

# Release notes

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ForgeRock® Autonomous Identity is an entitlements and roles analytics system that lets you fully manage your company's access to your data.

These release notes are written for anyone using the Autonomous Identity 2021.8.4 patch release. Read these notes before you install Autonomous Identity software, especially for production deployments.



## **What's New**

[Discover new features.](#)



## **Before You Install**

[Check prerequisites.](#)



## **Known Issues**

[Check known issues.](#)



## **Documentation**

[Track doc changes.](#)



## **Interface Stability**

[Learn about the Release Levels, upgrades, and stability levels.](#)



## **Getting Support**

[Get support and training.](#)

## What's New in 2021.8.4

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Autonomous Identity 2021.8.4 is the latest patch release that contains a collection of important security fixes and new features. These fixes have been grouped together and released as part of our commitment to support our customers.

### IMPORTANT

If you are currently on versions 2021.8.x (2021.8.0, 2021.8.1, 2021.8.2, or 2021.8.3), we strongly recommend that you upgrade to version 2021.8.4 to get these new security fixes and new features. For more information, see [Upgrade Autonomous Identity](#).

To view the list of fixes in this release, see [Key Fixes in Autonomous Identity 2021.8.4](#).

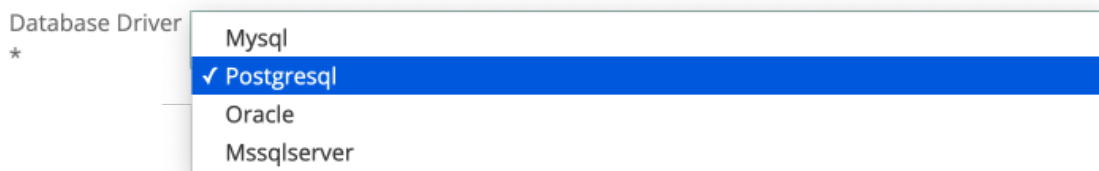
For general information on ForgeRock's maintenance and patch releases, see [Maintenance and Patch availability\\_policy](#).

You can deploy Autonomous Identity 2021.8.4 as an initial deployment, or upgrade it from an existing 2021.8.x or 2021.3.x deployment.

## Improvements/Changes in Configuration

- **New JDBC Options.** Autonomous Identity now supports PostgreSQL and MSSQL JDBC data sources, in addition to Oracle and MySQL.

New Database Type: PostgreSQL and MSSQL

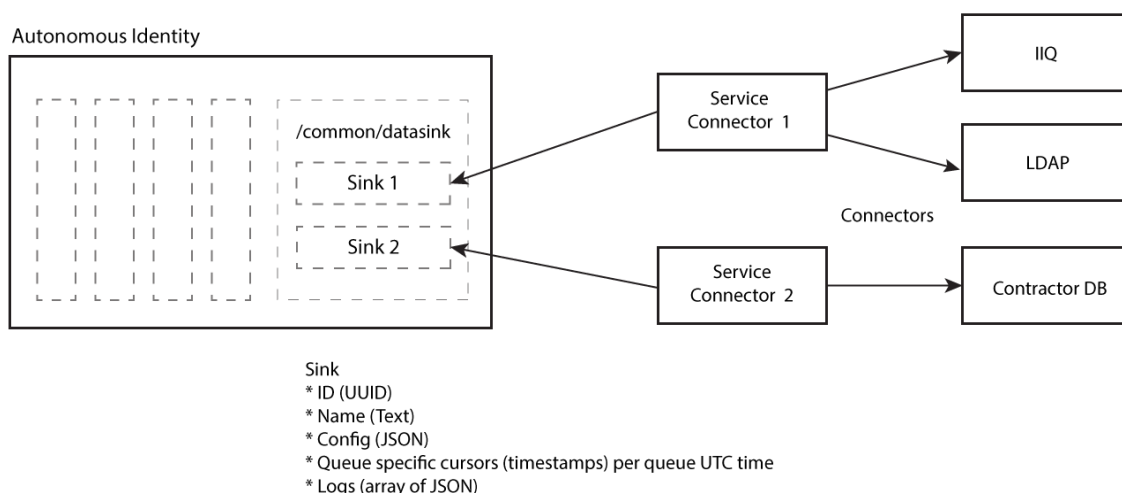


For more information, see [Set Data Sources](#).

