

ITCAMfJ2EE DC Configuration on Weblogic to Support User's Customized Startup Script

Change History

- **2007-04-09**
 1. Initial version, including the descriptions and simple example of Anchors for customized script
- **2007-04-16**
 1. Add “The customized script configuration on weblogic is introduced in fixpack1 and enhanced in ifix3.” in the introduction.
 2. For some advanced configuration scenario, add one step in overall steps in [section 2](#) to specify in file <DC_HOME>/installer/config_dc/ optional_config_params.properties
 3. Change the location of the anchor ITCAM in last JVM option, see [section 2](#).
 4. Add explanation for the configuration section in the weblogic startup script file, in [section 4](#).
 5. Add configurator parameters in silent option file in the [appendix 1](#).

1. Introduction

This document is used to configure ITCAMfJ2EE DC for WebLogic when customer is using the customized startup script to start weblogic server. The feature of customized script configuration on weblogic is introduced in fixpack1 and enhanced in ifix3.

2. Customized Anchors for ITCAM DC Configuration

The overall steps to run ITCAMfJ2EE configurator on weblogic are:

1. Before running configurator, user need specify two anchors in the customized script.
2. For some advanced configuration scenario including disable ITCAM generated GC redirection, specifying a log path containing environment variables. User need specify the properties in “<DC_HOME>/installer/config_dc/optional_config_params.properties” (please refer to Appendix 1. section B for more detail)
3. User run configurator, and configurator will replace anchors with ITCAM DC configuration

Here is explanation for the anchors to be added by user before running configurator:

1. Anchor “ITCAM_DC_SCRIPT”

To support the customized startup script, an anchor is required to be added into the customized script. The configuration section of ITCAMfJ2EE DC will be inserted before this anchor after applying ITCAM DC configuration.

Note: The anchor should be written in a separated line. This anchor should be inserted into a line which can be executed after where the variable **<VAR_SERVER_NAME>** is set with a value and before the execution of ‘java ...’ command.

Format:

<comment_tag> ITCAM_DC_SCRIPT, **<VAR_SERVER_NAME>**

Field explanation:

<comment_tag>: this is ‘####’ on unix/linux, and on windows, this is ‘REM’

Weblogic server instance name may defined dynamically, for example, from the command line.

<VAR_SERVER_NAME> is the variable that contains the server instance name. If omitted, the default value is SERVER_NAME.

For example,

User can add a line in customized script on Unix:

```
#### ITCAM_DC_SCRIPT
```

User can add a line in customized script on Windows:

```
REM ITCAM_DC_SCRIPT
```

2. Anchor "ITCAM_OPTIONS"

The second anchor is required to be added as the last JVM option in the customized script. User needs to find where the JVM options is using and insert \$ITCAM_OPTIONS on Unix/Linux and

%ITCAM_OPTIONS% on windows.

The anchor "ITCAM_OPTIONS" should stay in the last of the java options, just before the main class "weblogic.Server" in the weblogic jvm startup options. If ITCAM DC option contains gc log arguments or java security policy argument, it will overwrite the arguments set in the previous options.

Example line with anchor:

```
${JAVA_HOME}/bin/java    ${JAVA_VM}    ${MEM_ARGS}    ${JAVA_OPTIONS}
-Dweblogic.Name=${SERVER_NAME} -Djava.security.policy=${WL_HOME}/
server/lib/weblogic.policy    ${PROXY_SETTINGS}    $ITCAM_OPTIONS
${SERVER_CLASS}    >"${WLS_REDIRECT_LOG}" " 2>&1
```

3. Simple Example for Customized Script

Assuming user is using a customized script named 'my_weblogic_startup.sh' on AIX, user runs 'my_weblogic_startup.sh <server name>' to start weblogic server. (In the original script, variable MY_SERVER is used for argument <server name>)

Steps:

- **Before installing fix, user needs open the startup script file my_weblogic_startup.sh and edit:**

1. Insert lines below into the file start or a line that will be executed in script. This line should be inserted into a line which can be executed and before the execution of 'java ...' command.

For example, we add following line at a proper line at the beginning of the script.

ITCAM_DC_SCRIPT,MY_SERVER

2. Add \$ITCAM_OPTIONS to JVM options

```
java $JAVA_OPTIONS -classpath $CLASSPATH $WLS_OPTIONS $ITCAM_OPTIONS
weblogic.Server >> $WLS_LOG &
```

- **After the process of ITCAMfJ2EE DC configuration on Weblogic, the configuration section will check the instance name likes below:**

“

...

```
if [ "${MY_SERVER}" = "default_server" ] ; then
```

...

```
ITCAM_OPTIONS="-Xbootclasspath... ${ITCAM_OPTIONS}"
```

```

...
fi
#### ITCAM_DC_SCRIPT,MY_SERVEUR
...
java $JAVA_OPTIONS -classpath $CLASSPATH $WLS_OPTIONS $ITCAM_OPTIONS
weblogic.Server >> $WLS_LOG &
”

```

4. Explanations about the ITCAM DC configuration section

This section explained the configuration inserted into the place after anchor “<comment_tag> ITCAM_DC_SCRIPT, <VAR_SERVER_NAME>” in the customized script by ITCAM DC. All descriptions are written as comment in the section. User can copy/paste this section to a proper text editor to go through.

