

# Cluster Rules Manager (CRM) – Installation Guide

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Fling version 1.0

This user guide describes the installation procedure for Fling Cluster Rules Manager (CRM)

## 1. Installation steps

- Download Fling war (*crm.war*) file as well as self-signed certificate (*crminstallationkeystore.jks*) from fling website.
- Copy the downloaded war file under `<TOMCAT_ROOT_DIR>\webapps\  
Example: C:\apache-tomcat-8.0.18-windows-x86\apache-tomcat-8.0.18\webapps  
Note: Tomcat root directory can be at any location on drive.`
- Copy the downloaded self-signed certificate *crminstallationkeystore.jks* and paste into any location under tomcat-deployed machine.  
**Example.** C:\Tomcat\conf\crmkeystore\ crminstallationkeystore.jks  
**Note:** To create your own self-signed certificate, follow the steps provided in the link: <https://www.mkyong.com/tomcat/how-to-configure-tomcat-to-support-ssl-or-https/>
- After performing the steps above, add `<Connector>` tag into the “*server.xml*” file for tomcat to work with SSL/TLS/https protocols.

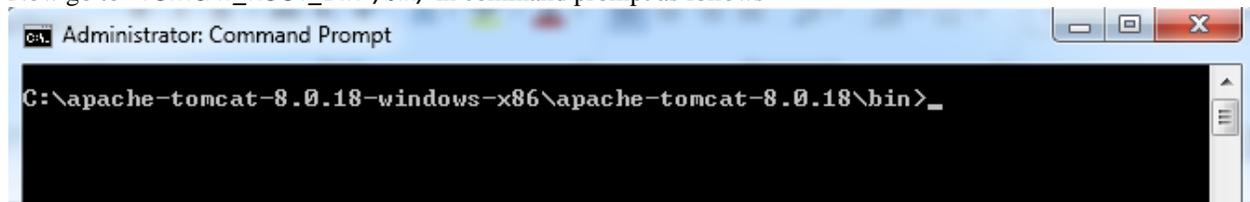
*Server.xml* file can be found at `<TOMCAT_ROOT_DIR>\conf\server.xml`. The following provides an example of `<Connector >` tag for your reference.

```
<Connector protocol="HTTP/1.1" port="8443" SSLEnabled="true"          maxThreads="150"
scheme="https" secure="true" clientAuth="false" sslEnabledProtocols="TLSv1.2"
ciphers="TLS_RSA_WITH_AES_128_CBC_SHA,TLS_ECDHE_ECDSA_WITH_AES_256_CBC_SHA,TLS_ECD
HE_RSA_WITH_AES_256_CBC_SHA,
TLS_ECDH_ECDSA_WITH_AES_256_CBC_SHA,TLS_ECDH_RSA_WITH_AES_256_CBC_SHA,TLS_RSA_WI
TH_AES_256_CBC_SHA,TLS_DH_DSS_WITH_AES_128_CBC_SHA"
keystoreFile="C:\Tomcat\conf\crmkeystore\crminstallationkeystore.jks" keystorePass="4aac652a-
fe31-4b89-b289-2e759cc6c4fa"/>
```

**Note:** If some processes are already using port 8443, you can use any other available port and ensure that `<connector>` tag is updated with the new port details.

Reference: <https://www.mkyong.com/tomcat/how-to-configure-tomcat-to-support-ssl-or-https/>

