

Increase JAVA heap size in tomcat

Issue:

There are scenarios, or cases, where the application might run out of java heap space. And, as a result, the sync would break mostly due to very large data sync; or, large set of data that sync between applications. In such cases, we can force the tomcat application to use dedicated java heap memory so the sync won't break.

Solution:

This can be done by following the steps below:

Windows:

1. Edit the file catalina.bat file located in <<install-directory>>\bin and add the following property:

set JAVA_OPTS=-Xms512m -Xmx4096m before, or after, the line, set JRE_HOME=..\jre.

After adding the property, restart the tomcat service or the tomcat application.

(512 is the minimum and 4096 is the maximum heap memory that is allotted to this application, please set the values according to the available RAM memory on your server machine).

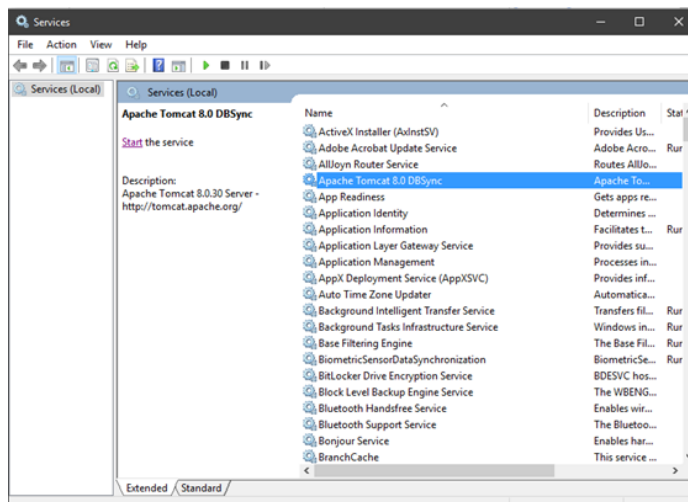
```
85 rem                implementation when JRE is used. Default is:
86 rem                "-Djdk.tls.spnegoClientAuthSize=2048"
87 rem
88 rem LOGGING_CONFIG (Optional) Override Tomcat's logging config file
89 rem Example (all one line)
90 rem set LOGGING_CONFIG="-Djava.util.logging.config.file=%CATALINA_BASE%\conf\logging.properties"
91 rem
92 rem LOGGING_MANAGER (Optional) Override Tomcat's logging manager
93 rem Example (all one line)
94 rem set LOGGING_MANAGER="-Djava.util.logging.manager=org.apache.juli.ClassLoaderLogManager"
95 rem
96 rem TITLE (Optional) Specify the title of Tomcat window. The default
97 rem TITLE is Tomcat if it's not specified.
98 rem Example (all one line)
99 rem set TITLE=Tomcat.Cluster#1.Server#1 (%DATE% %TIME%)
100 rem -----
101
102 setlocal
103
104 set JRE_HOME=..\jre
105
106 set JAVA_OPTS=-Xms512m -Xmx4096m
107
108 rem Suppress Terminate batch job on CTRL+C
109 if not "%1" == "%run%" goto mainEntry
110 if "%TEMP%" == "" goto mainEntry
111 if exist "%TEMP%\%~nx0.run" goto mainEntry
112 echo Y"%TEMP%\%~nx0.run"
113 if not exist "%TEMP%\%~nx0.run" goto mainEntry
114 echo Y"%TEMP%\%~nx0.Y"
115 call "%~f0" %* <"%TEMP%\%~nx0.Y"
116 rem Use provided errorlevel
117 set RETVAL=%ERRORLEVEL%
118 del /Q "%TEMP%\%~nx0.Y" >NUL 2>&1
119 exit /B %RETVAL%
120 :mainEntry
121 del /Q "%TEMP%\%~nx0.run" >NUL 2>&1
```

2. Also, edit service.bat and change the heap size as shown below - to, certain value based on the RAM available.

```
138 rem Try to use the client jvm
139 set "JVM=%JRE_HOME%\bin\client\jvm.dll"
140 if exist "%JVM%" goto foundJVM
141 echo Warning: Neither 'server' nor 'client' jvm.dll was found at JRE_HOME.
142 set JVM=auto
143 :foundJVM
144 echo Using JVM: "%JVM%"
145
146 set "CLASSPATH=%CATALINA_HOME%\bin\bootstrap.jar;%CATALINA_BASE%\bin\tomcat-juli.jar"
147 if not "%CATALINA_HOME%" == "%CATALINA_BASE%" set "CLASSPATH=%CLASSPATH%;%CATALINA_HOME%\bin\tomcat-juli.jar"
148
149 if "%SERVICE_STARTUP_MODE%" == "" set SERVICE_STARTUP_MODE=manual
150 if "%JVMopts%" == "" set Jvmopts=-Xms128
151 if "%Jvmsize%" == "" set Jvmsize=256
152
153 "%EXECUTABLE%" //IS/%SERVICE_NAME% ^
154 --Description "Apache Tomcat 8.5.11 Server - http://tomcat.apache.org/" ^
155 --DisplayName "%DISPLAYNAME%" ^
156 --Install "%EXECUTABLE%" ^
157 --LogPath "%CATALINA_BASE%\logs" ^
158 --StdOutput auto ^
159 --StdError auto ^
160 --Classpath "%CLASSPATH%" ^
161 --Jvm "%JVM%" ^
162 --StartMode JVM ^
163 --StopMode JVM ^
164 --StartPath "%CATALINA_HOME%" ^
165 --StopPath "%CATALINA_HOME%" ^
166 --StartClass org.apache.catalina.startup.Bootstrap ^
167 --StopClass org.apache.catalina.startup.Bootstrap ^
168 --StartParams start ^
169 --StopParams stop ^
170 --JvmOptions "-Dcatalina.home=%CATALINA_HOME%;-Dcatalina.base=%CATALINA_BASE%;-Djava.io.tmpdir=%CATALINA_BASE%\temp;-Djava.util.logging.manager=
org.apache.juli.ClassLoaderLogManager;-Djava.util.logging.config.file=%CATALINA_BASE%\conf\logging.properties;%Jvmsize%" ^
171 --Startup "%SERVICE_STARTUP_MODE%" ^
172 --Jvmsize "%Jvmsize%" ^
173 --Jvmopts "%Jvmsize%"
174 if not errorlevel 1 goto installed
```

Once you increase the size in service.bat then, you have to re-register the tomcat service for the changes to take effect.

Go to Windows services, check for the tomcat service - usually, this will be as shown below:



To un-register the service, execute the following command by opening a command prompt service.bat, as administrator and, uninstall DBSync.

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.15063]
(c) 2017 Microsoft Corporation. All rights reserved.

D:\BatchMode\bin>service.bat uninstall DBSync
Removing the service 'DBSync' ...
Using CATALINA_BASE: "D:\BatchMode"
The service 'DBSync' has been removed

D:\BatchMode\bin>
```

To re-register the service again, execute the command:

service.bat install DBSync.

```
C:\Windows\System32\cmd.exe

D:\BatchMode\bin>service.bat install DBSync
Installing the service 'DBSync' ...
Using CATALINA_HOME: "D:\BatchMode"
Using CATALINA_BASE: "D:\BatchMode"
Using JAVA_HOME: "C:\Program Files\Java\jdk1.8.0_131"
Using JRE_HOME: "D:\BatchMode\bin\..\jre1.8.0_65"
Using JVM: "D:\BatchMode\bin\..\jre1.8.0_65\bin\client\jvm.dll"
The service 'DBSync' has been installed.

D:\BatchMode\bin>
```