine-Attributes (ise-psc.log)
- Policy-Engine (ise-psc.log)
- epm-pdp (ise-psc.log)
- epm-pip (ise-psc.log)