- **New API Key Support for Endpoints.** The following endpoints now support the use of the API key as an alternative to the authorization bearer token:
  - [GET /api/userDetails/decisions](#)
  - [GET /api/rules](#)
  - [POST /api/roles/export](#)

- **New API Property.** ForgeRock has added a new property to track datasink status (ACK/NACK) to the decisions stored in the *entitlement-assignment* Elasticsearch index. The following endpoints have been updated with this new property:
  - [GET /api/userDetails/decisions](#)
  - [POST /api/userDetails/decisions](#)
  - [GET /api/rules](#)
  - [POST /api/rules/decision](#)
  - [POST /api/roles/export](#)
  - [POST /api/roles](#)
- **New API Datasink Endpoints.** ForgeRock has added new datasink endpoints to create, update, and delete datasink entities. Data sink is the downstream consumer of data within Autonomous Identity for service connectors, which are accessible through API endpoints.

▼ [See a conceptual image of Data Sink](#)



The following are new endpoints:

- [POST /api/datasink/create](#)
- [POST /api/datasink/update](#)
- [POST /api/datasink/delete](#)
- [POST /api/datasink/update/status/assignments](#)
- [POST /api/datasink/update/status/rules](#)
- [POST /api/datasink/update/status/roles](#)
- [POST /api/datasink/query](#)
- [POST /api/datasink/update/timestamp](#)
- [POST /api/datasink/query/logs](#)
- [POST /api/datasink/update/logs](#)

- **Removal of the Swagger UI.** The Swagger UI image container is no longer part of the deployer. The Swagger UI was removed to improve security. You can download the Autonomous Identity API and import it into Postman. See [About the Autonomous Identity API](#).

## Security Advisories

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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.

### IMPORTANT

ForgeRock has released a security advisory on Log4j. Refer to: [Log4j Security Advisory #202111](#) for details.

## Before you start

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Autonomous Identity server software requires the following hardware, storage, and operating system requirements to run in your production environment. Autonomous Identity's flexible architecture runs in a variety of network environments: on-prem, cloud, multi-cloud, and hybrid.

### IMPORTANT

All production systems differ in many ways. Please discuss with your ForgeRock Professional Services, installers, or partner representatives about your environment specifics.

## ForgeRock Google Cloud registry key

You deploy Autonomous Identity using a Docker image that pulls other dependent images from the ForgeRock Google Cloud Registry (gcr.io) repository and installs the components on a target node.

For specific instructions on obtaining the registry key, see [How To Configure Service Credentials \(Push Auth, Docker\) in Backstage](#).

## Hardware and memory requirements

Autonomous Identity has a number of components that include application, data, and analytics servers, which are all included in the Docker images. The minimum hardware and memory requirements for a single-node target and a separate deployer machine are as follows:

*Table 2: Hardware and memory requirements*

Vendor	Versions
Deployer Node	32 GB RAM, 8 CPU
Analytics (Target) Node	64 GB RAM, 16 CPU

## Storage requirements

Autonomous Identity has a number of components that include application, data, and analytics servers, which are all included in the Docker images. The minimum storage requirements for a single-node deployment are as follows:

Autonomous Identity requires the following minimum storage requirements:

*Table 3: Storage requirements*

Type	Size
Data Storage	500 GB (minimum), 1 TB (production)

## Operating systems requirements

Autonomous Identity is supported on the following operating system:

*Table 4: Operating System Requirements*

Vendor	Versions
CentOS	7.0
Redhat Enterprise Linux	7.0

## Cloud services requirements

Autonomous Identity has been successfully deployed on the following cloud services:

*Table 5: Cloud Services Requirements*

Vendor	Versions
Google Cloud Platform (GCP)	Latest

Vendor	Versions
Amazon Web Services (AWS) standard Elastic File System (EFS) shared drive	Latest

## Java requirements

Autonomous Identity software supports the following Java version:

*Table 6: Java requirements*

Vendor	Versions
OpenJDK	8u262

## Third-party software

Autonomous Identity uses the following third-party software in the deployment.