This section explained ITCAM DC configuration by example on specific platform, whereas it’s only difference in the options including -Xrunam_<jdk vender>_14, -agentlib: <jdk vender>_15 and the paths for LD_LIBRARY_PATH/LIBPATH/SHLIB_PATH. User can also manually modify the customized script after understanding this section.

4.1. ITCAM DC for WebLogic 8 on UNIX

Sample Platform info: WebLogic 8, Sun JDK 1.4, Linux
Here are the sample text and explanation (words in blue):

```

#config section begin.
#While unconfigure, configurator will remove lines from here to
the config section end.
#SIPServer*****DC      for      Weblogic      support--
begin*****
#The config section apply only when current server instance name

```

```

equals to the configured weblogic instance name.
#This is useful when multiple weblogic instances are started with
the same startup script file.
#"SIPServer" is the configured weblogic instance name.
if [ "${SERVER_NAME}" = "SIPServer" ] ; then

#Set ITCAM DC directory info
ITCAM_HOME=/opt/itcam61/dc_wls1115
AM_HOME=/opt/itcam61/dc_wls1115/itcamdc
TOOLKIT_HOME=/opt/itcam61/dc_wls1115/toolkit
#Export CCLOG_COMMON_DIR environment variable, it is used by
ITCAM DC native code
#If user specify customized value in the file
optional_config_params.properties (parameter CCLOG_COMMON_DIR),
the value will be copied to here
CCLOG_COMMON_DIR="/var/ibm/tivoli/common"
export CCLOG_COMMON_DIR

#Export <DC_HOME>/toolkit/lib/<platform> to the environment
LIBPATH(aix), LD_LIBRARY_PATH(Linux,Solaris), SHLIB_PATH(hpux)
#Make the jvm knows where to load the DC native library.
# 1)
# Add DC native library path to ENV
case `uname -s` in
AIX)
    if [ -n "${LIBPATH}" ]; then
        LIBPATH=/opt/itcam61/dc_wls1115/toolkit/lib/linux-ix86:${LIBPATH}
    else
        LIBPATH=/opt/itcam61/dc_wls1115/toolkit/lib/linux-ix86
    fi
    export LIBPATH
    export AIXTHREAD_SCOPE=S
    export AIXTHREAD_MUTEX_DEBUG=OFF
    export AIXTHREAD_RWLOCK_DEBUG=OFF
    export AIXTHREAD_COND_DEBUG=OFF
    export AIXTHREAD_ENRUSG=ON
;;
HP-UX)
    if [ -n "${SHLIB_PATH}" ]; then
        SHLIB_PATH=/opt/itcam61/dc_wls1115/toolkit/lib/linux-ix86:${SHLIB_PATH}
    else

```

```

        SHLIB_PATH=/opt/itcam61/dc_wls1115/toolkit/lib/linux-ix86
    fi
    export TMTJITI_PROPS=${TOOLKIT_HOME}/etc/jiti.properties
    export SHLIB_PATH
;;
LINUX|Linux|SunOS|OSF1)
    if [ -n "${LD_LIBRARY_PATH}" ]; then
        LD_LIBRARY_PATH=/opt/itcam61/dc_wls1115/toolkit/lib/linux-
ix86:${LD_LIBRARY_PATH}
    else
        LD_LIBRARY_PATH=/opt/itcam61/dc_wls1115/toolkit/lib/linux-
ix86
    fi
    export LD_LIBRARY_PATH
;;
*)
    echo "$0: The Unix Platform is not supported by DC.  "
esac

```

```

#####
#Detailed info about each argument used by DC
#Common Arguments:
#-Xbootclasspath/p:${TOOLKIT_HOME}/lib/bcm-
bootstrap.jar:/opt/itcam61/dc_wls1115/toolkit/lib/jiti.jar:${
{AM_HOME}/lib/ppe.probe-bootstrap.jar:${AM_HOME}/
lib/ext/wls/weblogicBcm.jar
#Prepend some DC classes into the JVM bootclasspath, do not
change.
#
#-Dam.appserver=SIPServer
#The configured weblogic instance name
#
#-Dam.nodename=sipsample.tive31
#The node name of configured weblogic, format:
# <DomainName>.<HostName>(For instance that have no machine) or
<Domainname>.<MachineName>(For instance that have machine)
#
#-Dappserver.platform=wls8
#Server type of the weblogic instance, format:
#<ServerType><ServerVerion>. WebLogic ServerType is wls.
#
#-Ditcam61.home=${ITCAM_HOME}
#Make DC codes knows where is DC home

