

Release notes

ForgeRock supports and maintains versions according to the [ForgeRock Product Support Lifecycle Policy | IG and Agents](#). Some older Java Agent versions have reached Product End of Life (EOL). If you are still running an EOL version, upgrade as soon as possible to an actively maintained version.



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ForgeRock® Identity Platform serves as the basis for our simple and comprehensive Identity and Access Management solution. We help our customers deepen their relationships with their customers, and improve the productivity and connectivity of their employees and partners. For more information about ForgeRock and about the platform,

see <https://www.forgerock.com>. The ForgeRock® Common REST API works across the platform to provide common ways to access web resources and collections of resources.

What's new

▼ [Conditional redirect of unauthenticated requests based on request query parameters](#)

Query parameters can now be used in the property [OAuth Login URL List](#) to create rules that evaluate request URLs for login redirect. Previously, the rules were based only on the request domain, path, and header.

▼ [Invalidation of sessions on logout](#)

[Always invalidate sessions](#) is a new property to invoke the AM REST logout endpoint.

If [Conditional Logout URL List](#) is set to a URL that does not perform a REST logout to AM, set [Always invalidate sessions](#) to `true` so that the agent additionally invokes the AM REST logout endpoint to invalidate the session.

▼ [DENY keyword for not-enforced rules](#)

The new `DENY` keyword immediately denies access to matching resources. Access is *always* denied. A not-enforced rule with the `DENY` keyword is not inverted by the `NOT` keyword or by the following properties [Invert Not-Enforced IPs](#) or [Invert Not-Enforced URIs](#).

For details, refer to [Deny access](#).

▼ [JDK 8](#)

Support for JDK 8 is removed in this release.

Requirements

ForgeRock supports customers using the versions specified here. Other versions and alternative environments might work as well. When opening a support ticket for an issue, however, make sure you can also reproduce the problem on a combination covered here.

Supported operating systems & web application containers

Java Agent requires the WebSocket protocol to communicate with AM. Both the Java container and the network infrastructure must support the WebSocket protocol. For information about WebSocket support, see the documentation for you network infrastructure and Java container.

Java EE platform requirements

Operating systems (OS)	OS versions	Web application containers & minimum supported versions
<ul style="list-style-type: none">CentOS	<ul style="list-style-type: none">7⁽¹⁾	<ul style="list-style-type: none">Apache Tomcat 8.5, 9.0Eclipse Jetty 9.4.13 or later ⁽¹⁾⁽²⁾, 10Oracle WebLogic Server 14c (14.1.1) ⁽²⁾Red Hat JBoss Enterprise Application Platform 7.3⁽²⁾, 7.4⁽²⁾WildFly 24⁽¹⁾⁽²⁾, 25, 26
<ul style="list-style-type: none">Amazon Linux 2		
<ul style="list-style-type: none">Red Hat Enterprise LinuxOracle Linux	<ul style="list-style-type: none">7⁽¹⁾89	
<ul style="list-style-type: none">Ubuntu Linux	<ul style="list-style-type: none">18.04 LTS20.04 LTS22.04 LTS	
<ul style="list-style-type: none">Microsoft Windows Server	<ul style="list-style-type: none">201620192022	<ul style="list-style-type: none">Apache Tomcat 8.5, 9.0

⁽¹⁾Support to be discontinued in a future release.

⁽²⁾Does not support JDK 17.

Jakarta platform requirements

Java Agent supports Jakarta EE 9+.

Operating systems (OS)	OS versions	Web application containers & minimum supported versions
<ul style="list-style-type: none"> CentOS 	<ul style="list-style-type: none"> 7⁽¹⁾ 	<ul style="list-style-type: none"> Apache Tomcat 10⁽¹⁾, 10.1 Eclipse Jetty 11 WildFly Preview 24⁽¹⁾⁽²⁾, 25, 26 WildFly 27
<ul style="list-style-type: none"> Amazon Linux 2 		
<ul style="list-style-type: none"> Red Hat Enterprise Linux Oracle Linux 	<ul style="list-style-type: none"> 7⁽¹⁾ 8 9 	
<ul style="list-style-type: none"> Ubuntu Linux 	<ul style="list-style-type: none"> 18.04 LTS⁽¹⁾ 20.04 LTS 22.04 LTS 	
<ul style="list-style-type: none"> Microsoft Windows Server 	<ul style="list-style-type: none"> 2016 2019 2022 	<ul style="list-style-type: none"> Apache Tomcat 10⁽¹⁾, 10.1

⁽¹⁾Support to be discontinued in a future release.

