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— 2015/08/03 16:14

# tomcat.env

## LINUX

### JDK 1.8

```
#####
# instance      : sample
# description   : sample instance environment
# date         : 2024-12-05
# author       : kwlee2@linuxdata.co.kr
# copyright    : Linux Data System co.
#              : http://linuxdata.co.kr
#####

#####
# WARNING : MUST Set SERVER_NAME with same name of current directory
#####
DATE=`date "+%Y%m%d_%H%M%S"`
UNAME=`id -u -n`

TOMCAT_USER="root"
SERVER_NAME="test"

ENCODING="UTF-8"

#####
# Catalina Environment
#####
export CATALINA_HOME="/data/tomcat"
export CATALINA_BASE="${CATALINA_HOME}/SERVERS/${SERVER_NAME}"
export CATALINA_LOGS="${CATALINA_BASE}/logs"
export CATALINA_OPTS="-Denv=product -Denv.servername=${SERVER_NAME} -
Djava.security.egd=file:/dev/./urandom"
export CATALINA_OUT="${CATALINA_LOGS}/catalina.out"
export CATALINA_PID="${CATALINA_BASE}/catalina.pid"
export CATALINA_TMPDIR="${CATALINA_BASE}/temp"

export LANG="en_US.$ENCODING"

# JMX
#export CATALINA_OPTS="$CATALINA_OPTS -Dcom.sun.management.jmxremote"
#export CATALINA_OPTS="$CATALINA_OPTS -
Dcom.sun.management.jmxremote.port=7191"
#export CATALINA_OPTS="$CATALINA_OPTS -
```

```
Dcom.sun.management.jmxremote.ssl=false"
#export CATALINA_OPTS="$CATALINA_OPTS -
Dcom.sun.management.jmxremote.authenticate=false"

#####
# Java JVM Environment
#####
#           (MB   )
HEAP_MIN=2048
HEAP_MAX=4096

#####
# Current Host Setup
#####
GC_TYPE="g1"      # "g1", "parallel", "shenandoah", "ZGC"(only jdk 17+)
USE_LARGEPAGE="false" # useLargePages

#####
# Java Version Check
JAVA_VER=`java -version 2>&1 | sed 's/.*\?"\(.*\)".*/\1/; 1q'`
JAVA_VER_MAJOR=`java -version 2>&1 | sed 's/.*\?"\([0-9]*\)\.*/\1/; 1q'`
JAVA_VER_MINOR=`java -version 2>&1 | sed 's/.*\?"\([0-9]*\)\.*/\1/; 1q'`

if [ -z "$JAVA_VER" ]
then
    echo "Java is not installed";
    exit 1;
fi

#####
# JVM Options
#####
JAVA_OPTS="-DSERVER_NAME=$SERVER_NAME"
JAVA_OPTS="$JAVA_OPTS -server"
JAVA_OPTS="$JAVA_OPTS -Xms${HEAP_MIN}M"
JAVA_OPTS="$JAVA_OPTS -Xmx${HEAP_MAX}M"

### Linux Large Page Setting
if [ "${USE_LARGEPAGE}" == "true" ]; then
    JAVA_OPTS="$JAVA_OPTS -XX:+UseLargePages";
fi

### Garbage Collection Options
JAVA_OPTS="$JAVA_OPTS -XX:+HeapDumpOnOutOfMemoryError"
JAVA_OPTS="$JAVA_OPTS -XX:HeapDumpPath=${CATALINA_LOGS}/"

if [ $JAVA_VER_MAJOR -ge 11 ]; then
    JAVA_OPTS="$JAVA_OPTS -
Xlog:gc*,safepoint=info:file=${CATALINA_LOGS}/gc_%p_%t.log:tags,uptime,time,
level:filecount=10,filesize=50m"
```

```
else
    JAVA_OPTS="$JAVA_OPTS -Xloggc:${CATALINA_LOGS}/gc_%p_%t.log"
    JAVA_OPTS="$JAVA_OPTS -XX:+PrintGCDetails"
    JAVA_OPTS="$JAVA_OPTS -XX:+PrintGCTimeStamps"
    JAVA_OPTS="$JAVA_OPTS -XX:+PrintGCApplicationStoppedTime"
    JAVA_OPTS="$JAVA_OPTS -XX:+UseGCLogFileRotation"
    JAVA_OPTS="$JAVA_OPTS -XX:NumberOfGCLogFiles=10"
    JAVA_OPTS="$JAVA_OPTS -XX:GCLogFileSize=50M"
fi

### Collector type : G1 (low pause)
if [ $GC_TYPE == "g1" ]; then
    JAVA_OPTS="$JAVA_OPTS -XX:+UseG1GC"
    JAVA_OPTS="$JAVA_OPTS -XX:+ExplicitGCInvokesConcurrent"
