

Server Services - 1.27

On this page:

- [Server](#)
 - [URI Templates](#)
 - [JSON Representation](#)
 - [JSON Example](#)
- [Server Cache Management](#)
 - [URI Templates](#)
- [DBMS Warm-up Service](#)
 - [URI Templates](#)
- [Lucene Index File](#)
 - [URI Templates](#)
 - [JSON Representation](#)
 - [JSON Example](#)
- [Domains Bindings](#)
 - [URI Templates](#)
 - [JSON Representation](#)
 - [JSON Example](#)
- [Authorizations](#)
 - [URI Templates](#)
 - [JSON Representation](#)
 - [JSON Example](#)

Server

URI Templates

HTTP Action	Media Type	URI Templates	Description
GET	application/json	server	Information about REST API internal state

JSON Representation

Properties	Description	type	Occurs
href	Auto reference	URI	1
name	"Server"	String	1
startDate	Starting date of the server	Date	1
memory	Statistics about memory usage (mega-bytes)	Structure	1
memory.totalInitialMemory	Total memory according to the JVM in mega-bytes, before initializing memory cache	Integer	1
memory.totalMemory	Total memory according to the JVM in mega-bytes	Integer	1
memory.freeMemory	Free memory according to the JVM in mega-bytes	Integer	1
memory.usedMemory	Total memory - Free memory	Integer	1
requests	Statistics about requests	Structure	1
requests.totalCounter	Total number of requests	Integer	1
requests.errorsCounter	Total number of requests in errors	Integer	1
requests.totalTime	Total elapsed time of requests milliseconds	Integer	1
requests.averageTime	Total elapsed time of requests in milliseconds	Integer	1
requests.maxTime	Longest elapsed time of all requests in milliseconds	Integer	1
clients	Statistics about concurrent clients	Structure	1
currentConcurrentClients	The current number of concurrent clients in read time. Note that the current request to fetch this information is not included in the count.	Integer	1
maxConcurrentClients	The maximum number of concurrent clients	Integer	1
status	Server status either "LOADING" or "READY"	String	1

loadDate	Date of Memory cache update. This date is set at start time of the server or when a reload is requested.	Date	1																						
abortedDomains	Array of aborted domains. An aborted domain is a domain for which loading has failed.	Array	1																						
abortedDomains[]	An aborted domain	Structure	0..1																						
abortedDomains[].name	Domain name	String	1																						
abortedDomains[].loadingDate	Date of loading start when the loading has been failed	String	1																						
license.status	License status regarding access to Central Bases	String	1																						
	<table border="1"> <thead> <tr> <th>Use Case</th> <th>Status</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td rowspan="4">No License</td> <td>NO_LICENSE_KEY</td> <td>License key was not found</td> </tr> <tr> <td>INVALID_LICENSE_KEY</td> <td>License key is not valid</td> </tr> <tr> <td>CANNOT_ACCESS_LICENSE_KEY</td> <td>License key file is not readable</td> </tr> <tr> <td>INVALID_LICENSE_FILE</td> <td>Cannot find license key file</td> </tr> <tr> <td rowspan="3">Restricted License</td> <td>RESTRICTED_LICENSE</td> <td>License is a restricted license</td> </tr> <tr> <td>GLOBAL_ACCESS_TOKENS_EXCEEDED</td> <td>License is a restricted license, and quota of global access tokens is exceeded</td> </tr> <tr> <td>UNIT_ACCESS_TOKENS_EXCEEDED</td> <td>License is a restricted license, and quota of unit access tokens is exceeded</td> </tr> <tr> <td>Unrestricted License</td> <td>UNRESTRICTED_LICENSE</td> <td>License is an unrestricted license</td> </tr> </tbody> </table>	Use Case	Status	Description	No License	NO_LICENSE_KEY	License key was not found	INVALID_LICENSE_KEY	License key is not valid	CANNOT_ACCESS_LICENSE_KEY	License key file is not readable	INVALID_LICENSE_FILE	Cannot find license key file	Restricted License	RESTRICTED_LICENSE	License is a restricted license	GLOBAL_ACCESS_TOKENS_EXCEEDED	License is a restricted license, and quota of global access tokens is exceeded	UNIT_ACCESS_TOKENS_EXCEEDED	License is a restricted license, and quota of unit access tokens is exceeded	Unrestricted License	UNRESTRICTED_LICENSE	License is an unrestricted license		
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Unrestricted License	UNRESTRICTED_LICENSE	License is an unrestricted license																							
domainsLocations	Get data source name and schema name for each domain. The ADMINISTRATOR role is required.	Structure	0..1																						
recommendedDbVersion	The preferred version of AIP (for compliancy with database schema)																								
securityMode	This is the configuration value of property security.mode from the security.properties file: <ul style="list-style-type: none"> ▪ "default": authentication based of configuration files ▪ "ldap": authentication base on LDAP protocol ▪ "saml": authentication based on SAML protocol 	String	1																						
samlSingleLogout	This is the configuration value of security.saml.single.logout property from security.properties file. <ul style="list-style-type: none"> ▪ "true": logout action is enabled for "saml" security mode ▪ "false": logout action is disabled for "saml" security mode 	Boolean	1																						
languages	Installed translations	Array	1																						
languages[]	An available locale language	String	0..1																						
reportEnabled	Check whether the configuration variable report. is set report.reportGenerator	Boolean	1																						