You do not need to pre-install these components in your environment. The Autonomous Identity deployer installs these components.

*Table 7: Third-party software*

Component	Version	Usage
Python	3.6	Scripts
Docker CE	20.10.7	Container cluster management
Apache Cassandra	3.11.2	Database for all Autonomous Identity services
Apache Spark	3.1	Cluster to run Autonomous Identity analytics
Apache Livy	0.8.0-incubating	REST interface to Spark master to run Autonomous Identity analytics
Mongo DB	4.2	Database for all Autonomous Identity services

Component	Version	Usage
HashiCorp Consul	1.7	Service discovery and configuration server
nginx	1.18	Reverse proxy for routing HTTPS traffic
Open Distro for Elasticsearch	1.9	Distributed, open source search engine for all data types.

## Supported browsers

Autonomous Identity supports the following browsers:

*Table 8: Supported browsers*

Vendor	Versions
Google Chrome	version 85.0.4183.121 and higher
Mozilla Firefox	version 86.0.1 and higher

## Autonomous Identity ports

Autonomous Identity uses the following ports:

*Table 9: Autonomous Identity ports*

Port	Protocol	Machine	Source	Description
2377	TCP	Docker managers	Docker managers and nodes	Communication between the nodes of a Docker swarm cluster
7946	TCP/UDP	Docker managers and workers	Docker managers and workers	Communication among nodes for container network discovery
4789	UDP	Docker managers and workers	Docker managers and workers	Overlay network traffic
7001	TCP	Cassandra	Cassandra nodes	Internode communication

Port	Protocol	Machine	Source	Description
9042	TCP	Cassandra	Cassandra nodes, Docker managers and nodes	CQL native transport
27017	TCP	MongoDB	MongoDB nodes, Docker managers and nodes	Default ports for mongod and mongos instances
9200	TCP	Open Distro for Elasticsearch	Docker managers and nodes	Elasticsearch REST API endpoint
7077	TCP	Spark master	Spark workers	Spark master internode communication port
40040-40045	TCP	Spark Master	Spark Workers	Spark driver ports for Spark workers to callback
443	TCP	Docker managers	User's browsers/API clients	Port to access the dashboard and API
10081	TCP	Docker managers	User's browsers/API clients	Port for the JAS service.

## Key Fixes

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### Key Fixes in 2021.8.4

The following fixes were made in this patch release including important security fixes:

- [AUTOID-2682](#): Add support for MS SQL Server in JDBC Data Source
- [AUTOID-2774](#): Create/Update/Delete datasink APIs
- [AUTOID-2782](#): Remove swagger-ui container image from deployment

### Key Fixes in 2021.8.3



- An important security upgrade was made to fix a vulnerability found in a third-party component.

## Key Fixes in 2021.8.2

- An important security upgrade was made to fix a vulnerability found in a third-party component.

The following issues were fixed in Autonomous Identity 2021.8.2:

- [AUTOID-1527](#): Administrator configures the Training configuration
- [AUTOID-1528](#): Administrator configures the predictions
- [AUTOID-1529](#): Administrator configures the as-is and recommendations
- [AUTOID-2195](#): In employeeDetail page paginate Employees associated with this Entitlement
- [AUTOID-2222](#): Remove Dexie dependency from the latest develop UI
- [AUTOID-2506](#): MongoDB Full Support
- [AUTOID-2515](#): Entity CRUD NAS Apis for Generic Datasource
- [AUTOID-2552](#): Installing Docker on CentOS7 based deployer host is failing with R.2021.8.0
- [AUTOID-2566](#): Loading features via Elastic Connector
- [AUTOID-2567](#): Slowness in EPS Spark Connector persistence
- [AUTOID-2570](#): Unscored assignments not appearing in anomaly report

## Key Fixes in 2021.8.1

The following issues were fixed in Autonomous Identity 2021.8.1:

- [AUTOID-2550](#): Remove Cadence libthrift Library

## Key Fixes in 2021.8.0

The following issues were fixed in Autonomous Identity 2021.8.0:

- [AUTOID-1129](#): Scheduling Jobs in AutoID
- [AUTOID-1391](#): Role Composition in AutoID
- [AUTOID-1392](#): AutoID Data Ingestion using JDBC
- [AUTOID-2016](#): Support for JML Use Cases
- [AUTOID-2057](#): Remove LDAP
- [AUTOID-2456](#): API keys for partner integration

- [AUTOID-2458](#): Data extraction APIs

## Known Issues

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### Known Issues in 2021.8.4

- The Autonomous Identity API can only be downloaded and imported into Postman, and not Swagger. There is a known CORS issue that limits this Swagger functionality.

