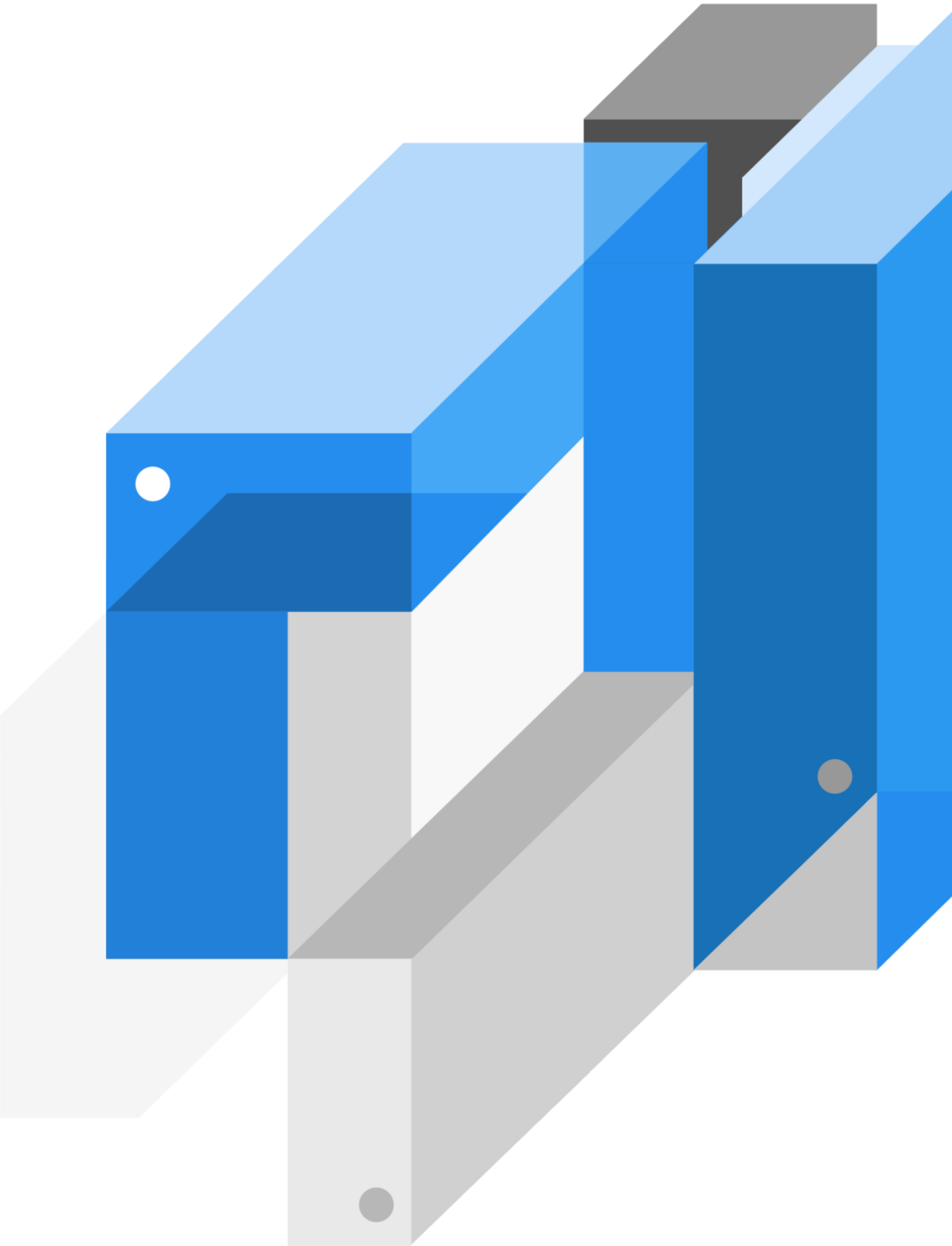
MaxGauge for Java 5.2

Installation & Architecture Guide



MaxGauge for JAVA

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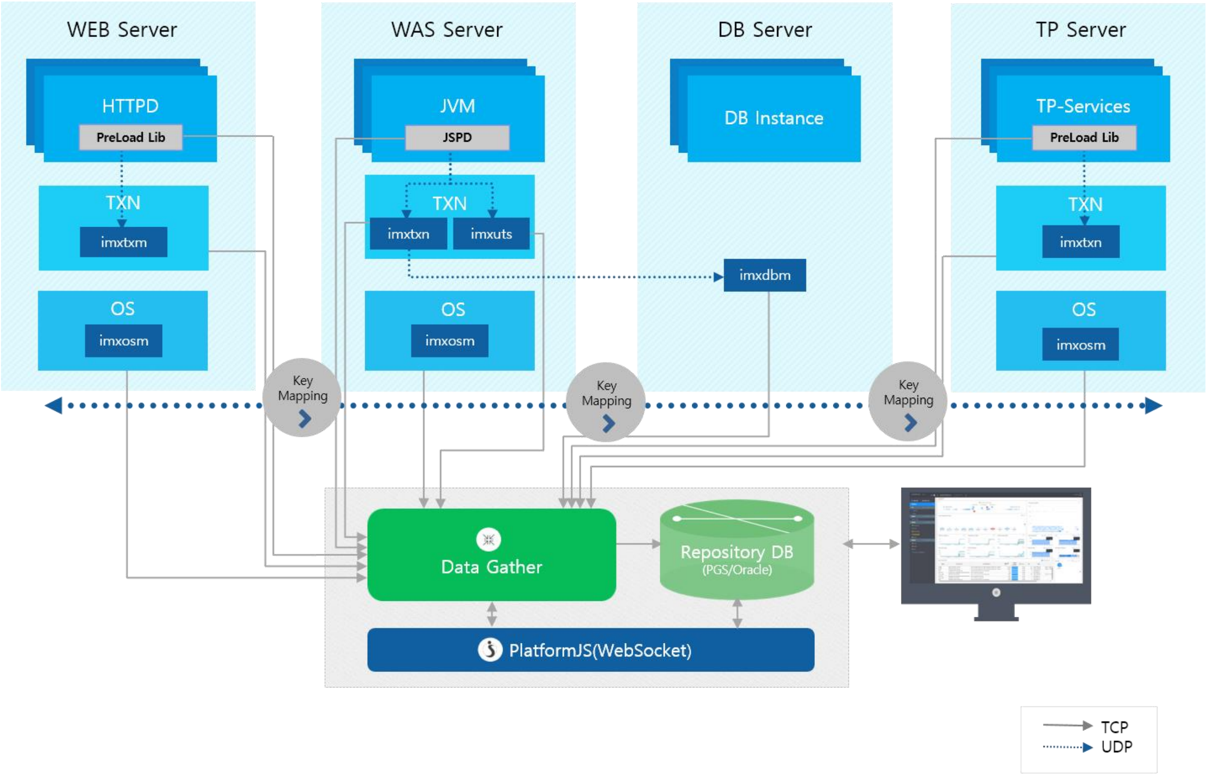
1. MaxGauge for Java Architecture

It is designed to monitor not only for basic monitoring configuration of WEB~WAS~DB environment, but also for user terminal to core back-end system of an enterprise at the point of End-To-End at the same time.



The agent is installed in the target application monitoring system of the enterprise and it transmits the performance data. The server for data collection and the database for storage should be additionally installed.

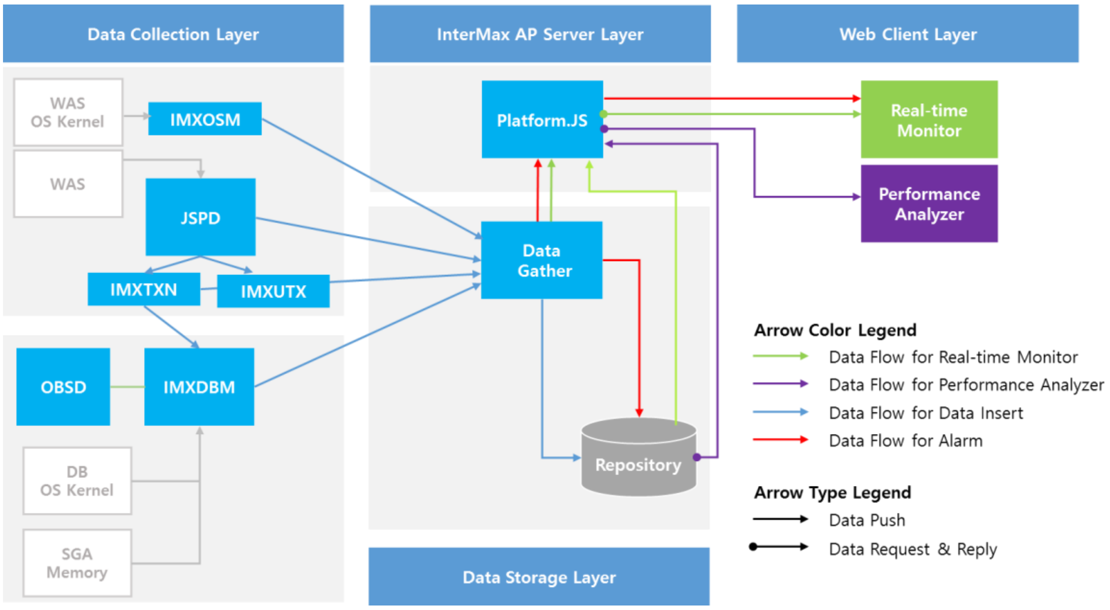
Based on WAS (JVM) monitoring, MaxGauge for Java internal engine module consists of four basic layers as follows.

Data Collection Layer: It is installed to directly monitor the application of the enterprise and it collects various performance data and transmits it to the server.

MaxGauge for Java Application Server Layer: It is a dedicated Web Daemon Server that collects/analyzes/ processes the performance data transmitted from the agent to MaxGauge for Java server area, stores it in the database, and manages the configuration information

Data Storage Layer: It is a storage area for storing processed performance data from MaxGauge for Java server, and it stores various performance information and data for analysis.

Web Client Layer: It provides web-based user interface for real-time monitoring and performance analysis of collected performance data.

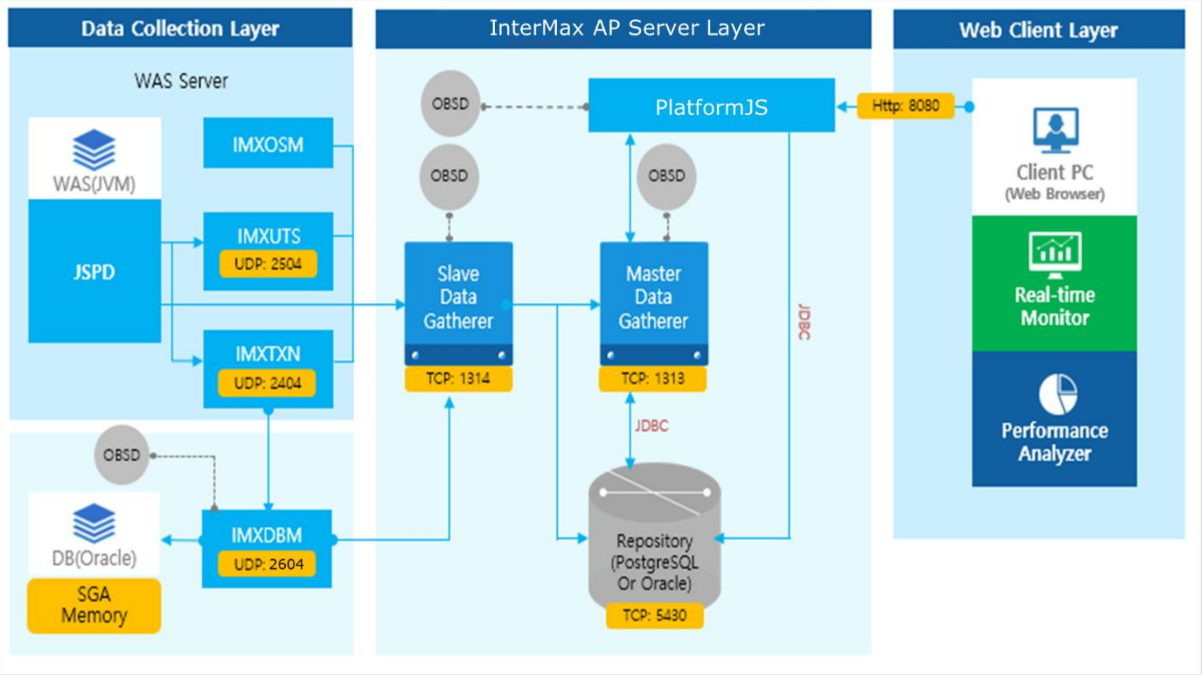


MaxGauge for Java agent (JSPD) and the independent processes (IMXTXN, IMXUTX) collect various performance data and send it to a collection server (as known as Data Gather). The collection server analyzes and processes the received performance data, stores it in a data repository (DB), and manages various configuration information. The stored data provides various real-time monitoring, performance indicators and statistical analysis interfaces through the user interface (based on HTML5) of the web client terminal.