JSON Example

GET DEMO

```
{
  "href": "server",
  "name": "Server",
  "startDate": {
    "time": 1612255923923,
    "isoDate": "2021-02-02"
  },
  "memory": {
    "totalInitialMemory": 109,
    "totalMemory": 125,
    "freeMemory": 44,
    "usedMemory": 81
  },
  "requests": {
    "totalCounter": 20,
    "errorsCounter": 0,
    "totalTime": 18447419617,
    "averageTime": 922370980,
    "maxTime": 929175903
  },
  "clients": {
    "currentConcurrentClients": 0,
    "maxConcurrentClients": 1
  },
  "loadDate": {
    "time": 1612256578092,
    "isoDate": "2021-02-02"
  },
  "abortedDomains": [],
  "status": "READY",
  "version": "X.X.X-XXX",
  "recommendedDbVersion": "8.3.3",
  "license": {
    "status": "NO_LICENSE_KEY"
  },
  "securityMode": "default",
  "samlSingleLogout": false,
  "sessionTimeout": 900,
  "languages": [
    ".gitkeep"
  ],
  "reportEnabled": false,
  "jiraEnabled": true,
  "domainsBinding": {
    "href": "server/domains-bindings",
    "name": "Domains/schemas bindings"
  },
  "authorizations": {
    "href": "server/authorizations",
    "name": "Authorized applications definitions per users"
  }
}
```

Server Cache Management



Warning

Administrator role is required.

REST server stores portfolio objects, configuration, and snapshots in a memory cache. This memory cache is loaded as soon as the REST Server is started.

An URL allows to reload all domains in memory cache. This action may be required when a new snapshot has been added, and can be performed from a command line with a tool such as "curl":

Use Curl for automation:

```
C:> curl -u admin:cast -H "Accept: application/json" http://localhost:9999/testContext/rest/server/reload
```

For each domain, and for each application an Index file is created for Lucene library. This index allows to search for a components. Lucene index files are created at start time and reload time if this option is enabled:

```
<context-param>
  <param-name>rebuildComponentsSearchIndexesOnStart</param-name>
  <param-value>true</param-value>
</context-param>
```

URI Templates

HTTP Action	Media Type	URI Templates	Description
GET	application/json	server/reload{?parameters}	<p>Sync clients with new domains.</p> <p>Reload the domains configuration and refresh the server memory cache. Example of use: A new application onboarding requires to create a new ED domain in the domains.properties file.</p> <p>The client may receive an HTTP Status 503 "Service not available" if a server/refresh call is already in progress.</p> <p>In case of intensive traffic, the service awaits for the end of current processing request to start.</p> <p>This web service has the following effects</p> <ul style="list-style-type: none"> • Reload the configuration of domains (domains.properties file) • Reload the server memory cache • Rebuild Lucene Indexes • Respond a "503 Service unavailable" to any client during the reload • Invalidate the browser cache • Reset the cache of user authorizations
GET	application/json	server/refresh{?parameters}	<p>Sync clients with new snapshots.</p> <p>Refresh the server memory cache when a new snapshot has been added. Example of Usage: A new snapshot has been taken for an ED domain. Example of Usage: AAD domains needs to be refreshed when a new application or a new snapshot has been added.</p> <p>This processing is made in the background with no interruption for HD clients, and reduced interruption for ED clients.</p> <p>This web service has the following effects</p> <ul style="list-style-type: none"> • Reload the server memory cache • Rebuild Lucene Indexes • Respond a "503 Service unavailable" to ED clients requesting Lucene index data, whereas this <u>Lucene index</u> is under construction for this specific domain. • Invalidate the browser cache • Reset the cache of user authorizations <p>Note: If two concurrent requests are sent for 2 different domains, then these domains will be refreshed in parallel.</p> <p>Note: onboarding of a new applications must be performed with the "server/reload" or the "server/domains-bindings" web service that will update the domains.properties configuration file and will trigger a "server/reload" service for these domains.</p>
GET	application/json	server/reset	<p>Sync clients with new authorizations and roles.</p> <p>The web service reloads the license.key file, reloads the roles.xml file, resets the cache of users authorizations, and invalidates the browser cache.</p> <p>Note 1: New authorizations will take effect without awaiting for the next login.</p> <p>Note 2: New roles will take effect after user logout/login.</p>