⁽²⁾Does not support JDK 17.

AM requirements

Java Agent 2023.3 supports AM 6.5 and later versions.

Java Agent requires the WebSocket protocol to communicate with AM. Both the Java container and the network infrastructure must support the WebSocket protocol. For information about WebSocket support, see the documentation for your network infrastructure and Java container.

If you are upgrading from a Java Agent version before 5, note that Java Agent 5 introduced important changes in the configuration. For example, support for JAAS was dropped, and you must now enable a new property if you are not using the AM admin UI as the login page. For more information about changes introduced in Java Agent 5, refer to the Java Agent 5 Release notes.

Java requirements

Java Agent runs in a Java container, and requires a Java Development Kit. ForgeRock supports customers using the following Java versions. ForgeRock recommends the most recent Java update, with the latest security fixes.

Supported versions of Java Development Kit

Vendor	Version	Web application containers & minimum supported versions
Oracle JDK	11	<ul style="list-style-type: none"> • WildFly • Tomcat 9 • JBoss EAP 7.3+ • Jetty 9.4.13+⁽¹⁾, 10, 11
	17	<ul style="list-style-type: none"> • Wildfly 25+ • Tomcat 9+ • Jetty 10+
OpenJDK	11	<ul style="list-style-type: none"> • WildFly • Tomcat 9, 10 • JBoss EAP 7.3+ • Jetty 9.4.13+⁽¹⁾⁽²⁾, 10, 11
	17	<ul style="list-style-type: none"> • Wildfly 25+ • Tomcat 9+ • Jetty 10+

⁽¹⁾Supports Java 11.

⁽²⁾Support to be discontinued in a future release.

For information about web container requirements for JDK, refer to [Platform requirements](#).

Supported clients

Supported clients

Client Platform	Native Apps ⁽¹⁾	Chrome 62+	Edge 25+	Firefox 57+	Safari 11+	Mobile Safari
Windows 8	✓	✓		✓		

Client Platform	Native Apps ⁽¹⁾	Chrome 62+	Edge 25+	Firefox 57+	Safari 11+	Mobile Safari
Windows 10	✓	✓	✓	✓		
Mac OS X 10.11 or later	✓	✓		✓	✓	
Ubuntu 14.04 LTS or later	✓	✓		✓		
iOS 9 or later	✓	✓				✓
Android 6 or later	✓	✓				

⁽¹⁾Native Apps is a placeholder to indicate the platform is not limited to browser-based technologies. An example of a native app would be something written to use ForgeRock REST APIs.

Special requests

If you have a special request regarding support for a combination not listed here, contact ForgeRock at info@forgerock.com.

Incompatible changes

- Support for JDK 8 has been removed.
- WebLogic 12c Java Agent and WebSphere Java Agent do not support JDK 11, which is the minimum JDK version supported in this release. Consequently, these platforms are not supported in this release. Use Java Agent 5.10 or an earlier version for these platforms.

Deprecation

The following objects are deprecated, as defined in [Release levels and interface stability](#):

Deprecated in	Object	Description
Java Agent 5.9	<u>Fall-Forward Mode</u> (deprecated)	Replaced by <u>Strategy when AM unavailable</u> .
	<u>Autonomous mode</u>	This property was previously labelled <u>Fallback Mode</u> ; it is now labelled <u>Autonomous Mode</u> .
	<u>Agent Filter Mode Map</u>	The agent filter mode <u>ALL</u> is deprecated, and replaced by <u>URL_POLICY</u> .
Java Agent 5.6	<u>Enable Notification of Session Logout</u> (deprecated)	Whole object
	<u>POST Data Preservation Cache TTL in Milliseconds</u> (deprecated)	Whole object
	<u>Port Check Filename</u> (deprecated)	Whole object
	<u>Port Check Protocol Map</u> (deprecated)	Whole object
	<u>Enable Port Checking</u> (deprecated)	Whole object
	<u>Legacy User Agent Redirect URI</u> (deprecated)	Whole object
	<u>Enable Legacy Support Handlers</u> (deprecated)	Whole object
	<u>Legacy User Agent List</u> (deprecated)	Whole object
	<u>Obsolete Notification URL</u> (deprecated)	Whole object

Removed

Removed is defined in [Release levels and interface stability](#).

Object	Description
JDK 8	Support for JDK 8 is removed in this release.
WebSphere Java Agent	WebSphere Java Agent does not support JDK 11, which is the minimum JDK version supported in this release. Consequently, WebSphere Java Agent is not supported in this release. To use WebSphere Java Agent, you are required to use Java Agent 5.10 or earlier versions.
<code>org.forgerock.agents.cookie.reset.d omain.map</code>	Reset cookie domain map, to map specified cookies to a domain.

