

## 4 Java gateway

### Overview

Native support for monitoring JMX applications exists in the form of a Zabbix daemon called “Zabbix Java gateway”, available since Zabbix 2.0. Zabbix Java gateway is a daemon written in Java. To find out the value of a particular JMX counter on a host, Zabbix server queries Zabbix Java gateway, which uses the [JMX management API](#) to query the application of interest remotely. The application does not need any additional software installed, it just has to be started with `-Dcom.sun.management.jmxremote` option on the command line.

Java gateway accepts incoming connection from Zabbix server or proxy and can only be used as a “passive proxy”. As opposed to Zabbix proxy, it may also be used from Zabbix proxy (Zabbix proxies cannot be chained). Access to each Java gateway is configured directly in Zabbix server or proxy configuration file, thus only one Java gateway may be configured per Zabbix server or Zabbix proxy. If a host will have items of type **JMX agent** and items of other type, only the **JMX agent** items will be passed to Java gateway for retrieval.

When an item has to be updated over Java gateway, Zabbix server or proxy will connect to the Java gateway and request the value, which Java gateway in turn retrieves and passes back to the server or proxy. As such, Java gateway does not cache any values.

Zabbix server or proxy has a specific type of processes that connect to Java gateway, controlled by the option **StartJavaPollers**. Internally, Java gateway starts multiple threads, controlled by the **START\_POLLERS** option. On the server side, if a connection takes more than **Timeout** seconds, it will be terminated, but Java gateway might still be busy retrieving value from the JMX counter. To solve this, since Zabbix 2.0.15, Zabbix 2.2.10 and Zabbix 2.4.5 there is the **TIMEOUT** option in Java gateway that allows to set timeout for JMX network operations.

Zabbix server or proxy will try to pool requests to a single JMX target together as much as possible (affected by item intervals) and send them to the Java gateway in a single connection for better performance.

It is suggested to have **StartJavaPollers** less than or equal to **START\_POLLERS**, otherwise there might be situations when no threads are available in the Java gateway to service incoming requests; in such a case Java gateway uses `ThreadPoolExecutor.CallersRunsPolicy`, meaning that the main thread will service the incoming request and temporarily will not accept any new requests.

### Getting Java gateway

You can install Java gateway either from the sources or packages downloaded from [Zabbix website](#).

Using the links below you can access information how to get and run Zabbix Java gateway, how to configure Zabbix server (or Zabbix proxy) to use Zabbix Java gateway for JMX monitoring, and how to configure Zabbix items in Zabbix frontend that correspond to particular JMX counters.

Installation from	Instructions	Instructions
<i>Sources</i>	<a href="#">Installation</a>	<a href="#">Setup</a>
<i>RHEL/CentOS packages</i>	<a href="#">Installation</a>	<a href="#">Setup</a>

Installation from	Instructions	Instructions
<i>Debian/Ubuntu packages</i>	<a href="#">Installation</a>	<a href="#">Setup</a>

From:

<https://www.zabbix.com/documentation/4.2/> - **Zabbix Documentation 4.2**

Permanent link:

<https://www.zabbix.com/documentation/4.2/manual/concepts/java>

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