### Known Issues in 2021.8.3

- There are no known issues in this release.

### Known Issues in 2021.8.2

- Application names should not contain the special characters - or / . During ingestion, application names that contain these characters are not seeded during indexing.

### Known Issues in 2021.8.1

- There are no known issues in this release.

### Known Issues in 2021.8.0

- There are no known issues in this release.

## Deprecated

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### Deprecated in 2021.8.4

- No functionality has been deprecated in this release.

### Deprecated in 2021.8.3

- No functionality has been deprecated in this release.

### Deprecated in 2021.8.2

- No functionality has been deprecated in this release.

## Deprecated in 2021.8.1

- No functionality has been deprecated in this release.

## Deprecated in 2021.8.0

- No functionality has been deprecated in this release.

## Removed

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### Removed in 2021.8.4

- The Swagger UI container has been removed from the Autonomous Identity deployer. You can only download the API and import it into Postman.

### Removed in 2021.8.3

- No functionality has been deprecated in this release.

### Removed in 2021.8.2

- No functionality has been deprecated in this release.

### Removed in 2021.8.1

- No functionality has been deprecated in this release.

### Removed in 2021.8.0

- No functionality has been deprecated in this release.

## Documentation updates

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The following table tracks changes to the documentation following the release of Autonomous Identity 2021.8.4:

### *Documentation Change Log*

Date	Description
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Date	Description
2022-09-16	Updated the docker restart section to include a command to restart the JAS node. See <a href="#">Restart Docker</a> .
2022-08-22	Added a note about the latest security on log4j. Refer to <a href="#">Security Advisories</a> .
2022-07-26	Added a section on setting up SSO for existing deployments. Refer to <a href="#">Set up single sign-on (SSO) in existing deployments</a> .
2022-07-18	Added a note about log4j version 1. Refer to <a href="#">Security Advisories</a> .
2022-06-16	Added procedures to replace the self-signed certificates in various services. Refer to <a href="#">Custom certificates</a> .
2022-06-14	Corrected the minimum storage requirements in the release notes. Refer to <a href="#">Storage requirements</a> .
2022-05-12	Made small changes to the <a href="#">Before you start</a> section.
2022-04-06	Added a step in the upgrade procedure to record your analytics settings if you changed the default, and re-apply them after the upgrade. Refer to <a href="#">Upgrade from Autonomous Identity 2021.8.x to 2021.8.4</a> and <a href="#">Upgrade from Autonomous Identity 2021.8.x to 2021.8.4 Air-Gap</a> .
2022-03-09	Added text to the <a href="#">Create-Assignment-Index</a> section.
2022-02-28	Fixed a typo on the <a href="#">POST /api/admin/updateUser</a> entry in the API Reference.
2022-02-08	Initial release of Autonomous Identity 2021.8.4. The following documentation updates were made: * Updated the Data Sources section with additional support for MSSQL and PostgreSQL. Refer to <a href="#">Data Sources</a> . * Added new Data Sink endpoints to the API Guide. Refer to <a href="#">Data Sink API</a> . * Updated the Production Technical Recommendations for Open Distro for Elasticsearch. Refer to <a href="#">Topology Planning</a> . * Made small fixes to the <a href="#">Set Attribute Mappings</a> section. * Added instructions to download the Autonomous Identity API and import to Postman. Refer to <a href="#">About the Autonomous Identity API</a> . * Updated upgrade instructions. Refer to <a href="#">Upgrade from Autonomous Identity 2021.8.x to 2021.8.4</a> .
2022-01-12	Updated the upgrade section to streamline processes. Refer to <a href="#">Upgrade Autonomous Identity</a> .