    JAVA_OPTS="$JAVA_OPTS -XX:MaxGCPauseMillis=500"

### Collector type : Parallel (throughput)
elif [ $GC_TYPE == "parallel" ]; then
    JAVA_OPTS="$JAVA_OPTS -XX:+UseParallelGC"
    JAVA_OPTS="$JAVA_OPTS -XX:+UseParallelOldGC"

### ShenandoahGC
elif [ $GC_TYPE == "shenandoah" ]; then
    JAVA_OPTS="$JAVA_OPTS -XX:+UseShenandoahGC"
    JAVA_OPTS="$JAVA_OPTS -XX:+AlwaysPreTouch"
    JAVA_OPTS="$JAVA_OPTS -XX:+UseNUMA"

### ZGC (jdk 17+)
elif [ $GC_TYPE == "ZGC" ]; then
    if [ $JAVA_VER_MAJOR -ge 17 ]; then
        JAVA_OPTS="$JAVA_OPTS -XX:+UseZGC"
    else
        echo "ERROR: JDK $JAVA_VER_MAJOR.$JAVA_VER_MINOR is not support
ZGC!!!";
        exit 1;
    fi
else
    echo "ERROR: GC_TYPE is NOT SET!!!";
    exit 1;
fi

JAVA_OPTS="$JAVA_OPTS -Djava.awt.headless=true"
JAVA_OPTS="$JAVA_OPTS -Djava.net.preferIPv4Stack=true"
JAVA_OPTS="$JAVA_OPTS -Dorg.jboss.resolver.warning=true"

# Address / Port Definition
JAVA_OPTS="$JAVA_OPTS -Dtomcat.address.management=127.0.0.1"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.address.http=0.0.0.0"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.address.ajp=0.0.0.0"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.port.management=8005"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.port.http=8080"
```

```
JAVA_OPTS="$JAVA_OPTS -Dtomcat.port.ajp=8009"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.port.https=8443"

# Catalina Connector Attribute
JAVA_OPTS="$JAVA_OPTS -Dtomcat.connector.URIEncoding=$ENCODING"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.connector.maxPostSize=2097152"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.connector.maxThreads=400"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.connector.server=Tomcat"

# file encoding
JAVA_OPTS="$JAVA_OPTS -Dfile.encoding=$ENCODING"
JAVA_OPTS="$JAVA_OPTS -Dfile.client.encoding=$ENCODING"
JAVA_OPTS="$JAVA_OPTS -Dclient.encoding.override=$ENCODING"

#####
# Session Clustering
#
# WARNING :
# In order to use the Session Clustering,
# then conf/server.xml.cluster file should be overwritten as conf/server.xml
# receiver.address MUST set to !!REAL!! Address (Not 0.0.0.0)
#
JAVA_OPTS="$JAVA_OPTS -Dtomcat.engine.jvmRoute=$SERVER_NAME"
#JAVA_OPTS="$JAVA_OPTS -Dtomcat.engine.sessionCookieName=JSESSIONID"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.cluster.member.address=228.0.0.1"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.cluster.member.port=45564"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.cluster.receiver.address=0.0.0.0"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.cluster.receiver.port=5001"

# Host Variables
JAVA_OPTS="$JAVA_OPTS -Dtomcat.engine.localhost.appBase=webapps"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.engine.localhost.workDir=work"

# Using Tomcat Native
JAVA_OPTS="$JAVA_OPTS -Djava.library.path=${CATALINA_HOME}/lib"

#####
# Custom Variables Here

# anti log4shell
JAVA_OPTS="$JAVA_OPTS -Dlog4j2.formatMsgNoLookups=true"

export JAVA_OPTS

# EOF
```

## JDK 1.4 ~ 11