```

```

#
#-Dtoolkit.home=${TOOLKIT_HOME}
#Make DC codes knows where is DC toolkit home
#
#-
Xrunam_sun_14:/opt/itcam61/dc_wls1115/runtime/wls8.tive31.sipsamp
le.SIPServer/jiti.bea.properties
#am_sun_14 is the DC native library, JVMPI agent. file name
format:
#am_<jdkvendor>_<jdkversion>
#/opt/itcam61/dc_wls1115/runtime/wls8.tive31.sipsample.SIPServer/
jiti.bea.properties is the startup argument for the DC native
library
#
#-
Dcom.ibm.tivoli.jiti.injector.IProbeInjectorManager=com.ibm.tivol
i.jiti.injector.ProbeInjectorManagerChain
#Internal java property used by DC, do not change.
#
#-
Dcom.ibm.tivoli.jiti.injector.ProbeInjectorManagerChain.primaryIn
jectorFile=/opt/itcam61/dc_wls1115/runtime/wls8.tive31.sipsample.
SIPServer/probeinjectormanagerchain.properties
#
#Internal java property used by DC for coexistence with ITCAM
RTT, do not change.
# This property points to a property file in the instance spec
runtime dir.
#
#-
Dweblogic.classloader.preprocessor=com.ibm.tivoli.itcam.wls.sdc.P
reProcessor
#WebLogic java code PreProcessor provided by DC, do not change.
#
#
#GC Arguments:
#-verbose:gc -Xloggc:wls_gc.log
#gc arguments for sun jdk1.4. If the NEED_ITCAM_SPECIFY_GCLOG is
set to false, the two parameters are not added.
#
#Log Arguments:
#-DCCLOG_COMMON_DIR=<LogCommonDir> -Djlog.
qualDir=<NodeName>.<InstanceName> -Djlog.
propertyFile=cynlogging.properties -Djlog.

```

```

propertyFileDir.CYN=<DC_HOME>/toolkit/etc -Dcom.
ibm.tivoli.itcam.toolkit.util.logging.qualDir=<NodeName>.<InstanceName>
-Dibm.common.log.dir=<LogCommonDir> -Djlog.
common.dir=<LogCommonDir>
#
#log arguments are used by the DC java codes, to reduce the
length of the jvm's startup command line, those system properties
are saved in the <DC_HOME>/runtime/<InstanceDir>/dc.properties.
If the optional parameter EXTRA_APPEND_LOGOPTS is true, those
system properties will be added into the DC java options.
#
#
#Security policy file Argument:
#-
Djava.security.policy="/opt/itcam61/dc_wls1115/runtime/wls8.tive3
1.sipsample.SIPServer/tive31.sipsample.SIPServer.datacollector.po
licy
#Let the jvm use DC security policy file, If the optional
parameter NEED_ITCAM_SECURITY_POLICY is false, this system
property is not added to the DC java options string.
#
#
#####

# 2) set toolkit and shared dc runtime configuration
JAVA_OPTIONS="-Xbootclasspath/p:${TOOLKIT_HOME}/lib/bcm-
bootstrap.jar:/opt/itcam61/dc_wls1115/toolkit/lib/jiti.jar:${
AM_HOME}/lib/ppe.probe-bootstrap.jar:${AM_HOME}/
lib/ext/wls/weblogicBcm.jar -Dam.appserver=SIPServer -Dam.
nodename=sipsample.tive31 -Dappserver.platform=wls8 -Ditcam61.
home=${ITCAM_HOME} -Dtoolkit.home=${TOOLKIT_HOME}
-Xrunam_sun_14:/
opt/itcam61/dc_wls1115/runtime/wls8.tive31.sipsample.SIPServer/ji
ti.bea.properties -Dcom.
ibm.tivoli.jiti.injector.IProbeInjectorManager=com.ibm.tivoli.jit
i.injector.ProbeInjectorManagerChain -Dcom.
ibm.tivoli.jiti.injector.ProbeInjectorManagerChain.primaryInjecto
rFile=/opt/itcam61/dc_wls1115/runtime/wls8.tive31.sipsample.SIPSe
rver/probeinjectormanagerchain.properties -Dweblogic.
classloader.preprocessor=com.ibm.tivoli.itcam.wls.sdc.PreProcesso
r -verbose:gc -Xloggc:wlsgc.log -Djava.
security.policy="/opt/itcam61/dc_wls1115/runtime/wls8.tive31.sips
ample.SIPServer/tive31.sipsample.SIPServer.datacollector.policy"
${JAVA_OPTIONS}"

```



```
#exit
fi
#SIPServer*****DC      for      Weblogic      support--end
*****
```