Date	Description
2022-01-07	Fixed an incorrect version number in the section <a href="#">Deployment Checklist</a> .
2022-01-05	Updated the graphic in the section <a href="#">Architecture in Brief</a> .
2021-12-30	Updated the <a href="#">Set Up SSH on the Deployer</a> section with additional explanations for some steps.
2021-12-21	<p>Initial release of Autonomous Identity 2021.8.3.</p> <ul style="list-style-type: none"> <li>Updated upgrade instructions for the latest patch upgrade. Also included a section for air-gapped upgrades.</li> </ul>
2021-12-17	Fixed a link in the <a href="#">Administration Guide</a> .
2021-12-16	Removed a step to stop Spark master and workers in the 2021.8.1 → 2021.8.2 upgrade.
2021-12-15	<p>Initial release of Autonomous Identity 2021.8.2.</p> <p>The following documentation updates were made:</p> <ul style="list-style-type: none"> <li>Removed references to dark theme mode in the release notes and installation guide. Refer to <a href="#">What's New</a>.</li> <li>Added a section on updating certificates if your IDP changes their certificates. Refer to <a href="#">Updating IDP Certificates</a>.</li> <li>Added a note to not copy-n-paste a hosts file during a 2021.3.x to 2021.8.x upgrade. Refer to <a href="#">Upgrade to Autonomous Identity 2021.8.2</a>.</li> <li>Added a step (docker swarm leave) to the upgrade steps when upgrading multi-node deployments. Refer to <a href="#">Upgrade to Autonomous Identity 2021.8.2</a>.</li> <li>Added a new section on the ingest API endpoints. Refer to <a href="#">Ingest</a>.</li> <li>Added a known issue to no use "-" and "/" in application names. Refer to <a href="#">Known Issues in 2021.8.2</a>.</li> <li>Updated the multi-node steps for non-airgap and airgapped with new steps. Refer to <a href="#">Install a Multi-Node Deployment</a> and <a href="#">Install a Multi-Node Air-Gapped Deployment</a>.</li> <li>Updated the upgrade section to include an important patch step. Refer to <a href="#">Upgrade Autonomous Identity</a>.</li> </ul>

Date	Description
2021-10-12	<p data-bbox="379 203 1043 237">Initial release of Autonomous Identity 2021.8.1.</p> <p data-bbox="379 277 1078 311">The following documentation updates were made:</p> <ul data-bbox="408 353 1378 645" style="list-style-type: none"> <li data-bbox="408 353 1278 434">• Updated the analytics instructions with a new step, <b>refresh-company-view</b>. Refer to <a href="#">Refresh Company View</a>.</li> <li data-bbox="408 461 1378 542">• Updated the API guide with a new chapter on obtaining the API key. Refer to <a href="#">Generate an API Key</a>.</li> <li data-bbox="408 568 1286 645">• Added a new section in the API Reference. Refer to <a href="#">Ingest API Endpoints</a>.</li> </ul>
2021-09-22	<p data-bbox="379 707 1342 788">Updated the section on running the CLI analytics commands. Refer to <a href="#">Run Analytics on the Command Line</a>.</p>
2021-08-25	<p data-bbox="379 831 1257 864">Added information on the Jobs API. Refer to <a href="#">Jobs API Endpoints</a>.</p>