- Now go to `<TOMCAT_ROOT_DIR>/bin/` in command prompt as follows



- Run *startup.bat* as follows

```

Administrator: Command Prompt
C:\apache-tomcat-8.0.18-windows-x86\apache-tomcat-8.0.18\bin>startup.bat
Using CATALINA_OPTS: "C:\apache-tomcat-8.0.18-windows-x86\apache-tomcat-8.0.18\bin\bootstrap.jar;C:\apache-tomcat-8.0.18-windows-x86\apache-tomcat-8.0.18\bin\tomcat-juli.jar"
Using CATALINA_HOME: "C:\apache-tomcat-8.0.18-windows-x86\apache-tomcat-8.0.18"
Using CATALINA_TMPDIR: "C:\apache-tomcat-8.0.18-windows-x86\apache-tomcat-8.0.18\temp"
Using JRE_HOME: "C:\Program Files\UMware\jre"
Using CLASSPATH: "C:\apache-tomcat-8.0.18-windows-x86\apache-tomcat-8.0.18\bin\bootstrap.jar;C:\apache-tomcat-8.0.18-windows-x86\apache-tomcat-8.0.18\bin\tomcat-juli.jar"
C:\apache-tomcat-8.0.18-windows-x86\apache-tomcat-8.0.18\bin>_

```

New command prompt spawns as shown below, wait until you see the message "Server has started up"

```

Tomcat
omcat-8.0.20\webapps\examples has finished in 1,083 ms
27-Feb-2015 18:08:25.046 INFO [localhost-startStop-1] org.apache.catalina.startup
p.HostConfig.deployDirectory Deploying web application directory G:\apache-tomca
t-8.0.20\webapps\host-manager
27-Feb-2015 18:08:25.076 INFO [localhost-startStop-1] org.apache.catalina.startup
p.HostConfig.deployDirectory Deployment of web application directory G:\apache-t
omcat-8.0.20\webapps\host-manager has finished in 30 ms
27-Feb-2015 18:08:25.077 INFO [localhost-startStop-1] org.apache.catalina.startup
p.HostConfig.deployDirectory Deploying web application directory G:\apache-tomca
t-8.0.20\webapps\manager
27-Feb-2015 18:08:25.104 INFO [localhost-startStop-1] org.apache.catalina.startup
p.HostConfig.deployDirectory Deployment of web application directory G:\apache-t
omcat-8.0.20\webapps\manager has finished in 27 ms
27-Feb-2015 18:08:25.105 INFO [localhost-startStop-1] org.apache.catalina.startup
p.HostConfig.deployDirectory Deploying web application directory G:\apache-tomca
t-8.0.20\webapps\ROOT
27-Feb-2015 18:08:25.130 INFO [localhost-startStop-1] org.apache.catalina.startup
p.HostConfig.deployDirectory Deployment of web application directory G:\apache-t
omcat-8.0.20\webapps\ROOT has finished in 24 ms
27-Feb-2015 18:08:25.134 INFO [main] org.apache.coyote.AbstractProtocol.start St
arting ProtocolHandler ["http-apr-8080"]
27-Feb-2015 18:08:25.140 INFO [main] org.apache.coyote.AbstractProtocol.start St
arting ProtocolHandler ["ajp-apr-8009"]
27-Feb-2015 18:08:25.141 INFO [main] org.apache.catalina.startup.Catalina.start
Server startup in 6903 ms
_

```

- Open the application URL as ["https://<Tomcat\\_Running\\_Machine\\_IP>:<Tomcat running port>/crm"](https://<Tomcat_Running_Machine_IP>:<Tomcat running port>/crm). Google chrome is a supported browser.

**Example:** "https://192.168.1.2:8443/crm "

If you are accessing the application from tomcat-installed machine, user can use "https://localhost:8443/crm"

- If all steps followed properly, user should be able to see the vCenter Server login page.

**Note:** We recommend entering vCenter server FQDN (Fully Qualified Domain name) rather IP address. In addition, we recommend users to use one feature at a time to avoid any unexpected results.

- Once you enter vCenter Server credentials, you will be prompted to enter database schema details and so on.

**Note:** The information will be clear in the User Interface. Entering DB schema details is one time activity.

- Default ports for the following databases are listed below:
  - Microsoft SQL Server: 1433
  - My SQL: 3306
  - Oracle: 1521

However, user can configure other valid ports while installing respective databases. Specify appropriate port based on the database.