4.2. ITCAM DC for WebLogic 9 on UNIX

Sample Platform info: WebLogic 9, Sun JDK 1.5, Linux

Here are the sample text and explanation ([words in blue](#)):

```
#config section begin.
#While unconfigure, configurtor will remove lines from here to
the config section end.
#AdminServer*****DC      for      Weblogic      support--
begin*****
#The config section apply only when current server instance name
equals to the configured weblogic instance name.
#This is useful when multiple weblogic instances are started with
the same startup script file.
#" AdminServer " is the configured weblogic instance name.
if [ "${SERVER_NAME}" = "AdminServer" ] ; then

#Set ITCAM DC directory info
ITCAM_HOME=/opt/zhizhang/DC
AM_HOME=/opt/zhizhang/DC/itcamdc
TOOLKIT_HOME=/opt/zhizhang/DC/toolkit

#Export CCLOG_COMMON_DIR environment variable, it is used by
ITCAM DC native code
#If user specify customized value in the file
optional_config_params.properties (parameter CCLOG_COMMON_DIR),
the value will be copied to here
CCLOG_COMMON_DIR="$hello"
export CCLOG_COMMON_DIR

#Export <DC_HOME>/toolkit/lib/<platform> to the environment
```

```

LIBPATH(aix), LD_LIBRARY_PATH(Linux,Solaris), SHLIB_PATH(hpux)
#Make the jvm knows where to load the DC native library.
# 1)
# Add DC native library path to ENV
case `uname -s` in
AIX)
    if [ -n "${LIBPATH}" ]; then
        LIBPATH=/opt/zhizhang/DC/toolkit/lib/linux-ix86:${LIBPATH}
    else
        LIBPATH=/opt/zhizhang/DC/toolkit/lib/linux-ix86
    fi
    export LIBPATH
    export AIXTHREAD_SCOPE=S
    export AIXTHREAD_MUTEX_DEBUG=OFF
    export AIXTHREAD_RWLOCK_DEBUG=OFF
    export AIXTHREAD_COND_DEBUG=OFF
    export AIXTHREAD_ENRUSG=ON
;;
HP-UX)
    if [ -n "${SHLIB_PATH}" ]; then
        SHLIB_PATH=/opt/zhizhang/DC/toolkit/lib/linux-ix86:${SHLIB_PATH}
    else
        SHLIB_PATH=/opt/zhizhang/DC/toolkit/lib/linux-ix86
    fi
    export SHLIB_PATH
;;
Linux|Linux|SunOS|OSF1)
    if [ -n "${LD_LIBRARY_PATH}" ]; then
        LD_LIBRARY_PATH=/opt/zhizhang/DC/toolkit/lib/linux-ix86:${LD_LIBRARY_PATH}
    else
        LD_LIBRARY_PATH=/opt/zhizhang/DC/toolkit/lib/linux-ix86
    fi
    export LD_LIBRARY_PATH
;;
*)
    echo "$0: The Unix Platform is not supported by DC. "
esac

#####
#Detailed info about each argument used by DC
#Common Arguments:
#-Xbootclasspath/p:${TOOLKIT_HOME}/lib/bcm-bootstrap.jar:$

```

```

{AM_HOME}/lib/ppe.probe-bootstrap.jar:${AM_HOME}/
lib/ext/wls/weblogicBcm.jar
#Prepend some DC classes into the JVM bootclasspath, do not
change.
#
#-Dam.appserver=AdminServer
#The configured weblogic instance name
#
#-Dam.nodename= base_domain.tive31.cn.ibm.com
#The node name of configured weblogic, format:
# <DomainName>.<HostName>(For instance that have no machine) or
<Domainname>.<MachineName>(For instance that have machine)
#
#-Dappserver.platform=wls9
#Server type of the weblogic instance, format:
#<ServerType><ServerVerion>. WebLogic ServerType is wls.
#
#-Ditcam61.home=${ITCAM_HOME}
#Make DC codes knows where is DC home
#
#-Dtoolkit.home=${TOOLKIT_HOME}
#Make DC codes knows where is DC toolkit home
#
#-agentlib:am_sun_15
#DC JVMTI agent for sun jdk 15. file name format:
#am_<jdkvendor>_<jdkversion>
#
#-
Dweblogic.classloader.preprocessor=com.ibm.tivoli.itcam.wls.sdc.P
reProcessor
#WebLogic java code PreProcessor provided by DC, do not change.
#
#
#-Dsun.rmi.dgc.client.gcInterval=3600000 -Dsun.
rmi.dgc.server.gcInterval=3600000
#Extra jvm options from optional parameter EXTRA_JVM_OPTION
#
#
#GC Arguments:
#-verbose:gc -Xloggc:<GC_LOGFILE>
#gc arguments for sun jdk1.5. If the NEED_ITCAM_SPECIFY_GCLOG is
set to false, the two parameters are not added.
#
#Log Arguments:

```

```

#-DCCLOG_COMMON_DIR=<LogCommonDir>                                -Djlog.
qualDir=<NodeName>.<InstanceName>                                    -Djlog.
propertyFile=cynlogging.properties                                -Djlog.
propertyFileDir.CYN=<DC_HOME>/toolkit/etc                          -Dcom.
ibm.tivoli.itcam.toolkit.util.logging.qualDir=<NodeName>.<Instanc
eName>                    -Dibm.common.log.dir=<LogCommonDir>      -Djlog.
common.dir=<LogCommonDir>
#
#
#Security policy file argument:
#-
Djava.security.policy="/opt/zhizhang/DC/runtime/wls9.base_domain.
tive31.cn.ibm.com.AdminServer/base_domain.tive31.cn.ibm.com.Admin
Server.datacollector.policy"
#Let the jvm use DC security policy file, If the optional
parameter NEED_ITCAM_SECURITY_POLICY is false, this system
property is not added to the DC java options string.
#
#####

# 2) set toolkit and shared dc runtime configuration
JAVA_OPTIONS="-Xbootclasspath/p:${TOOLKIT_HOME}/lib/bcm-
bootstrap.jar:${AM_HOME}/lib/ppe.probe-bootstrap.jar:${AM_HOME}/
lib/ext/wls/weblogicBcm.jar -Dam.appserver=AdminServer -Dam.
nodename=base_domain.tive31.cn.ibm.com -Dappserver.platform=wls9
-Ditcam61.home=${ITCAM_HOME} -Dtoolkit.home=${TOOLKIT_HOME}
-agentlib:am_sun_15 -Dweblogic.
classloader.preprocessor=com.ibm.tivoli.itcam.wls.sdc.PreProcesso
r ${JAVA_OPTIONS}"
JAVA_OPTIONS=${JAVA_OPTIONS}' -Dsun.
rmi.dgc.client.gcInterval=3600000 -Dsun.
rmi.dgc.server.gcInterval=3600000 -Djava.
security.policy=/opt/zhizhang/DC/runtime/wls9.base_domain.tive31.
cn.ibm.com.AdminServer/base_domain.tive31.cn.ibm.com.AdminServer.
datacollector.policy'
export JAVA_OPTIONS

#This line is disabled
#set policy, disabled
#DC_OPTIONS=' -Djava.
security.policy="/opt/zhizhang/DC/runtime/wls9.base_domain.tive31.
cn.ibm.com.AdminServer/base_domain.tive31.cn.ibm.com.AdminServer.
.datacollector.policy"'