Date	Description
2021-08-20	<p data-bbox="379 203 1043 237">Initial release of Autonomous Identity 2021.8.0.</p> <p data-bbox="379 277 1078 311">The following documentation updates were made:</p> <ul data-bbox="408 353 1402 1417" style="list-style-type: none"> <li data-bbox="408 353 1382 434">• Updated the install instructions to indicate that the default shell for the <code>autoid</code> user is <code>bash</code>. Refer to <a href="#">Install a Single Node Deployment</a>.</li> <li data-bbox="408 461 1358 542">• Added an upgrade procedure from 2021.3.2 to 2021.8.0. Refer to <a href="#">Upgrade Autonomous Identity</a>.</li> <li data-bbox="408 568 1265 602">• Added the Roles section. Refer to <a href="#">Roles Management Tasks</a>.</li> <li data-bbox="408 629 1321 710">• Added Self Service and Manage Identities sections. Refer to <a href="#">Self Service</a>, <a href="#">Manage Identities</a>.</li> <li data-bbox="408 736 1362 817">• Updated the Analytics Settings with expanded thresholds for roles and configuration. Refer to <a href="#">Set Analytics Thresholds</a>.</li> <li data-bbox="408 844 1318 878">• Updated the API Guide with new endpoints. Refer to <a href="#">API Guide</a>.</li> <li data-bbox="408 904 1394 985">• Updated the analytics pipeline section with the new Jobs page. Refer to <a href="#">Run Analytics</a>.</li> <li data-bbox="408 1012 1386 1093">• Update the single node, single node air gap, multi-node, multi-node air gap instructions with updated properties. Refer to <a href="#">Installation</a>.</li> <li data-bbox="408 1120 1358 1200">• Updated the Admin Guide with updated instructions for <a href="#">Set Entity Definitions</a>, <a href="#">Set Data Sources</a>, and <a href="#">Set Attribute Mappings</a>.</li> <li data-bbox="408 1227 1315 1261">• Updated the SSO setup section. Refer to <a href="#">Set Up Single Sign-On</a>.</li> <li data-bbox="408 1288 1402 1368">• Removed references to OpenLDAP and <code>phpldapadmin</code> as they are no longer bundled with Autonomous Identity.</li> <li data-bbox="408 1395 943 1429">• Removed the Getting Started Guide.</li> </ul>

## Appendix A: Release Levels and Interface Stability

ForgeRock defines Major, Minor, and Patch product release levels. The release level is reflected in the version number. The release level tells you what sort of compatibility changes to expect.

IMPORTANT

Autonomous Identity uses a different version numbering system from other ForgeRock products. The version number use the following format: *Major* . *Minor* . *Patch* , where *Major* is the year of the release, *Minor* is the month of the release, *Patch* is the number beginning with 0, and increases for each patch release.

Thus, for this release of Autonomous Identity, the version number is **2021.8.4**.

### Release Level Definitions

Release Label	Version Numbers	Characteristics
Major	Version: x[.0.0]	<ul style="list-style-type: none"> <li>• Bring major new features, minor features, and bug fixes</li> <li>• Can include changes even to Stable interfaces</li> <li>• Major indicates the year of the release, for example, 2021</li> </ul>
Minor	Version: x.y[.0]	<ul style="list-style-type: none"> <li>• Bring minor features, and bug fixes</li> <li>• Can include backwards-compatible changes to Stable interfaces in the same Major release, and incompatible changes to Evolving interfaces</li> <li>• Minor indicates the month of the release, for example, 8 for August</li> </ul>
Patch	Version: x.y.z	<ul style="list-style-type: none"> <li>• Bring bug fixes</li> <li>• Are intended to be fully compatible with previous versions from the same Minor release</li> <li>• Patch starts with 0 and increases for each bug fix release</li> </ul>

## Upgrade and Patching

ForgeRock plans to introduce quarterly upgrades and patches for Autonomous Identity as a service to our customers. Autonomous Identity's architecture supports seamless rolling upgrades to simplify the process.

The following are some general points about upgrades and patches:



- Upgrades and patches are implemented using a simple swap of the underlying container. The operation is zero down-time as long as the cluster has a redundant instance of the microservice.
- Patching does not require schema changes.

Autonomous Identity schema changes are additive and backward-compatible. This means that during a zero-downtime upgrade, older versions of the container can still write to the new version of the schema. Also, newer versions of the container may alter the tables in a way that preserves the semantics of the previous columns.

- If an upgrade requires a downgrade due to some issue, the downgrade will not restore the previous schema.

More information about upgrading, see [Upgrade Autonomous Identity](#).

## 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	This documented feature or interface is expected to undergo backwards-compatible changes only for major releases. Changes may be announced at least one minor release before they take effect.
Evolving	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. 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.

Stability Label	Definition
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. For previously stable features or interfaces, the change was likely announced in a previous release. 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>
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. <b>DO NOT DEPLOY A TECHNOLOGY PREVIEW INTO A PRODUCTION ENVIRONMENT.</b></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. 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. If you depend on one of these features or interfaces, contact ForgeRock support or email <a href="mailto:info@forgerock.com">info@forgerock.com</a> to discuss your needs.</p>

# Getting Support

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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 community members, 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.

Was this helpful?  

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