Note. MaxGauge for Java AP Server Layer and Data Storage Layer are divided logically. Both layers can be configured in one server. Please refer to "MaxGauge for Java Administration Guide" for more detail about MAXGAUGE FOR JAVA Architecture.

1.1. MaxGauge for Java Network Connection

This section describes the configuration of network ports required for processing various network communications between the respective layers of MaxGauge for Java. When installing MaxGauge for Java, the required network ports are as follows. It is mainly related to the port number setting and if the default port number is already being used in another application, it should be changed to another port. Also, when multiple MaxGauge for Java environments are installed on the same hardware, please be careful of setting so that the corresponding port number does not overlap.



Data Collection Layer

ITEMS	DESCRIPTION
JSPD	It is operated by an internal thread in the JVM and collects most of the WAS related performance data.
IMXOSM	It collects system resources (Memory, CPU etc) of OS and statistical information and checks availability of WAS container.
IMXTXN	It collects SQL query information.
IMXDBM	It collects SQL OWI-based statistics & event data.
IMXUTS	It collects Remote information collection (EtoE).
OBSD	It monitors internal process. (It monitors periodically every 30 seconds and restarts if it is down)

MaxGauge for Java AP Server Layer

ITEMS	DESCRIPTION
Slave DataGatherer	It is a module that collects and processes the data sent from the Data Collection Layer and can be extended to a few objects depending on the number of objects to be collected and the amount of hatching. In general, it is recommended to compose one slave configuration per 50 instances monitoring. (Number of slave = number of instances/50)
Master DataGatherer	It manages Slave DataGatherer and provides information according to the requests from PlatformJS.
PlatformJS	It provides real-time monitoring information and analysis information through the user's web browser
OBSD	It monitors internal process. (It monitors periodically every 30 seconds and operates if it is down)

Service port

Source	Target	Port	Protocol	DESCRIPTION
JSPD	IMXTXN	2404	UDP	Sends SQL-related information
JSPD	IMXUTS	2504	UDP	Sends Remote-related information (EtoE)
IMXTXN	IMXDBM	2404	UDP	Sends DB connection-related information
JSPD	Slave Data Gather	1314	TCP	Sends Key JVM performance information
IMXOSM				Sends OS resource information
IMXTXN				Sends SQL-related information
IMXUTS				Sends Remote-related information (EtoE)
IMXDBM				Sends DB connection-related information
Slave Data Gather	Master Data Gather	1313	UDP	Saves Sever and DB agent information
Slave Data Gather	Repository	5430	TCP	Saves Sever and DB agent information
Master Data Gather				Saves statistical information
PlatformJS	Web Client	8080	TCP	Sends information displayed in the browser

1.2 Compatibility

The supported range of MaxGauge for Java products and its compatible versions are as follows:

JAVA ENVIRONMENT

Operating System (OS)	Application Server (WAS)	Supported DB
AIX 5.x or above (32/64bit) HP-UX IA64 Linux (32/64bit) Solaris SPARC (32/64bit) Solaris (x86/x64) Windows Server 2003 or above (x86/x64)	WebLogic 10.x or above WebSphere 6.1 or above JEUS 5.x or above Tomcat 5.x or above Oracle Application Server(OC4J) Resin 3.x or above Jboss 5.x or above GlassFish 2.x or above (JDK 1.5 or above)	Oracle DB2 MS SQL Server Mysql Postgres Sybase Tibero

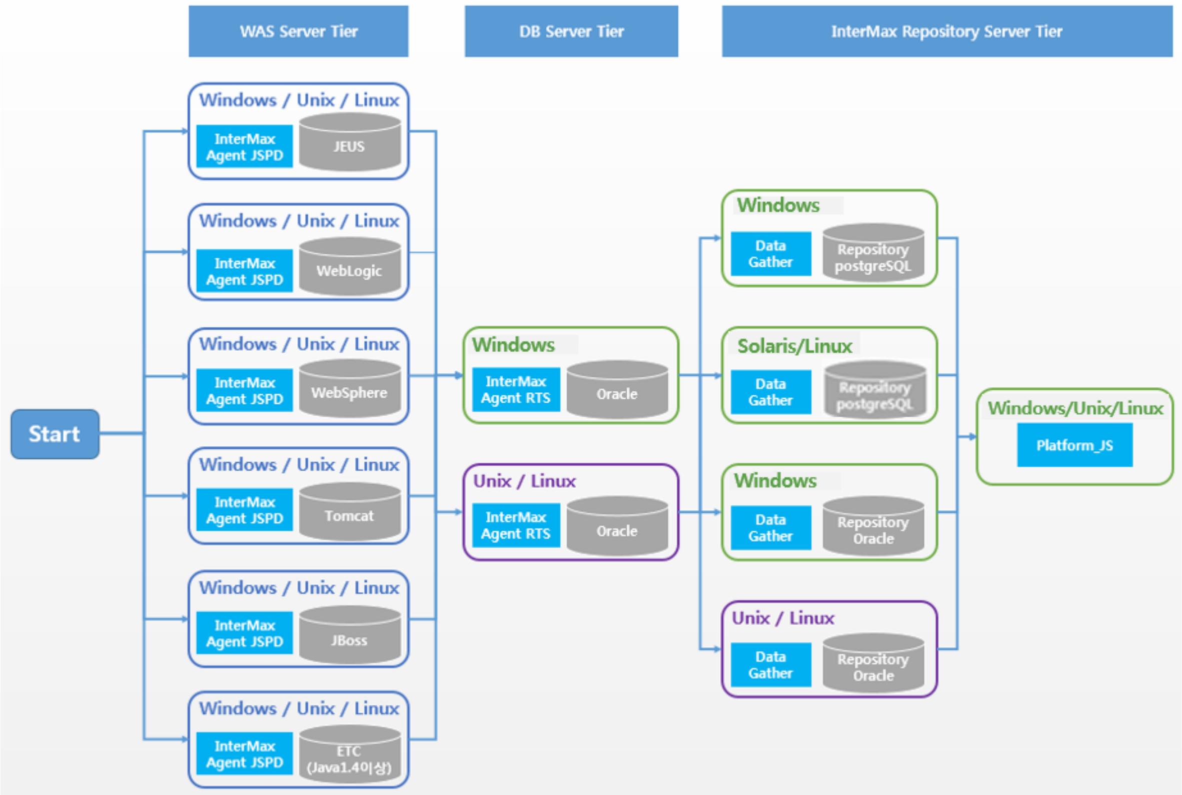
.Net environment

Operating System (OS)	Web server	Application Server	Supported DB
Windows Server 2003 or above (x86/x64)	IIS 6.0 or above	.NET Framework 2.0 or above	MS SQL Server 2008 or above

TP environment

Operating System (OS)	Application Server (WAS)	Supported DB
AIX 5.x or above (32/64bit) HP-UX IA64 Linux (32/64bit) Solaris SPARC (32/64bit) Solaris (x86/x64)	TMAX 5.x or above TUXEDO 10.x or above TIBCO 5.x or above	Oracle DB2 MS SQL Server Mysql Postgres Sybase Tibero

Current MaxGauge for Java Product Support



1.3. MaxGauge for Java License

MaxGauge for Java License Key is required to run MaxGauge for Java Agent Set.

1.3.1. Trial License Key

The Trial License Key is only available for a limited period of time for testing purposes.

1.3.2. Formal License Key

The Formal License Key is issued after the product contract and the following information should be provided when requesting a License Key:

ITEMS	DESCRIPTION
Business Name	Business Name
OS information	Unix Type Unix Version Unix Bit Level
Database information (In Oracle)	Oracle Version Oracle Bit Level Oracle SID
Host Server information	IP Address Host ID Real CPU Dual Core Count

Note. MaxGauge for Java license policy is a unit of CPU core, and the validity of the formal license key is checked using the server's host ID and the number of CPU core. Therefore, the issued Formal License Key can be used only in the server. If the number of CPU core of the server is increased, the Formal License Key Validation check error occurs and accordingly, MaxGauge for Java Agent Set does not operate normally. Therefore, if the number of CPU cores increases, re-application for Formal License Key should be processed in advance. (In some cases, a re-contract may be required)

2. Data Collection Layer Installation and configuration

2.1 MaxGauge for Java WAS Agent Set (JSPD)

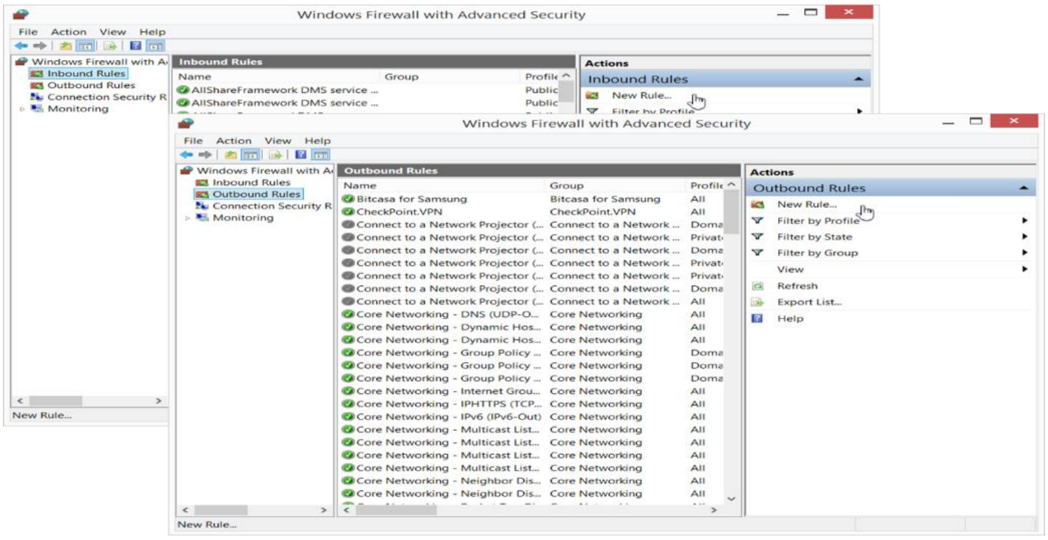
2.1.1 Advance Preparation

ITEM	Recommended Standard and Specification
WAS Type	J2EE based
Java Version	Java 1.4 or higher ~ 1.8 supported
OS Disk Size	Agent Set Size : 100MB

Note. DAEMON based on JAVA also can be monitored.

Network Port (Windows)

The WAS Agent communicates with the Slave Data Gatherer using the 1314 TCP port. Control Panel allows all 1314 TCP ports to be inbound / outbound.



Inbound Rules

Name	Group	Profile
AllShareFramework DMS service ...		Public
AllShareFramework DMS service ...		Public

Outbound Rules

Name	Group	Profile
Bitcasa for Samsung	Bitcasa for Samsung	All
CheckPoint.VPN	CheckPoint.VPN	All
Connect to a Network Projector (...	Connect to a Network ...	Doma
Connect to a Network Projector (...	Connect to a Network ...	Privat
Connect to a Network Projector (...	Connect to a Network ...	Doma
Connect to a Network Projector (...	Connect to a Network ...	Privat
Connect to a Network Projector (...	Connect to a Network ...	Privat
Connect to a Network Projector (...	Connect to a Network ...	Doma
Connect to a Network Projector (...	Connect to a Network ...	All
Core Networking - DNS (UDP-O...	Core Networking	All
Core Networking - Dynamic Hos...	Core Networking	All
Core Networking - Dynamic Hos...	Core Networking	All
Core Networking - Group Policy ...	Core Networking	Doma
Core Networking - Group Policy ...	Core Networking	Doma
Core Networking - Group Policy ...	Core Networking	Doma
Core Networking - Internet Grou...	Core Networking	All
Core Networking - IPHTTPS (TCP...	Core Networking	All
Core Networking - IPv6 (IPv6-Out)	Core Networking	All
Core Networking - Multicast List...	Core Networking	All
Core Networking - Multicast List...	Core Networking	All
Core Networking - Multicast List...	Core Networking	All
Core Networking - Multicast List...	Core Networking	All
Core Networking - Neighbor Dis...	Core Networking	All
Core Networking - Neighbor Dis...	Core Networking	All

Network Port (Unix / Linux)

JSPD uses the 1314 TCP port to communicate with the Slave Data Gatherer. A method to check whether the port is used is as follow :

```
$ netstat –an | grep 1314
```

Note. 2404 (Default) UDP port for DB Server should also be open.