```

```
#exit
fi
#AdminServer*****DC    for    Weblogic    support--end
*****
```

Appendix 1. ITCAM DC WebLogic Configurator

Parameters

A. WebLogic Standard Parameters

This section explains the fields used in silent option file for ITCAM DC configuration, e.g.
\$DC_HOME/installer/silent/DC61_weblogic.opt

| Parameter | Definition |
|-----------------------|--|
| LICENSE_ACCEPT_BUTTON | License agreement. You must specify this parameter to begin the product installation. Default setting is true. Install Location The location where you intend to install the product. The default location for installation is: C:\Program Files\IBM\tivoli\itcam\J2EE\DC |
| LAUNCH_CONFIG | This parameter launches the Configuration Tool. Specifying this parameter begins the process of configuring the DC to the Managing Server after installation. The default setting is true. DC Configuration |
| UNCONFIGURE_SERVERS | Specifying this parameter will cancel the configuration process after the installation is complete. The default setting is false. |

| | |
|------------------|--|
| J2EE_SELECTED | ITCAM for J2EE's Application Monitor interface. Specifying this parameter will configure monitored data to be accessed through ITCAM for J2EE's Application Monitor interface. To use the Application Monitor interface, ITCAM for J2EE and its components must be fully installed. The default is true. |
| TEMA_SELECTED | ITCAM for J2EE Tivoli Enterprise Portal (TEP). Specifying this parameter will configure monitored data to be accessed using the ITCAM for J2EE's TEP. To use the TEP interface, ITCAM for J2EE and its components must be fully installed. The default is false. |
| SERVER_HOME | WebLogic directory location. Enter the root directory location in which WebLogic is located on the host machine |
| SERVER_VERSION | WebLogic version number. Enter the version number of WebLogic that you are currently running |
| JAVA_HOME | The location of the JDK. Enter the directory location of the JDK that supports WebLogic. |
| IS64UNIXJVM | The flag for 64 bit model. The default value is false. If you are running a 64 bit OS using 64 bit JVM on either a UNIX, HP or Solaris platform, change the parameter to true. Ignore this parameter on Windows. |
| GC_LOGFILE | Specifies the location of the GC log file that will be created by ITCAM installation when the DC is installed. User can also disable this option by setting the property NEED_ITCAM_SPECIFY_GCLOG to false in optional_config_params.properties. Default full path of GC log file is \$DC_HOME/<SERVER_TYPE>-gc-log.log.<INSTANCE_NAME> |
| DC_OFFLINE_ALLOW | This is for you to decide whether offline configuration is allowed. If you enter "true", the program will skip the verification of the connection to MS during configuration, and use the entered value of MS_AM_HOME; if you enter "false", the program will connect to MS and detect the MS home directory on MS server. The default value is false. |

| | |
|---|---|
| TEMA_OFFLINE_ALLOW | The option indicates whether offline configuration type is allowed during the configuration. The program will skip the TEMA connection test if it is set to be true. Set it to false when you don't want to allow the offline configuration for TEMA. |
| AM_SOCKET_BINDIP | This is the DC side IP address or full qualified Host name. The IP or Host name will be used by DC to communicate with MS. If there are more than one NIC or multiple IP address configured on DC machine, choose one of them. For example: -V AM_SOCKET_BINDIP=9.181.93.95 or -V AM_SOCKET_BINDIP=dc.cn.ibm.com or -V AM_SOCKET_BINDIP=<value> |
| FIREWALL_ENABLED | For DC side if the firewall is enabled, set the value to be true; otherwise, set the value to be false. |
| PROBE_RMI_POR | If the DC is behind firewall, set this port number. This port number should be configured as allowable in firewall software on which the DC host locates. The legal values are from "8200" to "8299". |
| PROBE_CONTROLLER_RMI_PORT | If the DC is behind firewall, set this port number. This port number should be configured as allowable in firewall software on which the DC host locates. The legal values are from "8300" to "8399". |
| Managing-Server Specific Options | |
| RECOLLECT_MSINFO | Specifying this parameter prompts the DC to recollect data from the Managing Server. The default is true. |
| MS_AM_HOME | The location of the Managing Server. Enter the directory location where the Managing Server is located. This parameter correlates the DC_OFFLINE_ALLOW. Refer to DC_OFFLINE_ALLOW for more detailed information. |
| KERNEL_HOST01 | Primary kernel server name. Enter full-qualified host name of the primary kernel server hosting the Managing Server. |
| PORT_KERNEL_CODEBASE01 | Primary kernel codebase port. The default is 9122. |