Fixes

The following issues were fixed in this release:

- AMAGENTS-5550: Changing the log level at runtime stops logging altogether
- AMAGENTS-5497: Avoid use of the "Agent Tree" for JPA login due to bugs in AM 7.2
- AMAGENTS-5089: `agentadmin --encrypt Agent_Id <password-file>` throws error
- AMAGENTS-4816: Do not invoke rest logout for some special cases
- AMAGENTS-3912: Avoid displaying a huge stacktrace to the user when the bootstrap properties file cannot be opened

Security advisories

ForgeRock issues security advisories in collaboration with our customers and the open source community to address any security vulnerabilities transparently and rapidly.

ForgeRock's security advisory policy governs the process on how security issues are submitted, received, and evaluated as well as the timeline for the issuance of security advisories and patches.

For details of all the security advisories across ForgeRock products, see [Security Advisories](#) in the *Knowledge Base library*.

Limitations

The following limitations in this release are inherent to the design, not bugs to be fixed:

▼ [CDSSO Domain List Restrictions for WildFly and JBoss](#)

Cookie support in WildFly and JBoss has been implemented so that only one cookie can be set with a certain name. This prevents setting the same cookie for multiple domains.

Configuring the [JWT Cookie Domain List](#) with more than one cookie domain may result in redirection loops.

To work around this issue, perform the following steps:

1. Go to **REALMS** > **realm name** > **Applications** > **Agents** > **Java** > **agent name** > **SSO**.
2. Remove all cookie domains from the [JWT Cookie Domain List](#).
3. Go to **REALMS** > **realm name** > **Applications** > **Agents** > **Java** > **agent name** > **Global**.
4. Configure any required entries in the **Agent Root URL for CDSSO**. The agent sets the cookie domain based on the requested resource.

▼ [CDSSO Domain list restrictions for Tomcat](#)

Tomcat 8.0.x introduced a new cookie processor, `org.apache.tomcat.util.http.Rfc6265CookieProcessor`, that became the default cookie processor on Tomcat 8.5.x.

Due to the new cookie processor's cookie validation checks, configuring domains with leading dots (.) in the [JWT Cookie Domain List](#) can result in the following issues:

- Java Agent returning HTTP 403 errors.
- Tomcat server logging messages similar to the following:

```
ERROR: AmFilter: Error while delegating to inbound handler:
CDSSO Result Task Handler, access will be denied
java.lang.IllegalArgumentException: An invalid domain
[.example.com] was specified for this cookie
at
org.apache.tomcat.util.http.Rfc6265CookieProcessor.validateD
omain(Rfc6265CookieProcessor.java:183)
at
org.apache.tomcat.util.http.Rfc6265CookieProcessor.generateH
eader(Rfc6265CookieProcessor.java:125)
at
```

```
org.apache.catalina.connector.Response.generateCookieString(
Response.java:989)
at
org.apache.catalina.connector.Response.addCookie(Response.ja
va:937)
at
org.apache.catalina.connector.ResponseFacade.addCookie(Respo
nseFacade.java:386)
at
com.sun.identity.shared.encode.CookieUtils.addCookieToRespon
se(CookieUtils.java:412)
...
```

To work around this issue, perform one of the following actions:

- Configure the legacy cookie processor implementation, `org.apache.tomcat.util.http.LegacyCookieProcessor`, in your Tomcat server. Refer to the documentation for your version of Tomcat for more information.
- Ensure the domains entered in [JWT Cookie Domain List](#) start with a number or a letter. For example:

Valid configuration

```
org.forgerock.agents.jwt.cookie.domain.list[0]=example.com
org.forgerock.agents.jwt.cookie.domain.list[1]=123company.co
m
```

Invalid configuration

```
org.forgerock.agents.jwt.cookie.domain.list[0]=.example.com
org.forgerock.agents.jwt.cookie.domain.list[1]=.mycompany.co
m
```

▼ [The agentadmin command shows warning messages](#)

The `agentadmin` command may show warning messages similar to the following:

```
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by
org.forgerock.openam.sdk.com.google.inject.internal.cglib.core.$
ReflectUtils$1 ...
WARNING: Please consider reporting this to the maintainers of
org.forgerock.openam.sdk.com.google.inject.internal.cglib.core.$
ReflectUtils$1
WARNING: Use --illegal-access=warn to enable warnings of further
```

```
illegal reflective access operations
WARNING: All illegal access operations will be denied in a
future release
```

You can safely ignore these messages.