Composition of WAS Agent Set

It is an agent process installed in corresponding server except JSPD module added to the WAS (JVM) DAEMON and each agent has three agent sets as follows.

IMXOSM: Collects information about OS resources such as memory or CPU of the OS.
IMXTXN: Collects information related to SQL.
IMXUTS: Collects information related to Remote Data.

2.1.2. Installation Procedure

Windows environment

The following installation files are required to install the WAS Agent. Upload the following files to the WAS server.

FILE NAME	DESCRIPTION
MaxGauge for Java_Agent_YYMMDD.tar	WAS Agent install file
License_.key	License file

Unzip the uploaded file into the WAS Os User Home Directory.

We will call {Extract path}\MaxGauge for Java\jspd as %JSPD_HOME% and the rest is the same as above.

Note. The decompression location may be changed. The decompression position may be changed.

Modify %JSPD_HOME%\cfg\agent\jspd.prop file to enter internal process information and Data Gatherer information.

The default setting parameters are as follows:

ITEM	DESCRIPTION
WR_ADDR	Enter IP:Port information of **Slave Data Gatherer**.
TXN_ADDR	Enter IMXTXN port information.
UTS_ADDR	Enter IMXUTS port information.

Performing example

```
# WR_ADDR
WR_ADDR=192.168.123.52:1314

# ${UDP_PORT|UDP_PORT}
TXN_ADDR=2404

# ${UDP_PORT|UDP_PORT}
UTS_ADDR=2504
```

For MaxGauge for Java WAS Agent Startup, MaxGauge for Java option must be applied to each WAS Start Batch file. MaxGauge for Java options are as follows:

Java Version 1.7 or higher

```
-noverify -Djspd.wasid={WAS_ID} -javaagent:%JSPD_HOME%\lib\jspd.jar
```

Java Version 1.5 or higher

```
-Djspd.wasid={WAS_ID} -javaagent:%JSPD_HOME%\lib\jspd.jar
```

Java Version 1.4

```
-Djspd.wasid={WAS_ID} -
Xbootclasspath/p:%JSPD_HOME%\lib\jspd.jar;%JSPD_HOME%\lib\jspd-
common.jar;JSPD_HOME%\lib\jspd-pool.jar
```

Note1. WAS_ID is used to map each agent to each WAS and can be assigned from 1 to 65535. Please be careful of setting so that the same number does not duplicate.
Note2. In environments with Java version 1.4 or lower, you need to go to *%JSPD_HOME%\build-jdk* folder and run *build.bat jdk.*

Please refer to "Appendix. MaxGauge for Java Option Setting by WAS vendor" for more detail.

Copy license file to %JSPD_HOME%\cfg\ directory for license application.

Unix / Linux environment

The following installation files are required to install the WAS Agent, and upload the file in binary format.

FILE NAME	**DESCRIPTION**
MaxGauge for Java_Agent_YYMMDD.tar	WAS Agent install file
License_.key	License file

Unzip the uploaded file into the WAS OS User Home Directory. The decompression method is as follows. We will call {Extract path}/Jspd directory as $JSPD_HOME and the rest is the same as above.

```
$ tar –xvf MaxGauge for Java_Agent_YYMMDD.tar
```

Modify the $JSPD_HOME/cfg/agent/jspd.prop file to enter internal process information and Data Gatherer information.

The default setting parameters are as follows:

ITEM	**DESCRIPTION**
WR_ADDR	Enter IP:Port information of **Slave Data Gatherer**.
TXN_ADDR	Enter IMXTXN port information.
UTS_ADDR	Enter IMXUTS port information.

1 **Performing example**

```
# WR_ADDR
WR_ADDR=192.168.123.52:1314

# ${UDP_PORT|UDP_PORT}
TXN_ADDR=2404

# ${UDP_PORT|UDP_PORT}
UTS_ADDR=2504
```

For MaxGauge for Java WAS Agent Startup, MaxGauge for Java option must be applied to each WAS start script file. MaxGauge for Java options are as follows:

Java Version 1.7 or higher

```
-noverify -Djspd.wasid={WAS_ID} -javaagent:$JSPD_HOME/lib/jspd.jar
```

Java Version 1.5 or higher

```
-Djspd.wasid={WAS_ID} -javaagent:$JSPD_HOME/lib/jspd.jar
```

Java Version 1.4

```
-Djspd.wasid={WAS _ID} -
Xbootclasspath/p:$JSPD_HOME/lib/jspd.jar;%JSPD_HOME%\lib\jspd-
common.jar;JSPD_HOME%\lib\jspd-pool.jar
```

Note1. WAS_ID is used to map each agent to each WAS and can be assigned from 1 to 65536. Please be careful of setting so that the same number does not duplicate.
Note2. In environments with Java version 1.4 or lower, you need to go to $JSPD_HOME/build-jdk folder and run *build.sh jdk.*

Copy **license file** to $JSPD_HOME/cfg/ directory for license application.

ADDITIONAL SETTINGS FOR DB MONITORING INTERLOCK

For DB monitoring, modify $JSPD_HOME/cfg/{sid}/imx.prop file.

ITEM	DESCRIPTION
IMX ADDR	IMXDBM address and UDP PORT
DB ADDR	Address (IP), Port, SID information of monitoring target DB

Performing example

```
# IMX ADDR = DB ADDR
10.10.202.183:2404=10.10.202.183.1521.ora112
```

Note1. Actual IP should be entered, not virtual IP for DB IP.
Note2. SID should be entered in lower case.
Note3. The TXN_ADDR port is the UDP_PORT set in jspd.prop of IMXDBM.

2.1.3. ADDITIONAL SETTINGS BY OS

The following additional settings are required for each OS.

AIX

If you need to collect GC related data (execution time, the number of execution frequency), you need the following setting.

ITEM	DESCRIPTION
JAVA 1.4 or lower	Conduct *find.–name*.so command* in $JAVA_HOME. Check where **.so* files are gathered in the subdirectories. In case of JAVA 32 bit, copy libXmJvmpiSvc_32.so file in the ppc subdirectory where *.so files are gathered. In case of JAVA 64 bit, copy libXmJvmpiSvc_64.so file in the ppc64 subdirectory where *.so files are gathered.
JAVA 1.5 or higher	Conduct *find.–name*.so command* in $JAVA_HOME. Check where **.so* files are gathered in the subdirectories. In case of JAVA 32 bit, copy libXmJvmtiSvc_32.so file in the ppc subdirectory where *.so files are gathered. In case of JAVA 64 bit, copy libXmJvmtiSvc_64.so file in the ppc64 subdirectory where *.so files are gathered.

Performing example
Java Version 1.4

```
$JSPD_HOME/lib/jni/libXmJvmpiSvc.so
In case of 32 bit
$ cp $JSPD_HOME/lib/jni/libXmJvmpiSvc.so ${JAVA_HOME}/../ppc/
In case of 64bit
$ cp $JSPD_HOME/lib/jni/libXmJvmpiSvc.so ${JAVA_HOME}/../ppc64/
After copying the file, change the User rights to the same directory permissions.
$ cd ${JAVA_HOME}/../ppc{_64}
$ chown root:root libXmJvmpiSvc.so
```

Java Version 1.5 or higher

```
$JSPD_HOME/lib/jni/libXmJvmtiSvc.so
In case of 32 bit
$ cp $JSPD_HOME/lib/jni/libXmJvmtiSvc.so ${JAVA_HOME}/../ppc/
In case of 64 bit
$ cp $JSPD_HOME/lib/jni/libXmJvmtiSvc.so ${JAVA_HOME}/../ppc64/
After copying the file, change the User rights to the same directory permissions.
$ cd ${JAVA_HOME}/../ppc{_64}
$ chown root:root libXmJvmtiSvc.so
```

Note1. If the owner who installed Java is root, you need root authority.
Note2. $JAVA_HOME which is mentioned above refers to the JAVA used by the actual WAS.

Sun Solaris

If the OS is Sun, the following additional settings are required.

ITEM	DESCRIPTION
Sun	Conduct *find.–name*.so command* in $JAVA_HOME. Check where **.so* files are gathered in the subdirectories. In case of JAVA 32 bit, copy libgcc_s.so.1_32 file in the sparc subdirectory where *.so files are gathered. In case of JAVA 64 bit, copy libgcc_s.so.1_64 file in the sparc9 subdirectory where *.so files are gathered.

Performing example

```
$JSPD_HOME/lib/jni/libgcc_s.so.1
In case of 32 bit
$ cp $JSPD_HOME/lib/jni/ libgcc_s.so.1 ${WAS_JAVA}/../sparc/
In case of 64 bit
$ cp $JSPD_HOME/lib/jni/ libgcc_s.so.1 ${WAS_JAVA}/../sparc9v/
After copying the file, change the User rights to the same directory permissions.
$ cd ${WAS_JAVA}/../sparc{9v}
$ chown root:root libgcc_s.so.1
```

Note1. If the owner who installed Java is root, you need root authority.
Note2. $JAVA_HOME which is mentioned above refers to the JAVA used by the actual WAS.

2.1.4 Starting method

After proceeding ADDITIONAL SETTINGS BY OS operation, restart WAS. MaxGauge for Java Agent does not have any special management point because it is fully connected with WAS. Therefore, Startup is started according to the existing WAS Starting method.

2.1.5. MaxGauge for Java WAS Agent Startup

Start IMXOSM when JSPD is started. (JSPD is started up simultaneously with WAS (JVM) Startup)
Start IMXTXN when IMXOSM is started.
Start IMXUTS when IMXOSM is started.

2.2 MaxGauge for Java DB Agent Set (IMXDBM)

2.2.1 Advance Preparation

ITEM	Recommended Standard and Specification

Oracle Version	Oracle 9i or higher
OS Disk Size	Agent Set Size : 10MB

OS User rights

Create a user who has the same authority as the **Oracle** installation user or belongs to the DBA group and install **DB Agent**. Linux uses Bash, and Unix uses KSh. Generating method is as follows.

```
# useradd -d {home-dir} -s {shell Path} -g {oracle gid} -G {oracle groups} MaxGauge for Java
# passwd MaxGauge for Java
```

Note1. If Maxgauge is installed, you do not need to create an OS user, but you can install it as an OS user of MaxGauge.
Note2. You can create users in the Windows environment at Control Panel> User Accounts.

MaxGauge for Java Profile Setting (omitted in Windows environment)

Add ORACLE_HOME, ORACLE_BASE, ORACLE_SID, and PATH from *.profile* of the Oracle user to *.profile* of MaxGauge for Java user to access DBMS.

```
PATH=$PATH:$HOME/bin
export PATH
#Oracle config
export ORACLE_BASE=/app/oracle
export ORACLE_HOME=$ORACLE_BASE/product/11.2/db_01
export ORACLE_SID=orcl
#export EDITOR=vi
#Linux config
export CLASSPATH=$ORACLE_HOME/JRE/lib:$ORACLE_HOME/jlib
export PATH=$PATH:$ORACLE_HOME/bin
export $ORACLE_HOME/lib/libclntsh.*
export LANG=en-US.UTF-8
```

Oracle Version

Check information about Oracle version of the relevant Instance. The method is as follows.

```
SQL> select * from v$version;
```

Performing example

```
BANNER
--------------------------------------------------------------------------------
Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 - Production
PL/SQL Release 11.2.0.1.0 - Production
CORE        11.2.0.1.0          Production
TNS for Linux: Version 11.2.0.1.0 - Production
NLSRTL Version 11.2.0.1.0 - Production
```

Oracle Instance

Check a name of the relevant Instance. The confirmation method is as follows.
Check the name of the instance. The confirmation method is as follows.

```
SQL> select instance_name from v$instance;
```

Performing example

```
INSTANCE_NAME
----------------
MaxGauge for Java
```

Oracle Numa Segment

Since MaxGauge for Java supports both Uniform Memory Access and Non-Uniform Memory Access (NUMA), it is necessary to check whether the server is NUMA or not. The NUMA verification method through the SID array is as follows.

```
SQL> select sid from v$session;
```

Performing example

```
SID
----------
     21
     22
    126          <- SID 배열이 증가하는 부분이 있는 경우 Numa Segment 사용
    127
    128
```

Note1. Since NUMA structured servers use distributed segments, the array of SIDs increases by 10 to 100 units. Generally, most Oracle 11g and later versions use NUMA segments.
Note2. NUMA that are mentioned here does not mean NUMA architecture. Please note that the Oracle Session Structure Array is referred to as UMA and NUMA for convenience, depending on whether it is located in contiguous memory space or distributed in two or more memory spaces.