Application Server Specific Options

| | | | | | | | |
|--------------------------|---|-----------------|----------------------------------|-------------------------|---|-------------------------|---|
| WLHOST | WebLogic Domain Admin Server listen address, host name or IP address. When target WebLogic Server is installed as standalone mode, this parameter is same as INST_WLHOST. | | | | | | |
| WLPORT | WebLogic Domain Admin Server listen port. When target WebLogic Server is installed as standalone mode, this parameter is same as INST_WLPORT. | | | | | | |
| WLUSER | WebLogic Domain Admin Server Login User name. When target WebLogic Server is installed as standalone mode, this parameter is same as INST_WLUSER. | | | | | | |
| WLPSWD | WebLogic Domain Admin Server Login Password. When target WebLogic Server is installed as standalone mode, this parameter is same as INST_WLPSWD. | | | | | | |
| WLJNDI_TYPE | <p>WebLogic Domain Admin Server Listen type</p> <p>Possible values: <code>t3</code>, <code>t3s_oneway</code>, <code>t3s_twoway</code></p> <table><tr><td><code>t3</code></td><td>The listen type is plain socket.</td></tr><tr><td><code>t3s_oneway</code></td><td>The listen type is one-way SSL, client certification is not required.</td></tr><tr><td><code>t3s_twoway</code></td><td>The listen type is two-way SSL, client certification is enforced.</td></tr></table> | <code>t3</code> | The listen type is plain socket. | <code>t3s_oneway</code> | The listen type is one-way SSL, client certification is not required. | <code>t3s_twoway</code> | The listen type is two-way SSL, client certification is enforced. |
| <code>t3</code> | The listen type is plain socket. | | | | | | |
| <code>t3s_oneway</code> | The listen type is one-way SSL, client certification is not required. | | | | | | |
| <code>t3s_twoway</code> | The listen type is two-way SSL, client certification is enforced. | | | | | | |
| WL_SSL_TRUST_CA_KEYSTORE | <p>SSL client CA trust keystore file name for the WebLogic Domain Admin Server. It is a .jks file.</p> <p>When to be used:</p> <p>This parameter is useful when WLJNDI_TYPE is <code>t3s_oneway</code> or <code>t3s_twoway</code>.</p> | | | | | | |

| | |
|-------------------|--|
| WL_SSL_CERT_FILES | <p>SSL Certificate Files.</p> <p>When to be used: This parameter is used only when WLJNDI_TYPE is <code>t3s_twoway</code>.</p> <p>Set WL_SSL_CERT_FILES to RSA private key and chain of X.509 certificates for SSL client authentication. Multiple files are separated by a vertical bar (" "). Note that the sequence of the certificates matters. The SSL Client private key should be put as the first certificate. All but the first certificate are issuer certificates for the previous certificate.</p> <p>Example: WL_SSL_CERT_FILES="C:\temp\testkey\client3.prv C:\temp\testkey\client3.pub C:\temp\testkey\netca_test_individual.cer"</p> |
| WL_SSL_CERT_TYPES | <p>SSL Certificate types.</p> <p>When to be used: This parameter is used only when WLJNDI_TYPE is <code>t3s_twoway</code>.</p> <p>The valid file format types are DER and PEM. Types of multiple certificates should be separated by a vertical bar (" "). Note that the certificate type should be corresponding to the certificate file in terms of sequence.</p> <p>Example: WL_SSL_CERT_TYPES="PEM PEM PEM"</p> |
| WL_SSL_KEY_PSWD | <p>SSL client private key password.</p> <p>When to be used: This parameter is used only when WLJNDI_TYPE is <code>t3s_twoway</code>.</p> <p>If the SSL client private key file is encrypted, set WL_SSL_KEY_PSWD to be the RSA private key's password; otherwise, leave it blank.</p> |

| | |
|-----------------------|---|
| WL_MANAGED | <p>WebLogic Instance Type.</p> <p>Possible value: TRUE or FALSE</p> <p>Set this parameter to FALSE if the WebLogic instance to be configured is an admin server.</p> <p>Set it to TRUE if the WebLogic instance is a managed server.</p> |
| WLINST | <p>WebLogic instance names that will be configured.</p> <p>Multiple instance names should be separated by comma (","). In multiple instances case, the values specified should match in this parameter and all parameters below in this table, including CUSTOM_SCRIPT_ENABLED, WL_STARTSH, INST_WLHOST, INST_WLPORT, INST_WLUSER ... etc.</p> |
| CUSTOM_SCRIPT_ENABLED | <p>Need ITCAM DC configurator to modify the startup script file of the WebLogic server instance?</p> <p>Possible values: TRUE or FALSE.</p> <p>If this parameter is set to TRUE, The WebLogic server instance's startup script file that is defined in WL_STARTSH, will be modified after configuration.</p> <p>If this parameter is set to FALSE, no script will be changed and the parameter WL_STARTSH will be ignored.</p> <p>If there are multiple instances to be configured, this parameter should be defined by one by one, separated by comma (",").</p> |