```
#####
# instance      : sample
# description   : sample instance environment
# date         : 2015-03-27
# author       : kwlee2@linuxdata.co.kr
# copyright    : Linux Data System co.
#              : http://linuxdata.co.kr
#####

#####
# WARNING : MUST Set SERVER_NAME with same name of current directory
#####
SERVER_NAME="sample"
TOMCAT_USER="root"
#DATE=`date "+%F_%T"`
DATE=`date "+%Y%m%d-%H%M%S"`
UNAME=`id -u -n`
ENCODING="UTF-8"

#####
# Catalina Environment
#####
export CATALINA_HOME="/software/tomcat"
export CATALINA_BASE="$CATALINA_HOME/servers/$SERVER_NAME"
export CATALINA_LOGS="$CATALINA_BASE/logs"
export CATALINA_OPTS="-Denv=product -Denv.servername=$SERVER_NAME -
Djava.security.egd=file:/dev/./urandom"
export CATALINA_OUT="$CATALINA_LOGS/catalina.out"
export CATALINA_PID="$CATALINA_BASE/catalina.pid"
export CATALINA_TMPDIR="$CATALINA_BASE/temp"

export LANG="en_US.$ENCODING"

# JMX
#export CATALINA_OPTS="$CATALINA_OPTS -Dcom.sun.management.jmxremote"
#export CATALINA_OPTS="$CATALINA_OPTS -
Dcom.sun.management.jmxremote.port=7191"
#export CATALINA_OPTS="$CATALINA_OPTS -
Dcom.sun.management.jmxremote.ssl=false"
#export CATALINA_OPTS="$CATALINA_OPTS -
Dcom.sun.management.jmxremote.authenticate=false"

#####
# Java JVM Environment
#####

# JAVA_OPTS
JAVA_OPTS="-Dserver_name=$SERVER_NAME"
JAVA_OPTS="$JAVA_OPTS -server"
JAVA_OPTS="$JAVA_OPTS -Xms512M"
JAVA_OPTS="$JAVA_OPTS -Xmx1024M"
```

```
JAVA_OPTS="$JAVA_OPTS -verbose:gc"
JAVA_OPTS="$JAVA_OPTS -Xloggc:$CATALINA_LOGS/gc_$DATE.log"
JAVA_OPTS="$JAVA_OPTS -XX:+PrintGC"
JAVA_OPTS="$JAVA_OPTS -XX:+PrintGCDetails"
JAVA_OPTS="$JAVA_OPTS -XX:+PrintGCTimeStamps"
JAVA_OPTS="$JAVA_OPTS -XX:+PrintHeapAtGC"
JAVA_OPTS="$JAVA_OPTS -XX:+HeapDumpOnOutOfMemoryError"
JAVA_OPTS="$JAVA_OPTS -XX:HeapDumpPath=$CATALINA_LOGS/heapdump_%p.hprof"
JAVA_OPTS="$JAVA_OPTS -XX:+DoEscapeAnalysis"
JAVA_OPTS="$JAVA_OPTS -XX:+UseCompressedOops"

# CMS GC - low pause
#JAVA_OPTS="$JAVA_OPTS -XX:+UseConcMarkSweepGC"
#JAVA_OPTS="$JAVA_OPTS -XX:+CMSClassUnloadingEnabled"
#JAVA_OPTS="$JAVA_OPTS -XX:+UseParNewGC"
#JAVA_OPTS="$JAVA_OPTS -XX:+ExplicitGCInvokesConcurrent"
#JAVA_OPTS="$JAVA_OPTS -XX:CMSInitiatingOccupancyFraction=80"
#JAVA_OPTS="$JAVA_OPTS -XX:CMSIncrementalSafetyFactor=20"
#JAVA_OPTS="$JAVA_OPTS -XX:+UseCMSInitiatingOccupancyOnly"
#JAVA_OPTS="$JAVA_OPTS -XX:MaxTenuringThreshold=32"

# Parallel GC - Throughput (recommend)
JAVA_OPTS="$JAVA_OPTS -XX:+UseParallelGC"
JAVA_OPTS="$JAVA_OPTS -XX:+UseParallelOldGC"

# G1 GC
#JAVA_OPTS="$JAVA_OPTS -XX:+UseG1GC"