Parameters

URI Parameter	Description	Values	Default value
domain	Specify a single domain to reload (for example to refresh a domain after a snapshot)	a string	\$all

DBMS Warm-up Service

Warning

Administrator role is required.

This service fetches data (results, components, violations) for domains hosted in central bases, in order to pre load data in memory after a DBMS cold restart.

It avoids to penalize first user fetching data.

This service loops on each domain hosted by a central base, and trigger some queries on components, violations and assessment results.

Use Curl for automation:

```
C:> curl -u admin:cast http://localhost:9999/testContext/rest/server/warmup
```

URI Templates

HTTP Action	Media Type	URI Templates	Description
GET	application/json	server/warmup	Warm up DBMS after a cold restart (central base hosts only)

Lucene Index File

For each domain, and for each application an Index file is created for Lucene library. This index allows to search for a components.

URI Templates

HTTP Action	Media Type	URI Templates	Description
PUT	application/json	{Domain}/components-index	Create or overwrite the components search index for a domain
GET	application/json	{Domain}/components-index	Get index status for a domain

Warning

Administrator role is required.

JSON Representation

Properties	Description	type	Occurs
href	Auto reference	URI	1
name	Name	String	1

status	<ul style="list-style-type: none"> • upToDate : Index is up to date • N/A : not applicable, no index • toUpdate : last snapshot is more recent than the index date, an index rebuild is required 	String	1
date	Index file date	Date	0..1
lastSnapshotDate	Last Snapshot date	Date	0..1
size	Index file size	Integer	0..1

JSON Example


```
{
  "href": "ENDTOEND83/components-index",
  "name": "Components search index for applications of ENDTOEND83",
  "status": "upToDate",
  "date": {
    "time": 1496752452859,
    "isoDate": "2017-06-06"
  },
  "lastSnapshotDate": {
    "time": 1493778823000,
    "isoDate": "2017-05-03"
  },
  "size": 4145870
}
```



Domains Bindings



A Domain binding associates a domain name with a data source name and a schema name.

This resource is based on the use of *domains.properties* file.

URI Templates

HTTP Action	Media Type	URI Templates	Description
GET	application/json	server/domains-bindings	Get all domains bindings <div style="border: 1px solid red; padding: 5px; margin-top: 10px;">  Warning Administrator role is required. </div>

PUT	application/json	server/domains-bindings	<p>Update the domains bindings, or create new domains bindings.</p> <p>A triplet (domain, data source, central) is replaced for an existing domain or an existing central, otherwise it is added.</p> <p>This web service triggers the "reload" service for the domains listed in the payload, in order to update the server memory cache and Lucene index files.</p> <p>This Web service overwrites the <i>domains.properties</i> file.</p> <div data-bbox="462 321 1484 468" style="border: 1px solid red; padding: 5px;"><p> Warning</p><p>This service accepts the "Authorization" HTTP header to transmit user's credentials, so that a prior call to the login "service" is not required. Thus, we can start the Web Server with an empty list of domains, and bypass the "login" service that prevents connection when no domain is defined.</p></div> <p>In case of exception when writing this file, an HTTP Status "403 Forbidden" is returned. Check the permissions of this file.</p> <div data-bbox="462 531 1484 636" style="border: 1px solid red; padding: 5px;"><p> Warning</p><p>Administrator role is required.</p></div> <p>Example:</p> <p>Assuming there are two existing domains AED1, AED2, add a new domain:</p> <div data-bbox="462 737 1484 961" style="border: 1px solid gray; padding: 5px;"><pre>[{ "name": "AED3", "dataSource": "DEV_CSS2", "schema": "applil_central" }]</pre></div> <p>Assuming there are three existing domains AED1, AED2, AED3, change schemas for domains AED1, AED2:</p> <div data-bbox="462 1024 1484 1381" style="border: 1px solid gray; padding: 5px;"><pre>[{ "name": "AED1", "dataSource": "DEV_CSS2", "schema": "appliA_central" }, { "name": "AED2", "dataSource": "DEV_CSS2", "schema": "appliB_central" }]</pre></div>
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DELETE	application/json	server/domains-bindings	<p>Update the database binding for a list of domains, or create some new domains with their own bindings.</p> <p>This web service does not need to trigger the "reload".</p> <p>This Web service overwrites the <i>domains.properties</i> file.</p> <div style="border: 1px solid red; padding: 5px; margin: 10px 0;"> <p> Warning</p> <p>This service accepts the "Authorization" HTTP header to transmit user's credentials, so that a prior call to the login "service" is not required. Thus, we can start the Web Server with an empty list of domains, and bypass the "login" service that prevents connection when no domain is defined.</p> </div> <p>In case of exception when writing this file, an HTTP Status "403 Forbidden" is returned. Check the permissions of this file.</p> <div style="border: 1px solid red; padding: 5px; margin: 10px 0;"> <p> Warning</p> <p>Administrator role is required.</p> </div> <p>Example:</p> <p>Assuming there are two existing domains AED1, AED2, remove domain AED2</p> <pre>[{ "name": "AED2" }]</pre>
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JSON Representation