| | |
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| WL_STARTSH | <p>The startup script file name of the WebLogic server instance.</p> <p>If the file is not a weblogic standard script file, customized anchor lines are required.</p> <p>This parameter is used when CUSTOM_SCRIPT_ENABLED is TRUE.</p> <p>If there are multiple instances to be configured, this parameter should be defined by one by one, separated by comma (",").</p> |
| INST_WLHOST | <p>WebLogic server instance Listen Address.</p> <p>If there are multiple instances to be configured, this parameter should be defined by one by one, separated by comma (",").</p> |
| INST_WLPORT | <p>WebLogic server instance Listen Port.</p> <p>If there are multiple instances to be configured, this parameter should be defined by one by one, separated by comma (",").</p> |
| INST_WLUSER | <p>WebLogic server instance Login User name</p> <p>If there are multiple instances to be configured, this parameter should be defined by one by one, separated by comma (",").</p> |
| INST_WLPSWD | <p>WebLogic server instance Login Password</p> <p>If there are multiple instances to be configured, this parameter should be defined by one by one, separated by comma (",").</p> |

INST_WLJNDI_TYPE

WebLogic server instance Listen type

Possible values: `t3`, `t3s_oneway`, `t3s_twoway`

| | |
|------------------------------|--|
| <code>t3</code> | The listen type is plain socket. |
| <code>t3s_one way</code> | The listen type is one-way SSL, client certification is not required. |
| <code>t3s_two way</code> | The listen type is two-way SSL, client certification is enforced. |

If there are multiple instances to be configured, this parameter should be defined by one by one, separated by comma (",").

INST_WL_SSL_TRUST_CA_KEYSTORE

SSL client CA trust keystore file name for the WebLogic server instance. It is a .jks file.

When to be used:

This parameter is useful when INST_WLJNDI_TYPE for this WebLogic instance is `t3s_oneway` or `t3s_twoway`.

If there are multiple instances to be configured, this parameter should be defined by one by one, separated by comma (",").

| | |
|------------------------|--|
| INST_WL_SSL_CERT_FILES | <p>SSL Certificate Files for the WebLogic server instance.</p> <p>When to be used: This parameter is used only when INST_WLJNDI_TYPE for this WebLogic instance is t3s_twoway.</p> <p>Set INST_WL_SSL_CERT_FILES to RSA private key and chain of X.509 certificates for SSL client authentication. Multiple files are separated by a vertical bar (" "). Note that the sequence of the certificates matters. The SSL Client private key should be put as the first certificate. All but the first certificate are issuer certificates for the previous certificate.</p> <p>Example: INST_WL_SSL_CERT_FILES="C:\temp\testkey\client3.prv C:\temp\testkey\client3.publ C:\temp\testkey\netca_test_individual.cer"</p> <p>If there are multiple instances to be configured, this parameter should be defined by one by one, separated by comma (",").</p> |
| INST_WL_SSL_CERT_TYPES | <p>SSL Certificate types for the WebLogic server instance.</p> <p>When to be used: This parameter is used only when INST_WLJNDI_TYPE for this WebLogic instance is t3s_twoway.</p> <p>The valid file format types are DER and PEM. Types of multiple certificates should be separated by a vertical bar (" "). Note that the certificate type should be corresponding to the certificate file in terms of sequence.</p> <p>If there are multiple instances to be configured, this parameter should be defined by one by one, separated by comma (",").</p> |

| | |
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| INST_WL_SSL_KEY_PSWD SSL | <p>SSL client private key password of the WebLogic server instance.</p> <p>When to be used: This parameter is used only when INST_WLJNDI_TYPE for this WebLogic server instance is t3s_twoway.</p> <p>If the SSL client private key file is encrypted, set INST_WL_SSL_KEY_PSWD to be the RSA private key's password; otherwise, leave it blank.</p> <p>If there are multiple instances to be configured, this parameter should be defined by one by one, separated by comma (",").</p> |
|--------------------------|---|

B. WebLogic Optional Parameters

For some advanced configuration scenario, user can also specify some optional parameters before configuring a new weblogic server instance. These advanced optional parameters are located in the file “optional_config_params.properties” in the path <DC_HOME>/installer/config_dc/. They affect both silent and GUI configuration.

Note: This file is a standard java properties file, character backslash(\) should be converted to double backslash(\\).

Example File:

```
# Global ITCAM native log output path, there is subfolder for
each server instance
# The value will be applied as is
# On Windows platform, Use double backslash(\\) to present
backslash character(\).
#CCLOG_COMMON_DIR=C:\\temp
#
CCLOG_COMMON_DIR=$VARIABLE1/LOG${VARIABLE4}/${VARIABLE2}/${VARIABLE3}

# Need ITCAM configurator to specify a gc log? The default value
is true.
```

NEED_ITCAM_SPECIFY_GCLOG=false

Need ITCAM security java policy? The default value is true.