Shared Memory IPC key

MaxGauge for Java DB Agent access directly (SGA) through IPC key address of shared Memory. SGA direct access through IPC key address of shared memory. The confirmation method of IPC key of the corresponding instance is as follows. (Replaced by SID in Windows environment)

```
Unix OS (Linux)
$ ipcs –mb (ipcs –m)
```

Performing example

```
------ Shared Memory Segments ------
Key   shmid        owner       perms      bytes      nattch     status
0x00000000 3702785             root       644        80         2
…
0x00000000 4751378             oracle     640        4096       0
0x992513cc 4784147             oracle     640        4096       0
```

Note. If more than two IPC Key value exists in one Instance, check a correct IPC Key value using **Oradebug.**

The IPC key confirmation method using Oradebug is as follows:

```
SYS> oradebug setmypid
Statement processed.
SYS> oradebug ipc
Information written to trace file.
SYS> oradebug tracefile name
/u01/app/oracle/admin/orcl/udump/orcl_ora_00000.trc
SYS> ! cat /u01/app/oracle/admin/orcl/udump/orcl_ora_00000.trc
```

Performing example

```
...
Area #5 `skgm overhead' containing Subareas 5-5
  Total size 0000000000003000 Minimum Subarea size 00000000
   Area  Subarea    Shmid      Stable Addr      Actual Addr
      5        5  4784147 0x00000092000000 0x00000092000000
...
```

Note. Check the shmid value of the 'skgm overhead' section, and check the IPC key value of the corresponding shmid using ipcs command.

Oracle PMON

Check the name and owner of the Oracle PMON for that instance.
The confirmation method is as follows. (Replaced with Oracle Process name in Windows environment)

```
$ ps -ef | grep pmon
```

Performing example

```
$ ps -ef | grep pmon
oracle    45410      1   0 10:12 ?          00:00:01 ora_pmon_orcl
```

Network Port

2404 UDP proti s used to receive transaction information from the WAS Agent. The confirmation method is as follows:

```
$ netstat -an | grep 2404
```

Note. TCP can be confirmed with the netstat command, but UDP can not be confirmed with the netstat command.

2.2.2. Installation Procedure

Windows environment

Uploading of installation files
MaxGauge for Java requires the following installation files and copies them to the server.

FILE NAME	DESCRIPTION
MaxGauge for Java_DBM_[OS Ver]_[Oracle Ver].tar	MaxGauge for Java DB Agent Set install file
License_.key	License file

Extract (or Unzip) the installation files. We will call {Extract path}\MaxGauge for Java\ as %IMX_HOME% and the rest is the same as above.

Note. The decompression location may be changed.

The current version of Windows does not support automatic installation. Perform manual installation.

Performing example

```
\> md %IMX_HOME%\cfg\{SID}RTS
\> copy %IMX_HOME%\cfg\sample\* %IMX_HOME%\cfg\{SID}RTS
```

Environment file Setting

Modify environmentSettin file in %IMX_HOME%\cfg\{SID}RTS\ for DB Agent Setting.

Jspd.prop

The default setting parameters are as follows:

ITEM	DESCRIPTION
WR_ADDR	Enter IP information and port of Data Gatherer.
TXN_ADDR	Enter IMXDBM connection port information.

Performing example

```
# ${IP}:${TCP_PORT}
WR_ADDR=10.10.202.182:1314

# ${UDP_PORT|UDP_PORT}
TXN_ADDR=2404
```

Imx.prop

The default setting parameters are as follows:

ITEM	DESCRIPTION
DB_ADDR	DB IP.LiSTENER PORT.sid

Performing example

```
# DB Address, copy address from imx.dbm
# DB_ADDR=127.0.0.1.1521.orcl(IP.PORT.SID)
DB_ADDR=10.10.202.183.1521.ora112
```

Note1. Actual IP should be entered, not virtual IP for DB IP.
Note2. PORT means LISTENER PORT of Oracle.

Note3. SID should be entered in lower case.

common.conf

The default setting parameters are as follows:

ITEM	DESCRIPTION
ipc_key	Enter SID name.
pmon_name	Enter Oracle process name.

Performing example

```
# Oracle shared memory key
ipc_key=ora112

# Oracle PMON process name
pmon_name=oracle.exe
```

Note1. Please refer to "MaxGauge for Java Administration Guide" for more detail about MaxGauge for Java common.conf Setting.

Creating environment file

In Windows environment, you must manually create the environment file which is used by IMXDBM.

Go to %MAXGAUGE FOR JAVA_HOME%\util\db_setup folder.

Creating Maxgauge User

Create a DB User for MaxGauge for Java and authorize.
Connect to SQL*PLUS as SYS User and run **run_by_sys.sql**.

Performing example

```
D:\MaxGauge for Java\IXMDBM\util\db_setup>sqlplus "/ as sysdba"

Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options
SQL> @run_by_sys.sql
Enter MaxGauge USER :maxgauge
Enter password for maxgauge :maxgauge
Enter Default Tablespace for maxgauge :users
Enter Temporary Tablespace for maxgauge :temp
```

Creating List.conf

Create environment file for stat and event information collection of DB used in MaxGauge for Java.
Connect to SQL*PLUS as maxgauge User and **run listconf3.sql.**

Performing example

```
D:\MaxGauge for Java\IXMDBM\util\db_setup>sqlplus maxgauge/maxgauge
```

```
Copyright (c) 1982, 2010, Oracle.    All rights reserved.
Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

SQL> @listconf3.sql
```

Creating env

Create environment file for MaxGauge for Java. Run mkenv.exe.

Performing example

```
D:\MaxGauge for Java\IXMDBM\util\db_setup>mkenv.exe
```

Note. Once Env file and list.conf file are created, copy and paste the corresponding files to a following location : %MAXGAUGE FOR JAVA_HOME%\cfg\{SID}RTS

Service registeration and deletion

The service registration command is as follows. You must run in an input window with administrator authority.
%IMX_HOME%lib\imx\imxdbm –c {SID}RTS –install –H {IMX_HOME}

Performing example

```
c:\MaxGauge for Java> Imxdbm –c IM_RTS –install –H c:\MaxGauge for Java
```

The service deletion command is as follows.
%IMX_HOME%\lib\imx\imxdbm –c {SID}RTS –remove –H {IMX_HOME}

Performing example

```
c:\MaxGauge for Java> Imxdbm –c IM_RTS –remove –H c:\MaxGauge for Java
```

Application of license file

Move License file to %IMX_HOME%\cfg directory.

Unix / Linux environment

Uploading of installation files

The following installation files are required to install the WAS Agent, and upload the file in binary format.

FILE NAME	DESCRIPTION
MaxGauge for Java_DBM_[OS Ver]_[Oracle Ver].tar	MaxGauge for Java DB Agent Set install file
License_.key	License file

Performing example

Ex) OS : Linux 6.2, Oracle Version : 11.2.0.1, Numa Segment

```
FTP> put MaxGauge for Java_DBM_linux_64_ora_112_160928.tar
FTP> put License_.key
```

Extraction of the installation files

Unzip the uploaded file into the maxguage user Home Directory. The decompression method is as follows.

```
$ tar –xvf MaxGauge for Java_DBM_[OS Ver]_[Oracle Ver].tar
```

Performing example

```
$ tar –xvf MaxGauge for Java_DBM_linux_64_ora_112_160928.tar
```

Run MaxGauge for Java environment file

Go to MaxGauge for Java Home and run the environment variable (.mxgrc) file.

```
$ cd /home/maxaguge/MaxGauge for Java
.$ . .mxgrc.
```

Run Install Script

Perform automation installation using install.sh in Install folder.

ITEM	**DESCRIPTION**
DBM setup Type	DB Type to be monitored
Database owner	OS user who operates Oracle Instance
Conf name	[ORACLE_SID]RTS Enter ORACLE_SID in capitals
IPC Key	Oracle Shared Memory Key of installation requirements
PMON process	Oracle PMON Name of installation requirements
DBM UDP port	Communication port (Default 2404) with WAS Agent
Data Gather IP address	DG Slave's installation IP address
Data Gather Port	Communication port (Default 1314) with DG Slave
DBM EVV Server port	DBM's internal communication port (Default 2405)
DB_ADDR IP ADDRESS	Database installation address
DB_ADDR PORT	Database's LISTENER PORT
DB_ADDR Database Name	Database's SID
Oracle Database user	Generate MaxaGauge DB user
Oracle Database Password	MaxGauge DB user password

Default Tablespace	MaxGauge User’s Default Tablespace
Temporary Tablespace	MaxGauge User’s Temporary Tablespace
Conf file	Generate server agent Configuration file
Run_by_sys	Generate MaxGauge DB User and authorize
Env	Generate agent’s required environment file
List.conf	Agent’s Required environment file

Performing example

```
$ cd $MAXGAUGE FOR JAVA_HOME/install
$. install.sh

Welcome to MaxGauge for Java DBM setup

Enter DBM setup Type: [1:oracle, 2:db2]
1

Enter Database owner: [oracle]
oracle

Enter Maxgauge conf name: [ora112]
ORA112RTS

1) 0xd3ac6c80
Select ipc key: 1
ipc key : d3ac6c80

ora_pmon_orcl
1) ora_pmon_orcl
Select pmon process name: 1
pmon name : ora_pmon_orcl

DBM UDP Port number : [2404]
2404

DataGather IP Address : []
192.168.0.10

DataGather Port number : [1314]
1314

DBM ENV Server Port numbe : [2405]
2405

DB_ADDR IP Address : []
10.10.202.183

DB_ADDR Port number : [1521]
```

```
1521

DB_ADDR Database Name (SID) : [ORA112]
ora112

Enter Oracle maxgauge user: [maxgauge]
maxgauge

Oracle maxgauge pass:
******

Default Tablespace for MaxGauge: [USERS]
USERS

Temporary Tablespace for MaxGauge: [TEMP]
TEMP

=================================================================
Conf name ORA112RTS
IPC key 0xd3ac6c80
pmon name ora_pmon_ORA112
UDP port 2404
DataGather Address 192.168.0.10:1314
ENV Server Port 2405
DB Address 10.10.202.183.1521.ora112
Maxgauge user maxgauge
=================================================================
Cfg directory created
Make conf files (common.conf, imx.prop, jspd.prop. ...)

Execute run_by_sys ...
Done.

Make env ...
/home/MaxGauge for Java/YU_RTS/MaxGauge for Java/util/db_setup/mke.sh
version: Linux 11.2.0.3.0 - 64bit
build: Mar    3 2015 11:15:59
sga_base_addr: 0x60000000
s: 0xa5f8        e: 0x9650        p: 0x9488
p: 0x0528        p: 0xcb38        h: 0xa680
s: 0xc9a0        u: 0x0020        d: 0x2b3f0
v: 0x1138        d: 0x25a28       s: 0x0000
f: 0x0170        n: 0x0010        t: 0x2ba08
s: 0xa5f8        e: 0x9648        e: 1152
db_version: 0xb200300]
Done.

Make list.conf ...
```

```
Done.
DBM Installation is complete.
```

Application of license file

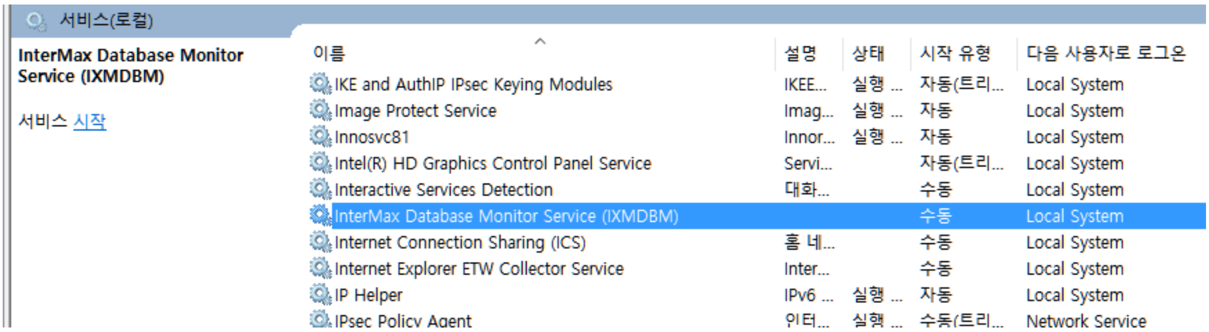
Move **License file** to $MAXGAUGE FOR JAVA_HOME/cfg directory.

```
…
$ mv $HOME/License.key $INXTERMAX_HOME/cfg
```