# AWT headless
JAVA_OPTS="$JAVA_OPTS -Djava.awt.headless=true"

# Using only IPv4
JAVA_OPTS="$JAVA_OPTS -Djava.net.preferIPv4Stack=true"

# Address / Port Definition
JAVA_OPTS="$JAVA_OPTS -Dtomcat.address.management=127.0.0.1"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.address.http=0.0.0.0"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.address.ajp=0.0.0.0"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.port.management=8005"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.port.http=8080"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.port.ajp=8009"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.port.https=8443"

# Catalina Connector Attribute
JAVA_OPTS="$JAVA_OPTS -Dtomcat.connector.URIEncoding=$ENCODING"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.connector.maxPostSize=2097152"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.connector.maxThreads=400"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.connector.server=Tomcat"

# file encoding
JAVA_OPTS="$JAVA_OPTS -Dfile.encoding=$ENCODING"
```

```

JAVA_OPTS="$JAVA_OPTS -Dfile.encoding=$ENCODING"
JAVA_OPTS="$JAVA_OPTS -Dclient.encoding.override=$ENCODING"

#####
# Session Clustering
#
# WARNING :
# In order to use the Session Clustering,
# then conf/server.xml.cluster file should be overwritten as conf/server.xml
# receiver.address MUST set to !!REAL!! Address (Not 0.0.0.0)
#
JAVA_OPTS="$JAVA_OPTS -Dtomcat.engine.jvmRoute=$SERVER_NAME"
#JAVA_OPTS="$JAVA_OPTS -Dtomcat.engine.sessionCookieName=JSESSIONID"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.cluster.member.address=228.0.0.1"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.cluster.member.port=45564"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.cluster.receiver.address=0.0.0.0"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.cluster.receiver.port=5001"

# Host Variables
JAVA_OPTS="$JAVA_OPTS -Dtomcat.engine.localhost.appBase=webapps"
JAVA_OPTS="$JAVA_OPTS -Dtomcat.engine.localhost.workDir=work"

# Using Tomcat Native
JAVA_OPTS="$JAVA_OPTS -Djava.library.path=$CATALINA_HOME/lib"

#####
# Custom Variables Here

# anti log4shell
JAVA_OPTS="$JAVA_OPTS -Dlog4j2.formatMsgNoLookups=true"

export JAVA_OPTS

# EOF

```

## DOS / WINDOWS

```

@echo off
REM #####
REM # instance      : sample
REM # description   : sample instance environment
REM # date          : 2016-08-03
REM # author        : KangWoo Lee
REM #               : kwlee2@linuxdata.co.kr
REM # copyright     : Linux Data System co.
