

title: Manual set up of JMX monitoring for Java process running in containers
description: In some cases it may be required to set up JMX settings of monitored process manually

There are two things which have to be done to make this happen: - add process arguments which tell JVM to expose JMX port with specific authentication info
- provide authentication info to Sematext Agent

The first part can be done by defining a specific environment variable. Typically its name is `JAVA_TOOL_OPTIONS`, the exceptions to its name are in case of: - Solr - `SOLR_OPTS` - Tomcat - `CATALINA_OPTS` - Zookeeper - `JVMFLAGS`

For password file authentication set the value of `JAVA_TOOL_OPTIONS`, or its equivalent mentioned above, to:

```
-e JAVA_TOOL_OPTIONS='-Dcom.sun.management.jmxremote -Dcom.sun.management.jmxremote.port=3000'
```

For truststore based authentication set its value to:

```
-e JAVA_TOOL_OPTIONS='-Dcom.sun.management.jmxremote -Dcom.sun.management.jmxremote.port=3000'
```

Note: make sure you adjust the file names and/or password. Note: environment variables above should be added to container you wish to monitor.

The second part depends on the container environment you use.

Docker/Swarm:

When using JMX password file authentication add this to the monitored container:

```
-e SPM_MONITOR_JMX_PASSWORD_FILE=/path/to/your/jmx/password/file
```

When using truststore authentication add this to the monitored container:

```
-e SPM_MONITOR_JMX_TRUSTSTORE_FILE=/path/to/your/jmx/truststore/file  
-e SPM_MONITOR_JMX_TRUSTSTORE_PASSWORD=your-truststore-password
```

*Note: if you use docker-compose.yml you can define these env variables under **environment** section Note: environment variables above are added to container you wish to be monitor.*

Kubernetes/Helm:

When using JMX password file authentication run:

```
kubectl create secret generic YOUR_APP_TOKEN_HERE \  
  --from-literal=SPM_MONITOR_JMX_PASSWORD_FILE=/path/to/your/jmx/password/file
```

When using truststore authentication run:

```
kubectl create secret generic YOUR_APP_TOKEN_HERE \  
  --from-literal=SPM_MONITOR_JMX_TRUSTSTORE_FILE=/path/to/your/jmx/truststore/file \  
  --from-literal=SPM_MONITOR_JMX_TRUSTSTORE_PASSWORD=your-truststore-password
```

*Note: make sure you replace YOUR_APP_TOKEN_HERE with real token of your App
(the same one passed in MONITORING_TOKEN env var)*