2.2.3. Starting method

Windows environment

Run MaxGauge for Java DB Agent through a services.msc list.
MaxGauge for Java DB Agent Set is registered as a Window Local Service, and executes each service in the Service (Local)



서비스(로컬)

InterMax Database Monitor Service (IXMDBM)

서비스 시작

이름	설명	상태	시작 유형	다음 사용자로 로그온
IKE and AuthIP IPsec Keying Modules	IKEE...	실행 ...	자동(트리...	Local System
Image Protect Service	Imag...	실행 ...	자동	Local System
Innosvc81	Innor...	실행 ...	자동	Local System
Intel(R) HD Graphics Control Panel Service	Servi...		자동(트리...	Local System
Interactive Services Detection	대화...		수동	Local System
InterMax Database Monitor Service (IXMDBM)			수동	Local System
Internet Connection Sharing (ICS)	홈 네...		수동	Local System
Internet Explorer ETW Collector Service	Inter...		수동	Local System
IP Helper	IPv6 ...	실행 ...	자동	Local System
IPsec Policy Agent	인터...	실행 ...	수동(트리...	Network Service

Unix / Linux environment

Run MaxGauge for Java DB Agent through IMXCTL Command.
IMXCTL is a utility to control **MaxGauge for Java Agent Set**, and there are two methods that use a non-interactive mode method used in the OS command line and an interactive mode method used in the IMXCTL utility. An instruction of **IMXCTL** utility is as follows.

```
#Non Interactive Mode Usage:
$ imxctl <start | stop | status | restart > {config_name}
$ imxctl version
#Interactive Mode Usage:
$ imxctl
RTSCTL> < start | stop | status | restart > {config_name}
RTSCTL> <version | quit | exit >
```

Operation	DESCRIPTION
start	Start MaxGauge for Java Agent Set
stop	Stop MaxGauge for Java Agent Set
status (stat)	Check MaxGauge for Java Agent Set status
restart	Re-startup MaxGauge for Java Agent Set
version (ver)	Print MaxGauge for Java Agent Set version

Note. Please refer to "MaxGauge for Java Administration Guide" for more detail and example about IMXCTL utility.

2.2.4. Exception

MakeConf Script Error (Windows environment Not applicable)

If Conf file is not created when executing Install.sh, please refer to the following section.

```
$ {MaxGauge for Java Home Directory}/MaxGauge for Java/install
```

Script Name	DESCRIPTION
Makecommonconf	Create environment file which is required for Direct Memory Access to Oracle SGA {ORACLE_SID} {IPC_KEY} {PMON_NAME}
Makertsconf	Create environment file for real-time data and log data sending {ORACLE_SID} {RTS_PORT} {DG_IP_ADDRESS} {DG_PORT}

Script Execution Method and Variable Writing Method

```
FILE_PATH: {MaxGauge for Java Home Directory}/MaxGauge for Java/install
# START COMMON FILE CREATE
$ . makecommonconf {ORACLE_SID} {IPC_KEY} {PMON_NAME}
ex) $. makecommonconf ORCL 0x992513cc ora_ pmon _ORCL

# START RTS FILE CREATE
$ . makertsconf {ORACLE_SID} {RTS_PORT} {DG_IP_ADDRESS} {DG_PORT}
ex) $. makertsconf ORCL 5080 192.168.0.10 7000
```

Run by sys.sql Error

If Maxgauge user creation and authorization are failed when executing Install.sh, please refer to the following section.

```
$ sqlplus DBA or SYS User Login

# MaxGauge for Java user Password, Default Tablespace, Temporary Tablespace
SQL>
CREATE USER maxgauge IDENTIFIED BY &password
```

```
DEFAULT TABLESPACE &default_ts
TEMPORARY TABLESPACE &temp_ts;

GRANT RESOURCE TO maxgauge ;
GRANT CREATE SESSION TO maxgauge;
GRANT CREATE DATABASE LINK TO maxgauge;
GRANT SELECT_CATALOG_ROLE maxgauge;
GRANT SELECT ANY TABLE TO maxgauge
GRANT CREATE ANY PROCEDURE TO maxgauge
GRANT EXECUTE ON SYS.DBMS_SESSION TO maxgauge
GRANT EXECUTE ON SYS.DBMS_SYSTEM TO maxgauge
GRANT ALTER SESSION TO maxgauge
GRANT ALTER SYSTEM TO maxgauge
GRANT SELECT ANY DICTIONARY TO maxgauge
```

Env & List.conf Error

If creating Env and List.conf file is failed when executing Install.sh, you can manually create by running mke.sh and listconf3.sql at $MAXGAUGE FOR JAVA_HOME/util/db_setup.

Performing example

```
# Env Create
$ . mke.sh
version: Linux 11.2.0.3.0 - 64bit
build: Mar   3 2015 11:15:59
sga_base_addr: 0x60000000
s: 0xa5f8        e: 0x9650        p: 0x9488
p: 0x0528         p: 0xcb38        h: 0xa680
s: 0xc9a0        u: 0x0020        d: 0x2b3f0
v: 0x1138         d: 0x25a28       s: 0x0000
f: 0x0170        n: 0x0010        t: 0x2ba08
s: 0xa5f8        e: 0x9648        e: 1152
db_version: 0xb200300]

# List.conf Create
$ sqlplus maxgauge/maxgauge
SQL> @listconf3.sql
```

Note. When Env file and the list.conf file are created, copy the files to the following location.
$MAXGAUGE FOR JAVA_HOME/cfg/{SID}RTS

3. AP Server and Data Storage Layer Installation and configuration

AP Server and Data Storage Layer consist of Platform.JS, Data Gatherer, and Repository Database. The OS types supported by each item are as follows.

Installation and configuration ITEM	Details	Supported OS
Platform.JS	Single UI View module for monitoring and analysis through Client PC	Windows, Unix/Linux
Data Gatherer	Server-side modules that collect, process, and analyze performance data	Windows, Unix/Linux
Repository Database	Database storage to store collected data	PostgreSQL (Windows, Unix/Linux) Oracle (Windows, Unix/Linux)

3.1. Advance Preparation

3.1.1. AP Server Specifications

MaxGauge for Java's AP Server and Data Storage Server Specifications should be prepared in consultation with the client in advance according to the size of the system to be monitored and the amount of data collected and generally it requires following specifications below based on transaction service within 10-nodes and 50-instances.
Separate configuration of Repository DB is recommended, and separate storage server configuration is recommended for large capacity collection.

3 ITEM	Minimum Specifications	Reference
Supported OS	Windows, Linux, HP, AIX, Solaris	
Supported JDK	JDK 1.8 Supported	
CPU(Core)	2CPU(4Core) or higher (1.8GHz or higher)	
Memory	8GB or higher	16G or higher recommended
Hard Disk	Installation space – within 100GB, Log storage space – Larger than 200GB	Enough space required

Note. MaxGauge for Java AP server for data collecting and server for Data Storage are Java DAEMON type program which can be operated in most of the OS where Java is installed, and hard disk can be expanded/decreased according to the size of the system to be monitored and the amount of collected data.

3.2. Windows environment

3.2.1. Advance Preparation

Java (JDK 1.8 or higher)

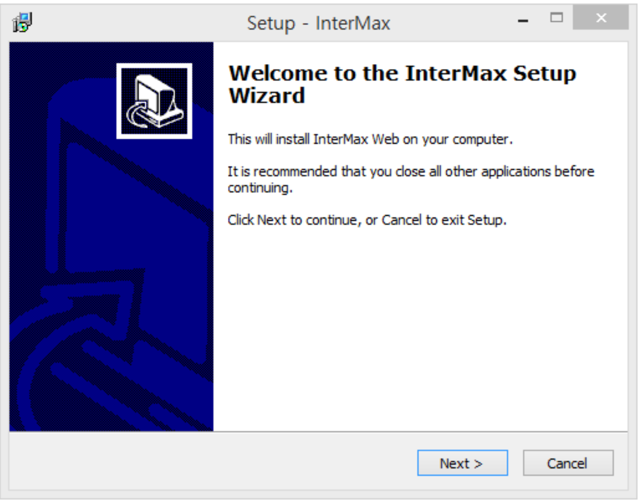
Java is installed on the same server such as Data Gatherer and Platfrom_JS.
Set JAVA_HOME setting in system environment variable.

3.2.2. Installation Procedure (Automatic Installer)

The installation method through the integrated installer is as follows.

Execute MaxGauge for Java integrated installation program (**MaxGauge for Java_Installer_VersionName.exe**).

When the installation wizard runs, **click the Next button**.



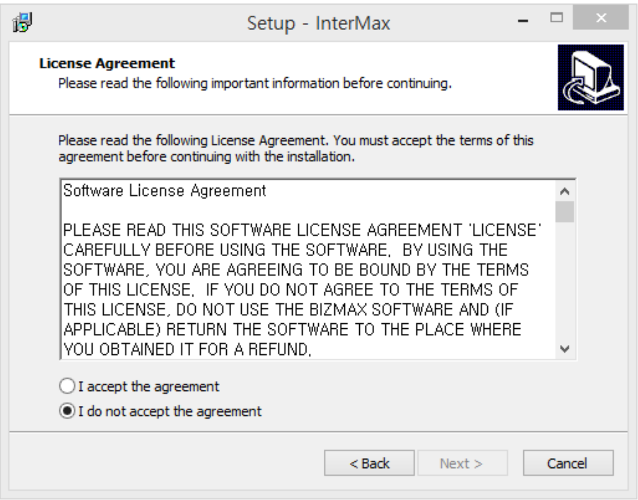
Welcome to the InterMax Setup Wizard

This will install InterMax Web on your computer.

It is recommended that you close all other applications before continuing.

Click Next to continue, or Cancel to exit Setup.

Select "Agree" with license terms and click Next.



Setup - InterMax

License Agreement

Please read the following important information before continuing.

Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation.

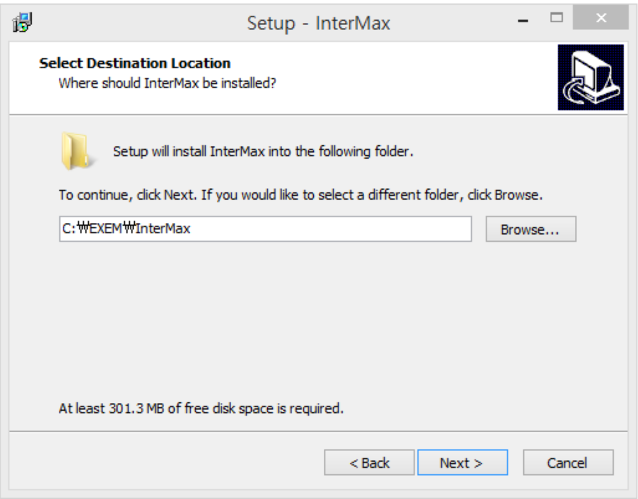
Software License Agreement

PLEASE READ THIS SOFTWARE LICENSE AGREEMENT 'LICENSE' CAREFULLY BEFORE USING THE SOFTWARE. BY USING THE SOFTWARE, YOU ARE AGREEING TO BE BOUND BY THE TERMS OF THIS LICENSE. IF YOU DO NOT AGREE TO THE TERMS OF THIS LICENSE, DO NOT USE THE BIZMAX SOFTWARE AND (IF APPLICABLE) RETURN THE SOFTWARE TO THE PLACE WHERE YOU OBTAINED IT FOR A REFUND.

○ I accept the agreement

● I do not accept the agreement

Select a location where to install MaxGauge for Java.



Setup - InterMax

Select Destination Location

Where should InterMax be installed?

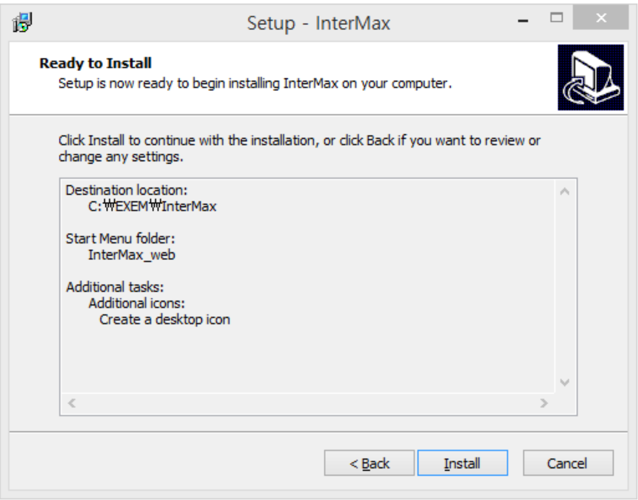
Setup will install InterMax into the following folder.

To continue, click Next. If you would like to select a different folder, click Browse.