REM #               : http:\\linuxdata.co.kr
REM # platform      : WINDOWS / DOS
REM #####

```

```
REM #####
REM # WARNING : MUST set SERVER_NAME with same name of current directory
REM #####

set SERVER_NAME=sample
set
DATESTR=%DATE:~0,4%%DATE:~5,2%%DATE:~8,2%%TIME:~0,2%%TIME:~3,2%%TIME:~6,2%
set ENCODING=UTF-8

REM #####
REM # Catalina Environment
REM #####
set CATALINA_HOME=E:\      \Tomcat\apache-tomcat-8.5.4_win32_x86_64
set CATALINA_BASE=%CATALINA_HOME%\SERVERS\%SERVER_NAME%
set CATALINA_LOGS=%CATALINA_BASE%\logs
set CATALINA_OPTS=-Denv=product -Denv.servername=%SERVER_NAME%
set CATALINA_OUT=%CATALINA_LOGS%\catalina.out
set CATALINA_PID=%CATALINA_BASE%\catalina.pid
set CATALINA_TMPDIR=%CATALINA_BASE%\temp

set LANG=en_US.%ENCODING%

REM ##### JMX #####
REM set CATALINA_OPTS=%CATALINA_OPTS% -Dcom.sun.management.jmxremote
REM set CATALINA_OPTS=%CATALINA_OPTS% -
Dcom.sun.management.jmxremote.port=7191
REM set CATALINA_OPTS=%CATALINA_OPTS% -
Dcom.sun.management.jmxremote.ssl=false
REM set CATALINA_OPTS=%CATALINA_OPTS% -
Dcom.sun.management.jmxremote.authenticate=false

REM #####
REM # Java JVM Environment
REM #####

set JAVA_HOME=D:\Devel\Java\jdk1.8.0_73

REM ##### JAVA_OPTS #####
set JAVA_OPTS=-DSERVER_NAME=%SERVER_NAME%
set JAVA_OPTS=%JAVA_OPTS% -server
set JAVA_OPTS=%JAVA_OPTS% -Xms512M
set JAVA_OPTS=%JAVA_OPTS% -Xmx1024M
set JAVA_OPTS=%JAVA_OPTS% -verbose:gc
set JAVA_OPTS=%JAVA_OPTS% -Xloggc:%CATALINA_LOGS%\gc_%DATESTR%.log
set JAVA_OPTS=%JAVA_OPTS% -XX:+PrintGC
set JAVA_OPTS=%JAVA_OPTS% -XX:+PrintGCDetails
set JAVA_OPTS=%JAVA_OPTS% -XX:+PrintGCTimeStamps
set JAVA_OPTS=%JAVA_OPTS% -XX:+PrintHeapAtGC
set JAVA_OPTS=%JAVA_OPTS% -XX:+HeapDumpOnOutOfMemoryError
set JAVA_OPTS=%JAVA_OPTS% -XX:HeapDumpPath=%CATALINA_LOGS%\heapdump_%p.hprof
set JAVA_OPTS=%JAVA_OPTS% -XX:+DoEscapeAnalysis
```

```
set JAVA_OPTS=%JAVA_OPTS% -XX:+UseCompressedOops

REM ##### CMS GC - low pause #####
REM set JAVA_OPTS=%JAVA_OPTS% -XX:+UseConcMarkSweepGC
REM set JAVA_OPTS=%JAVA_OPTS% -XX:+CMSClassUnloadingEnabled
REM set JAVA_OPTS=%JAVA_OPTS% -XX:+UseParNewGC
REM set JAVA_OPTS=%JAVA_OPTS% -XX:+ExplicitGCInvokesConcurrent
REM set JAVA_OPTS=%JAVA_OPTS% -XX:CMSInitiatingOccupancyFraction=80
REM set JAVA_OPTS=%JAVA_OPTS% -XX:CMSIncrementalSafetyFactor=20
REM set JAVA_OPTS=%JAVA_OPTS% -XX:+UseCMSInitiatingOccupancyOnly
REM set JAVA_OPTS=%JAVA_OPTS% -XX:MaxTenuringThreshold=32