NEED_ITCAM_SECURITY_POLICY=true

Extra JVM Option

EXTRA_JVM_OPTION=-Dsun.rmi.dgc.client.gcInterval=3600000 -Dsun.
rmi.dgc.server.gcInterval=3600000

Extra Classpath

#EXTRA_CLASSPATH=<Your extra classpath for weblogic>

Need log related options append to the jvm startup options? The
default value is false.

This parameter is required to be true, if the parameter
CCLOG_COMMON_DIR contains shell or environment variable.

#EXTRA_APPEND_LOGOPTS=true

Supported optional parameters:

| Parameter Name | Description |
|------------------|--|
| CCLOG_COMMON_DIR | <p>User defined global ITCAM log common dir of the ITCAM DC, If the parameter is set, the default log common dir will be ignored (please see default dir specified below). After DC started, each application server instance will create a subfolder under the dir.</p> <p>Note: if the parameter's value contains shell variable or environment variable, e.g.: \$MY_LOG_DIR on Unix or %MY_LOG_DIR% on Windows; the parameter EXTRA_APPEND_LOGOPTS is required to be true.</p> <p>Default log common dir on Windows: C:/Program Files/ibm/tivoli/common</p> <p>Default log common dir on Unix: /var/ibm/tivoli/common</p> |

| | |
|----------------------------|---|
| NEED_ITCAM_SPECIFY_GCLOG | <p>Possible values: true or false, default value is true</p> <p>Need ITCAM configurator append a default gc redirection option in JVM option?</p> <p>User can set this parameter as false if user already specified a gc redirection file in JVM option.</p> <p>If this parameter is true and parameter GC_LOGFILE is not set, configurator will use the default gc log file:</p> <pre><DC_HOME>/<ServerType><ServerVersion>-gc-log.log.<InstanceName></pre> <p>If the value is false, no GC log related options will be appended to the jvm startup options.</p> |
| NEED_ITCAM_SECURITY_POLICY | <p>Possible values: true or false, default value is true</p> <p>Need ITCAM configurator specify the security java policy?</p> <p>In same cases, user want to use use's java security file,</p> <p>If the value is true, configurator will add option "-Djava.security.policy=<DC_HOME>/runtime/<InstanceDir>/<NodeName>.<InstanceName>.datacollector.policy" to the jvm startup options.</p> <p>If the value is false, users should merge content of ITCAM security policy file to their security policy file that is being used by the application server. Please refer to the section “How to merge the security policy file manually” bellowing for changing the application server's security policy file.</p> <p>Note: Whether true or false, the security policy file is always created: <code><DC_HOME>/runtime/<InstanceDir>/<NodeName>.<InstanceName>.datacollector.policy</code> .</p> |
| EXTRA_JVM_OPTION | <p>Extra jvm options for ITCAM DC.</p> <p>If specified, the value will be appended to the jvm startup options.</p> <p>Examples: <code>EXTRA_JVM_OPTION=-Dsun.rmi.dgc.client.gcInterval=3600000</code> – <code>Dsun.rmi.dgc.server.gcInterval=3600000</code></p> |

| | |
|----------------------|---|
| EXTRA_CLASSPATH | <p>Extra classpath for ITCAM configurator, multiple classpath entries should be separated by ":" (Unix) or ";"(Windows).</p> <p>Example on Unix:</p> <pre>EXTRA_CLASSPATH=/opt/wls92/weblogic92/cr_111.jar: /opt/wls92/weblogic92/cr_222.jar</pre> |
| EXTRA_APPEND_LOGOPTS | <p>Possible values: true or false, default is false.</p> <p>Need to append log related java system properties to the jvm startup options instead of saving them in the dc.properties file?</p> <p>If the parameter value is true, the log related java system properties are append to the jvm startup options; if the parameter value is false, the log related java system properties are saved in the <DC_HOME>/runtime/<InstanceDir>/dc.properties file.</p> <p>The affected java system properties are:</p> <ol style="list-style-type: none"> 1. CCLOG_COMMON_DIR 2. jlog.qualDir 3. jlog.propertyFile 4. jlog.propertyFileDir.CYN 5. com.ibm.tivoli.itcam.toolkit.util.logging.qualDir 6. ibm.common.log.dir 7. jlog.common.dir |

How to merge the security policy file manually

- 1 Open file <DC_HOME>/itcamdc/etc/datacollector.policy,
- 2 Copy the text section of grant permissions and append it to application server's policy file.
- 3 Search string "@{KERNEL_HOST01}" in the copied text, change it to the full qualified name of the MS server.

Security policy file example:

```
//Application Server policy file
```

```
...
```

```
...
```

```
...
```

```
//Text copied from the //<DC_HOME>/itcamdc/etc/datacollector.policy
```

```
grant {
```

```
    permission java.security.AllPermission "kernel.codebase";
```

```
    permission java.security.AllPermission
```

```
"java.rmi.server.codebase";
```

```
    permission java.util.PropertyPermission "kernel.codebase",
```

```
        "read";
```

```
    permission java.util.PropertyPermission "kernel.rfs.address",
```

```
        "read";
```

```
    permission java.util.PropertyPermission "ibm.common.log.dir",
```

```
"read";
```

```
    permission java.lang.RuntimePermission "createClassLoader";
```

```
    permission java.net.SocketPermission "tivul4.cn.ibm.com",
```

```
        "connect,accept,resolve";
```

```
};
```