C:₩EXEM₩InterMax

At least 301.3 MB of free disk space is required.

Click the **Install** button to start the installation. Installation takes about 2 minutes.



Setup - InterMax

Ready to Install

Setup is now ready to begin installing InterMax on your computer.

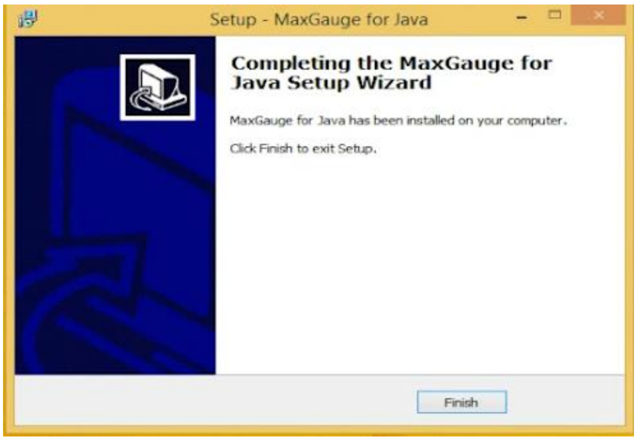
Click Install to continue with the installation, or click Back if you want to review or change any settings.

Destination location:
  C:₩EXEM₩InterMax

Start Menu folder:
  InterMax_web

Additional tasks:
  Additional icons:
    Create a desktop icon

When the installation is complete, click the [Finish] button to close the installation wizard.



Setup - MaxGauge for Java

Completing the MaxGauge for Java Setup Wizard

MaxGauge for Java has been installed on your computer.

Click Finish to exit Setup.

Note. Platform.JS, Data Gather, and PostgresQL are automatically registered as local services after installation.

3.2.3. Installation Procedure (Manual)

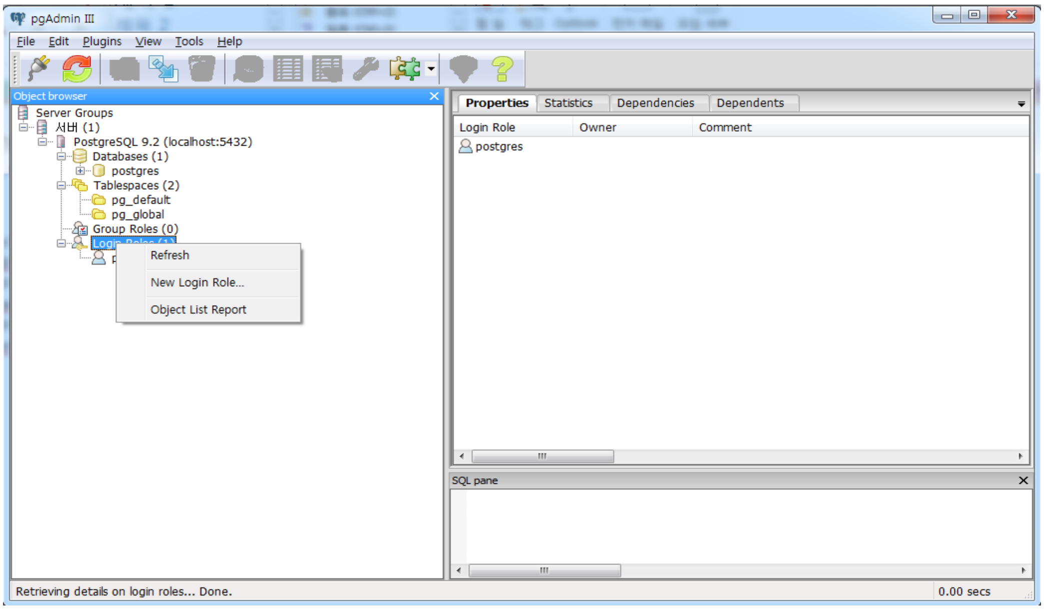
PostgreSQL Manual installation

In this Install Guide, we will skp the installation of PostgreSQL Databas. Please refer to the official PostgreSQL Install Guide for a detailed description of the database installation.

Repository User Creation and Database Setting

1. Run pgAdmin3 to create the Repository User and Database in PostgreSQL.

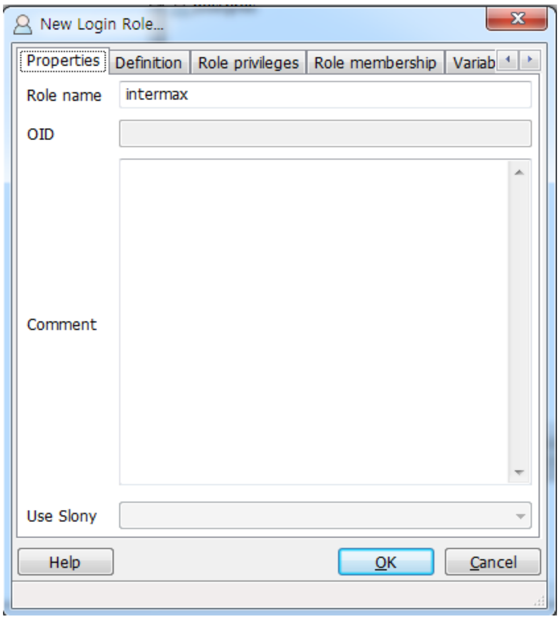
Right click on Login Role, and then click New Login Role.



Retrieving details on login roles... Done.

0.00 secs

2. Enter MaxGauge for Java user information. Type *MaxGauge for Java* in Role name field of Properties tab. Enter an appropriate password in the Password field in Definition tab.

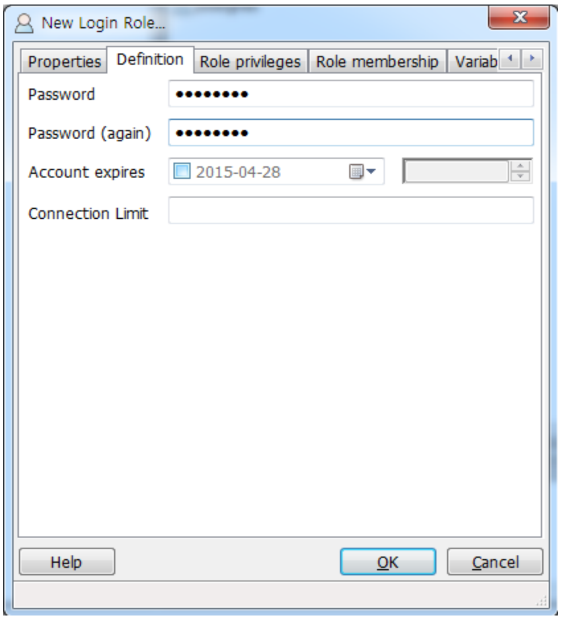


Role name: intermax

OID:

Comment:

Use Slony:



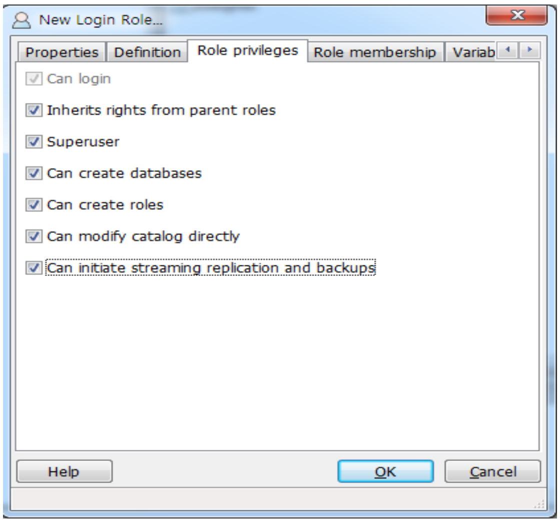
Password: ••••••••

Password (again): ••••••••

Account expires: □ 2015-04-28

Connection Limit:

3. Check all permissions in Role authority and click OK.



☑ Can login

☑ Inherits rights from parent roles

☑ Superuser

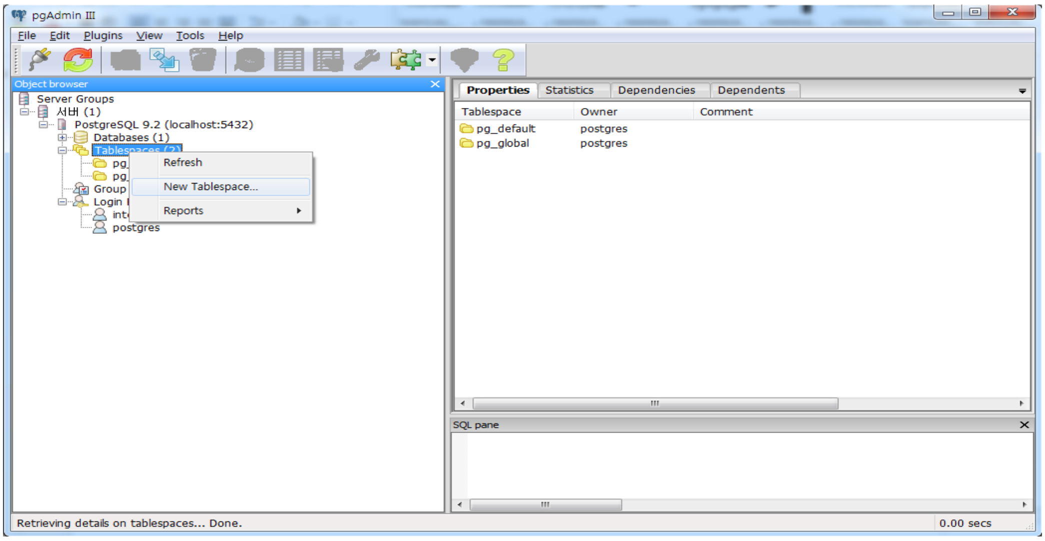
☑ Can create databases

☑ Can create roles

☑ Can modify catalog directly

☑ Can initiate streaming replication and backups

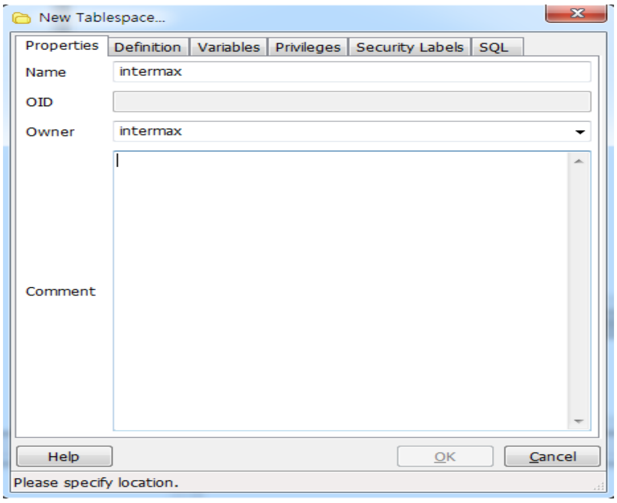
4. To create a tablespace, right-click on Tablespaces in the Object browser, and click New Tablespace.



Tablespace	Owner	Comment
pg_default	postgres	
pg_global	postgres	

Retrieving details on tablespaces... Done. 0.00 secs

5. In the name field in Properties tab, type *MaxGauge for Java* as the Tablespace name. The owner selects MaxGauge for Java from the drop-down list.