REM ##### Parallel GC - Throughput (recommend) #####
REM set JAVA_OPTS=%JAVA_OPTS% -XX:+UseParallelGC
REM set JAVA_OPTS=%JAVA_OPTS% -XX:+UseParallelOldGC

# G1 GC
set JAVA_OPTS=%JAVA_OPTS% -XX:+UseG1GC

REM ##### AWT headless #####
set JAVA_OPTS=%JAVA_OPTS% -Djava.awt.headless=true

REM ##### Using only IPv4 #####
set JAVA_OPTS=%JAVA_OPTS% -Djava.net.preferIPv4Stack=true

REM ##### Address \ Port Definition #####
set JAVA_OPTS=%JAVA_OPTS% -Dtomcat.address.management=127.0.0.1
set JAVA_OPTS=%JAVA_OPTS% -Dtomcat.address.http=0.0.0.0
set JAVA_OPTS=%JAVA_OPTS% -Dtomcat.address.ajp=0.0.0.0
set JAVA_OPTS=%JAVA_OPTS% -Dtomcat.port.management=8005
set JAVA_OPTS=%JAVA_OPTS% -Dtomcat.port.http=8080
set JAVA_OPTS=%JAVA_OPTS% -Dtomcat.port.ajp=8009
set JAVA_OPTS=%JAVA_OPTS% -Dtomcat.port.https=8443

REM ##### Catalina Connector Attribute #####
set JAVA_OPTS=%JAVA_OPTS% -Dtomcat.connector.URIEncoding=%ENCODING%
set JAVA_OPTS=%JAVA_OPTS% -Dtomcat.connector.maxPostSize=2097152
set JAVA_OPTS=%JAVA_OPTS% -Dtomcat.connector.maxThreads=400
set JAVA_OPTS=%JAVA_OPTS% -Dtomcat.connector.server=Tomcat

REM ##### file encoding
set JAVA_OPTS=%JAVA_OPTS% -Dfile.encoding=%ENCODING%
set JAVA_OPTS=%JAVA_OPTS% -Dfile.client.encoding=%ENCODING%
set JAVA_OPTS=%JAVA_OPTS% -Dclient.encoding.override=%ENCODING%

REM #####
REM # Session Clustering
REM #
REM # WARNING :
REM # In order to use the Session Clustering,
REM # then conf\server.xml.cluster file should be overwritten as
```

```
conf\server.xml
REM # receiver.address MUST set to !!REAL!! Address (Not 0.0.0.0)
REM #####
set JAVA_OPTS=%JAVA_OPTS% -Dtomcat.engine.jvmRoute=%SERVER_NAME%
REM set JAVA_OPTS=%JAVA_OPTS% -Dtomcat.engine.sessionCookieName=JSESSIONID
set JAVA_OPTS=%JAVA_OPTS% -Dtomcat.cluster.member.address=228.0.0.1
set JAVA_OPTS=%JAVA_OPTS% -Dtomcat.cluster.member.port=45564
set JAVA_OPTS=%JAVA_OPTS% -Dtomcat.cluster.receiver.address=0.0.0.0
set JAVA_OPTS=%JAVA_OPTS% -Dtomcat.cluster.receiver.port=5001

REM ##### Host Variables
set JAVA_OPTS=%JAVA_OPTS% -Dtomcat.engine.localhost.appBase=webapps
set JAVA_OPTS=%JAVA_OPTS% -Dtomcat.engine.localhost.workDir=work

REM ##### Using Tomcat Native
set JAVA_OPTS=%JAVA_OPTS% -Djava.library.path=%CATALINA_HOME%\lib

REM #####
REM # Custom Variables Here

REM # anti log4shell
set JAVA_OPTS=%JAVA_OPTS% -Dlog4j2.formatMsgNoLookups=true

REM EOF
```

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