Known issues

The following important issue remains open in this release:

- AMAGENTS-5654: Conditional login does not work in case when specific header should match any value
- AMAGENTS-5631: Encrypt-in-place does not overwrite existing password
- AMAGENTS-5602: Pathinfo stripping is only done for not-enforced rules.
- AMAGENTS-5601: NotEnforcedRuleHelper instantiates a metrics object, but never uses it.
- AMAGENTS-5600: Enabling pathinfo and using URL encoding raises exception
- AMAGENTS-5505: When using local mode for agent, there are some changes to AgentConfiguration.properties which would allow for easier set up

Documentation

Date	Description
March 2023	Initial release of Java Agent 2023.3 software.

Appendix A: Release levels and interface stability

For information about release levels, refer to [ForgeRock Product Support Lifecycle Policy](#). | [IG and Agents](#).

ForgeRock product stability labels

ForgeRock products support many features, protocols, APIs, GUIs, and command-line interfaces. Some of these are standard and very stable. Others offer new functionality that is continuing to evolve.

ForgeRock acknowledges that you invest in these features and interfaces, and therefore must know when and how ForgeRock expects them to change. For that reason, ForgeRock defines stability labels and uses these definitions in ForgeRock products.

ForgeRock stability label definitions

Stability Label	Definition
Stable	<p>This documented feature or interface is expected to undergo backwards-compatible changes only for major releases.</p> <p>Changes may be announced at least one minor release before they take effect.</p>
Evolving	<p>This documented feature or interface is continuing to evolve and so is expected to change, potentially in backwards-incompatible ways even in a minor release. Changes are documented at the time of product release.</p> <p>While new protocols and APIs are still in the process of standardization, they are Evolving. This applies for example to recent Internet-Draft implementations, and also to newly developed functionality.</p>
Legacy	<p>This feature or interface has been replaced with an improved version, and is no longer receiving development effort from ForgeRock.</p> <p>You should migrate to the newer version, however the existing functionality will remain.</p> <p>Legacy features or interfaces will be marked as <i>Deprecated</i> if they are scheduled to be removed from the product.</p>
Deprecated	<p>This feature or interface is deprecated, and likely to be removed in a future release.</p> <p>For previously stable features or interfaces, the change was likely announced in a previous release.</p> <p>Deprecated features or interfaces will be removed from ForgeRock products.</p>
Removed	<p>This feature or interface was deprecated in a previous release, and has now been removed from the product.</p>

Stability Label	Definition
Technology Preview	<p>Technology previews provide access to new features that are considered as new technology that is not yet supported. Technology preview features may be functionally incomplete, and the function as implemented is subject to change without notice.</p> <p><i>DO NOT DEPLOY A TECHNOLOGY PREVIEW INTO A PRODUCTION ENVIRONMENT.</i></p> <p>Customers are encouraged to test drive the technology preview features in a non-production environment, and are welcome to make comments and suggestions about the features in the associated forums.</p> <p>ForgeRock does not guarantee that a technology preview feature will be present in future releases, the final complete version of the feature is liable to change between preview and the final version. Once a technology preview moves into the completed version, said feature will become part of the ForgeRock platform.</p> <p>Technology previews are provided on an “AS-IS” basis for evaluation purposes only, and ForgeRock accepts no liability or obligations for the use thereof.</p>
Internal/Undocumented	<p>Internal and undocumented features or interfaces can change without notice.</p> <p>If you depend on one of these features or interfaces, contact ForgeRock support or email info@forgerock.com to discuss your needs.</p>

Getting support

ForgeRock provides support services, professional services, training through ForgeRock University, and partner services to assist you in setting up and maintaining your deployments. For a general overview of these services, see <https://www.forgerock.com>.

ForgeRock has staff members around the globe who support our international customers and partners. For details on ForgeRock’s support offering, including support plans and service level agreements (SLAs), visit <https://www.forgerock.com/support>.

ForgeRock publishes comprehensive documentation online:

- The ForgeRock [Knowledge Base](#) offers a large and increasing number of up-to-date, practical articles that help you deploy and manage ForgeRock software.

While many articles are visible to everyone, ForgeRock customers have access to much more, including advanced information for customers using ForgeRock software in a mission-critical capacity.

- ForgeRock product documentation, such as this document, aims to be technically accurate and complete with respect to the software documented. It is visible to everyone and covers all product features and examples of how to use them.

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