New Tablespace...
Properties Definition Variables Privileges Security Labels SQL
Help
OK
Cancel

Name: intermax

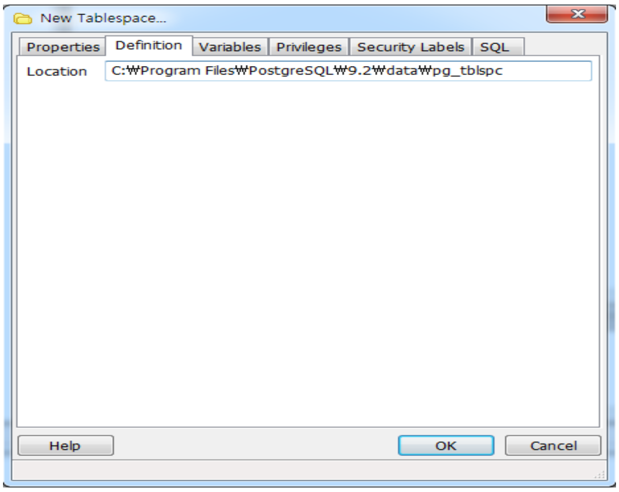
OID:

Owner: intermax

Comment:

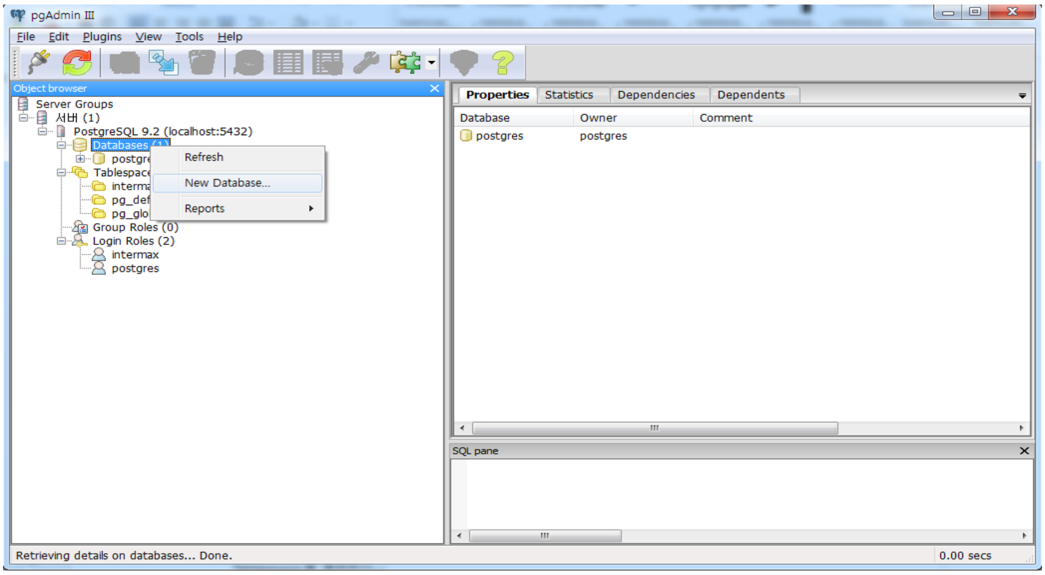
Please specify location.

6. In the Location in Definition tab, select the location of the tablespace and click OK.


New Tablespace...
Properties Definition Variables Privileges Security Labels SQL
Help
OK
Cancel

Location: C:₩Program Files₩PostgreSQL₩9.2₩data₩pg_tblspc

7. Right-click Databases in the Object browser and click New Database to create an MaxGauge for Java Database.

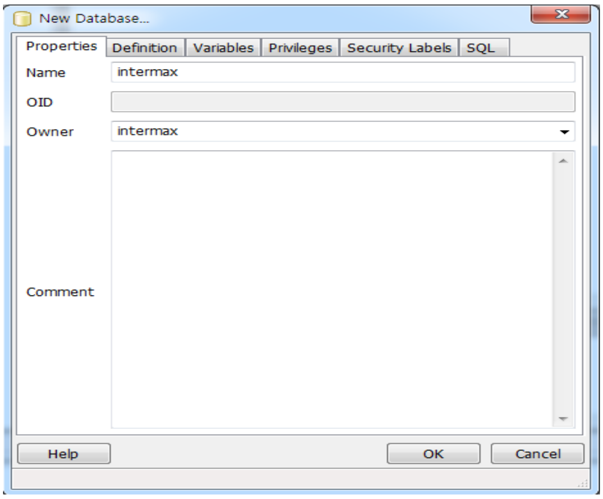


Database	Owner	Comment
postgres	postgres	

Retrieving details on databases... Done.

0.00 secs

8. In the Properties tab, type *MaxGauge for Java* as the database name in Name field. The owner selects as MaxGauge for Java.



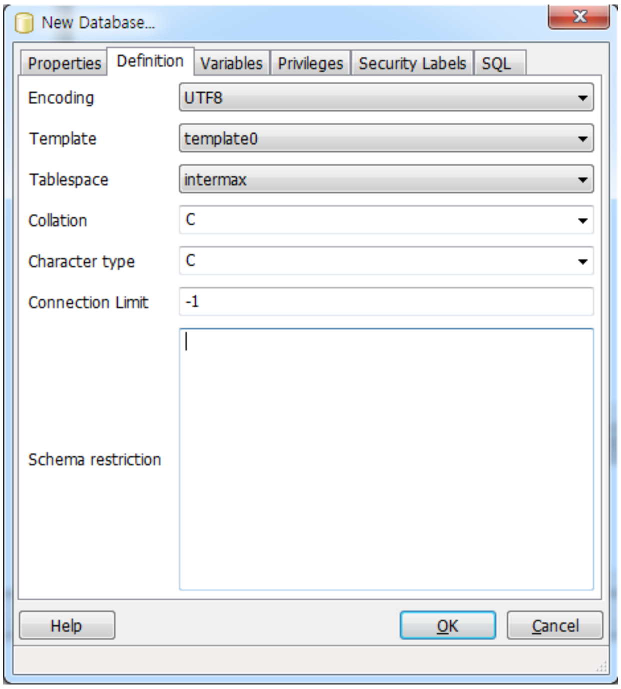
Name: intermax

OID:

Owner: intermax

Comment:

9. In the Definition tab, select UTF8 for Encoding and template0 for Template. Select MaxGauge for Java for Tablespace. Select C for each Collation and Character type and click OK.



Encoding: UTF8
Template: template0
Tablespace: intermax
Collation: C
Character type: C
Connection Limit: -1
Schema restriction

Repository Parameter Settings
Set the parameters of the installed PostgreSQL Database as follows.
File location eg) D:\Program Files\PostgreSQL\9.4\data\postgresql.conf

Parameter Name	Recommended Setting (Based on Memory 16GB)
shared_buffers	4GB
work_mem	512MB
effective_cache_size	1GB
enable_seqscan	off
logging_collector	off
default_transaction_isolation	read uncommitted
log_truncate_on_rotation	on
log_rotation_size	0
wal_sync_method	fsync_writethrough
constraint_exclusion	partition
autovacuum_vacuum_threshold	2147483647
autovacuum_analyze_threshold	2147483647
checkpoint_segments	32
track_counts	off
autovacuum	off

Oracle Manual installation

In this Install Guide section, we will explain Oracle Database installation, therefore we recommend you to install by referring to Oracle's official Install Guide.

Creation of Repository User and Database Setting
Run SQL*PLUS to create the Repository User and Database in Oracle.

Create tablespace
Create a tablespace which will be used on MaxGauge for Java.

Performing example

```
SQL>create tablespace [tablespace_name] datafile 'LOCATION' size[size]
SQL>extent management local
SQL>segment space management auto;
```

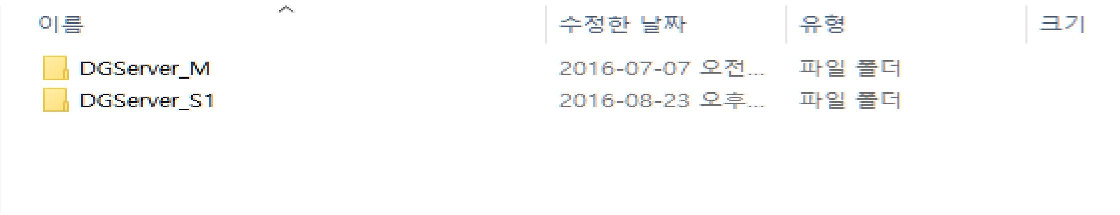
Creating user
Authorize after creating MaxGauge for Java User.

Performing example

```
# By sys or dba User
SQL> create user [user_name] identified by [password] default tablespace [tablespace_name] temporary tablespace temp;
SQL>GRANT RESOURCE TO MaxGauge for Java;
SQL>GRANT CONNECT TO MaxGauge for Java;
SQL>GRANT CREATE SESSION TO MaxGauge for Java;
SQL>GRANT CREATE DATABASE LINK TO MaxGauge for Java;
SQL>GRANT SELECT_CATALOG_ROLE TO MaxGauge for Java;
SQL>GRANT SELECT ANY TABLE TO MaxGauge for Java;
SQL>GRANT EXECUTE ON SYS.DBAS_SESSION TO MaxGauge for Java;
SQL>GRANT EXECUTE ON SYS.DBAS_SYSTEM TO MaxGauge for Java;
SQL>GRANT EXECUTE ON DBMS_LOCK TO MaxGauge for Java;
SQL>GRANT ALTER SESSION TO MaxGauge for Java;
SQL>GRANT ALTER SYSTEM TO MaxGauge for Java;
SQL>GRANT SELECT ANY DICTIONARY TO MaxGauge for Java;
SQL>GRANT CREATE VIEW TO MaxGauge for Java;
SQL>GRANT CREATE SEQUENCE TO MaxGauge for Java;
SQL>GRANT EXECUTE ON CTXSYS.CTX_DDL FROM MaxGauge for Java;
SQL>GRANT SELECT ON DBA_TAB_PARTITIONS TO MaxGauge for Java;
```

Data Gatherer Manual installation

Extract MaxGauge for Java_DG_YYMMDD.tar file.



이름	수정한 날짜	유형	크기
DGServer_M	2016-07-07 오전...	파일 폴더	
DGServer_S1	2016-08-23 오후...	파일 폴더	

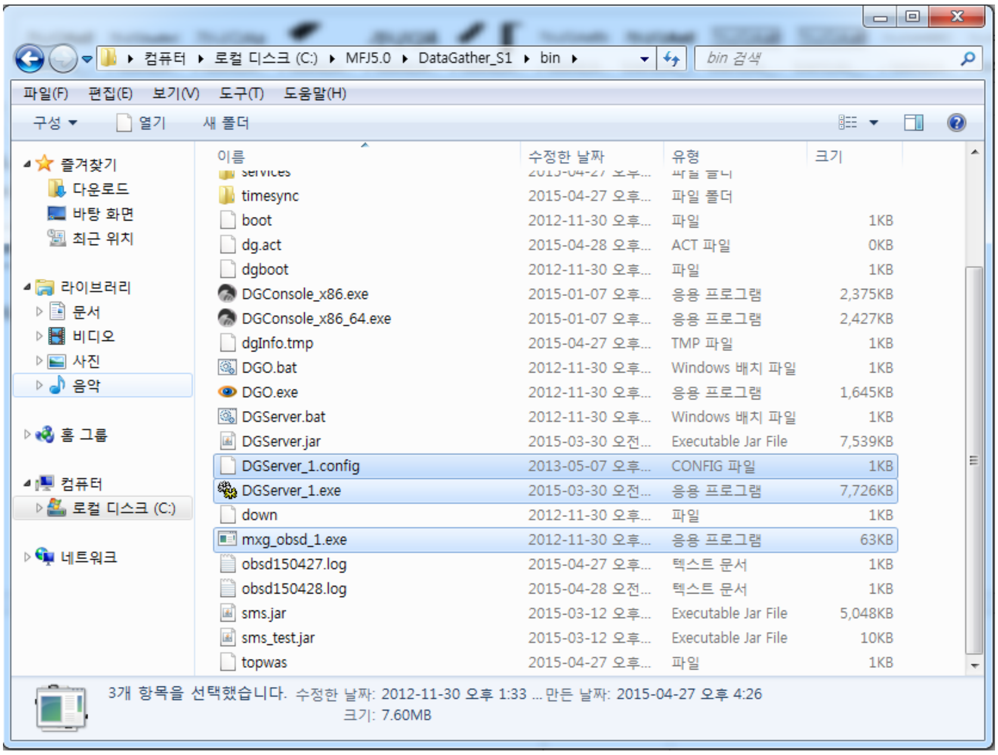
First install the Slave Data Gatherer. Copy the DGServer_x86_64_1314.exe and DGServer_x86_64_1314.config files from DataGather_S1\bin\services and paste them into DataGather_S1\bin. (DGServer_x86_1314.exe and DGServer_x86_1314.config for 32bit Windows)

Note. The copied file is the service file of Data Gatherer.

Rename the two copied files to DGServer_1.exe and DGServer_1.config.
Copy DataGather_S1\bin\mxg_obsd\win64\mxg_obsd_x64.exe and paste it into DataGatcher_S1\bin. (DataGather_S1\bin\mxg_obsd\win32\mxg_obsd.exe for 32bit Windows)

Note. The copied file is the observer executable file of Data Gatherer.