Properties	Description	type	Occurs
name	Domain name	String	1
dataSource	Data source name	String	1
schema	Schema Name	String	1

JSON Example



```
[
  {
    "name": "AED1",
    "dataSource": "DEV_CSS2",
    "schema": "appli1_central"
  },
  {
    "name": "AED2",
    "dataSource": "DEV_CSS2",
    "schema": "appli2_central"
  }
]
```

Authorizations

This resource is based on the use of *authorizations.xml* file.

URI Templates

HTTP Action	Media Type	URI Templates	Description
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GET	application/json	server/authorizations	<p>Get all users' authorizations</p> <div style="border: 1px solid red; padding: 5px; background-color: #ffe6e6;"> <p> Warning Administrator role is required.</p> </div>
PUT	application/json	server/authorizations	<p>Update users' authorizations. Create or replace authorizations</p> <p>This Web service overwrites the <i>authorizations.xml</i> file.</p> <div style="border: 1px solid red; padding: 5px; background-color: #ffe6e6;"> <p> Warning Administrator role is required.</p> </div> <p>If you set an empty list of authorizations, then authorizations are removed.</p>

JSON Representation

Properties	Description	type	Occurs
user	use name.Excludes the group property	String	1
group	LDAP group name. Excludes the user property.	String	1
authorizations	All authorizations for a user	Array	0..1
authorizations[]	An authorization defines which applications can be accessed	Structure	1
authorizations[].allApplications	Set applications access to all applications	Boolean	0..1
authorizations[].application authorizations[].adgDatabase	Allow access to an application matching application name and adgDatabase name;	String	0..1
authorizations[].applicationPattern authorizations[].adgDatabasePattern	Allow access to all applications matching applicationPattern regular expression and adgDatabasePatern regular expression	String	0..1
authorizations[].tag authorizations[].category authorizations[].restrictions	Allow access to all applications matching a tag of a category	String	0..1
authorizations[].technology authorizations[].restrictions	Allow access to all applications matching a technology	String	0..1
authorizations[].restrictions	All restrictions, applicable for authorizations defined with tag, category and technology attributes	Array	0..1
authorizations[].restrictions[]	A restriction	Structure	0..1
authorizations[].restrictions[].application authorizations[].restrictions[].adgDatabase	Deny access to an application matching application name and adgDatabase name	String	0..1
authorizations[].restrictions[].applicationPattern authorizations[].restrictions[].adgDatabasePattern	Deny access to all applications matching applicationPattern regular expression and adgDatabasePatern regular expression	String	0..1
authorizations[].restrictions[].tag authorizations[].restrictions[].category	Deny access to all applications matching a tag of a category	String	0..1
authorizations[].restrictions[].technology	Deny access to all applications matching a technology	String	0..1

JSON Example

```
[
  {
    "user": "John",
    "authorizations": [
      { "application": "app1",      "adgDatabase": "app1_central" },
      { "application": "app2",      "adgDatabase": "app2_central" }
    ],
  },
  {
    "user": "Admin",
    "authorizations": [ { "allApplications": true } ]
  },
  {
    "user": "Jimmy",
    "authorizations": [
      { "technology": "JEE",
        "restrictions": [ { "application": "appli2", "adgDatabase": "appli2_central" } ]
      }
    ]
  }
]
```