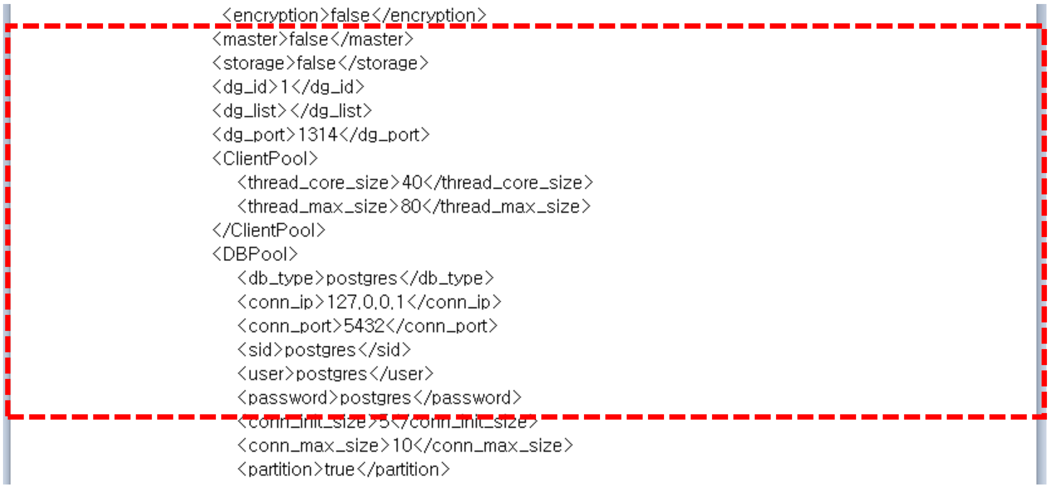
Rename the copied file to mxg_obsd_1.exe. The results of steps 1 to 4 are as follows.



이름	수정한 날짜	유형	크기
services	2015-04-27 오후...	파일 폴더	
timesync	2015-04-27 오후...	파일 폴더	
boot	2012-11-30 오후...	파일	1KB
dg.act	2015-04-28 오후...	ACT 파일	0KB
dgboot	2012-11-30 오후...	파일	1KB
DGConsole_x86.exe	2015-01-07 오후...	응용 프로그램	2,375KB
DGConsole_x86_64.exe	2015-01-07 오후...	응용 프로그램	2,427KB
dgInfo.tmp	2015-04-27 오후...	TMP 파일	1KB
DGO.bat	2012-11-30 오후...	Windows 배치 파일	1KB
DGO.exe	2012-11-30 오후...	응용 프로그램	1,645KB
DGServer.bat	2012-11-30 오후...	Windows 배치 파일	1KB
DGServer.jar	2015-03-30 오전...	Executable Jar File	7,539KB
DGServer_1.config	2013-05-07 오후...	CONFIG 파일	1KB
DGServer_1.exe	2015-03-30 오전...	응용 프로그램	7,726KB
down	2012-11-30 오후...	파일	1KB
mxg_obsd_1.exe	2012-11-30 오후...	응용 프로그램	63KB
obsd150427.log	2015-04-27 오후...	텍스트 문서	1KB
obsd150428.log	2015-04-28 오전...	텍스트 문서	1KB
sms.jar	2015-03-12 오후...	Executable Jar File	5,048KB
sms_test.jar	2015-03-12 오후...	Executable Jar File	10KB
topwas	2015-04-27 오후...	파일	1KB

3개 항목을 선택했습니다. 수정한 날짜: 2012-11-30 오후 1:33 ... 만든 날짜: 2015-04-27 오후 4:26
크기: 7.60MB

Edit DataGather_S1\conf\DGServer.xml for Slave Data Gatherer Setting. The setting items are shown in the table below.



```
 <encryption>false</encryption>
<master>false</master>
<storage>false</storage>
<dg_id>1</dg_id>
<dg_list></dg_list>
<dg_port>1314</dg_port>
<ClientPool>
    <thread_core_size>40</thread_core_size>
    <thread_max_size>80</thread_max_size>
</ClientPool>
<DBPool>
    <db_type>postgres</db_type>
    <conn_ip>127.0.0.1</conn_ip>
    <conn_port>5432</conn_port>
    <sid>postgres</sid>
    <user>postgres</user>
    <password>postgres</password>
    <conn_init_size>5</conn_init_size>
    <conn_max_size>10</conn_max_size>
    <partition>true</partition>
```

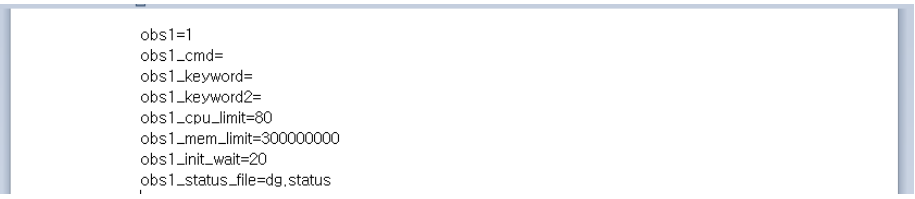
Parameter Name	DESCRIPTION
master	Set Master option ● False in case of Slave Data Gatherer
dg_id	ID Setting ● 1 or higher in case of Slave Data Gatherer
dg_port	Communication Port of Slave Data atherer ● 1314 is recommended for Slave port
db_type	Repository Database type setting ● postgres in case of PostgreSQL
conn_ip	Repository database IP setting to connect to JDBC
conn_port	Repository database Listener Port Setting to connect to JDBC ● The default value for PostgreSQL is 5432
sid	Repository database name setting
user	Repository database User
password	Password of Repository database User

Execute the following command in administrator authority command window to register Slave Data Gatherer as service.

```
>   sc create DGServer_1 binPath= “Absolute\path\to\DGServer_1.exe”
```

Note. The service name can be other than DGServer_1. However, we assume that DGServer_1 is specified in this manual.

Edit the settings of DataGather_S1\conf\DG\common.conf file to set the observer. Setting items are shown in the table below.



```
obs1=1
obs1_cmd=
obs1_keyword=
obs1_keyword2=
obs1_cpu_limit=80
obs1_mem_limit=300000000
obs1_init_wait=20
obs1_status_file=dg.status
```

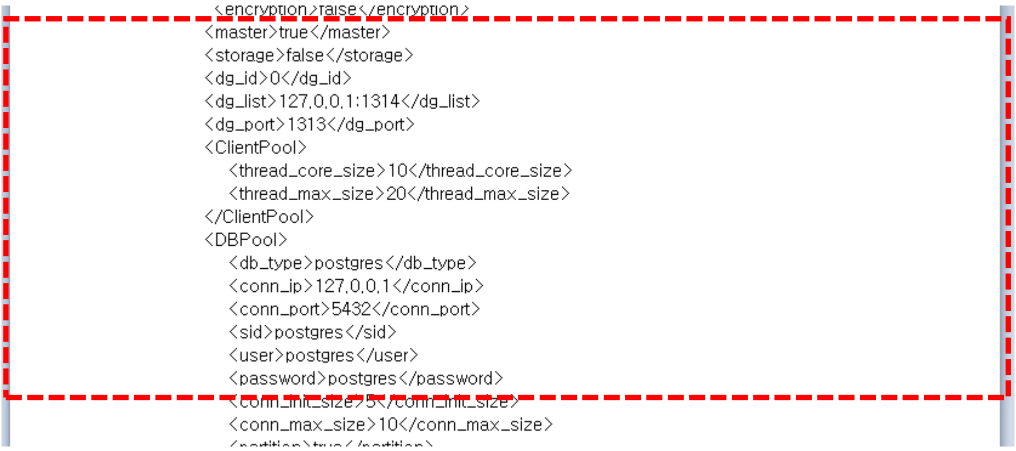
Parameter Name	DESCRIPTION
obs1_cmd	Service name of Slave Data Gatherer ● e.g.) DGServer_1
obs1_keyword	Part of process name of Slave Data Gatherer ● e.g.) DGServer
obs1_keyword2	Part of process name of Slave Data Gatherer ● e.g.) DGServer_1

Execute the following command in the administrator authority command window to register the observer of Slave data gatherer as a service.

```
>   sc create DGServer_obsd_1 binPath= “Absolute\Path\to\mxg_obsd_1.exe -f Absolute\Path\to\common.conf -i 10 -D -
OTHERD”
```

Note. The service name can be other than DGServer_obsd_1. However, we assume that DGServer_obsd_1 is specified in this manual.

Next, install **Master Data Gatherer**. Copy DGServer_x86_64_1313.exe and DGServer_x86_64_1313.config files from DataGather_M\bin\services and paste in DataGather_M/bin. (DGServer_x86_1313.exe 와 DGServer_x86_1313.config for 32bit Windows)
Rename the two copied files to DGServer_0.exe and DGServer_0.config.
Copy DataGather_M\bin\mxg_obsd\win64\mxg_obsd_x64.exe and paste in DataGatcher_M\bin. (DataGather_M\bin\mxg_obsd\win32\mxg_obsd.exe for 32bit Windows)
Rename the copied file to mxg_obsd_0.exe. The reesults of steps 10 to 12 are as follows.
Edit DataGather_M\conf\DGServer.xml for Master Data Gatherer Setting. The setting items are shown in the table below.



```
 <encryption>false</encryption>
<master>true</master>
<storage>false</storage>
<dg_id>0</dg_id>
<dg_list>127.0.0.1:1314</dg_list>
<dg_port>1313</dg_port>
<ClientPool>
   <thread_core_size>10</thread_core_size>
   <thread_max_size>20</thread_max_size>
</ClientPool>
<DBPool>
   <db_type>postgres</db_type>
   <conn_ip>127.0.0.1</conn_ip>
   <conn_port>5432</conn_port>
   <sid>postgres</sid>
   <user>postgres</user>
   <password>postgres</password>
   <conn_init_size>5</conn_init_size>
   <conn_max_size>10</conn_max_size>
   <partition>true</partition>
```

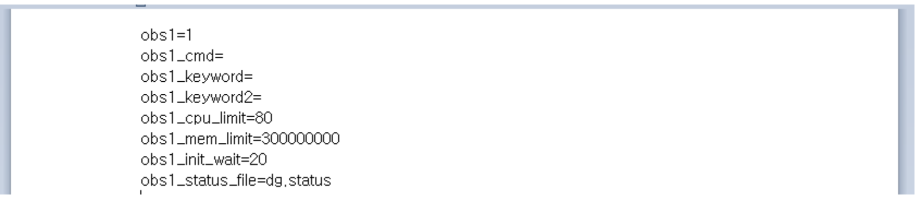
Parameter Name	DESCRIPTION
master	Set Master option ● true in case of Master Data Gatherer
dg_id	ID Setting ● 0 in case of Master Data Gatherer
dg_port	Communication Port of Master Data Gatherer ● 1313 is recommended for Master Port
dg_list	Enter the information (IP: Port) of Slave Data Gatherers belonging to this Master Data Gatherer, separating with ",". ● e.g.) 127.0.0.1:1314,127.0.0.1:1315, ...
db_type	Repository Database type setting ● postgres in case of PostgreSQL
conn_ip	Repository database IP setting to connect to JDBC
conn_port	Repository database Listener Port Setting to connect to JDBC ● The default value for PostgreSQL is 5432
sid	Repository database name setting
user	Repository database User
password	Password of Repository database User

Execute the following command in the administrator authority command window to register Master Data Gatherer as a service.

```
> sc create DGServer_0 binPath= “Absolute\path\to\DGServer_0.exe”
```

Note. The service name can be other than DGServer_0. However, we assume that DGServer_0 is specified in this manual.

Edit the settings of DataGather_M\conf\DG\common.conf file for observer setting. Setting items are shown in the table below.



```
obs1=1
obs1_cmd=
obs1_keyword=
obs1_keyword2=
obs1_cpu_limit=80
obs1_mem_limit=300000000
obs1_init_wait=20
obs1_status_file=dg.status
```

Parameter Name	DESCRIPTION
obs1_cmd	Service name of Master Data Gatherer ● e.g.) DGServer_0
obs1_keyword	Part of process name of Master Data Gatherer ● e.g.) DGServer
obs1_keyword2	Part of process name of Master Data Gatherer ● e.g.) DGServer_0

Execute the following command in the administrator authority command window to register observer of Master Data Gatherer as a service.

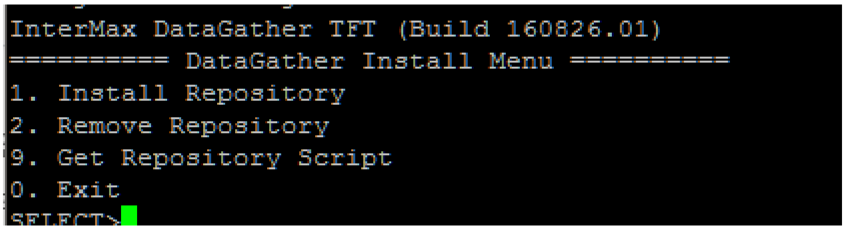
```
>   sc create DGServer_obsd_0 binPath= “Absolute\Path\to\mxg_obsd_0.exe -f Absolute\Path\to\common.conf -i 10 -D -
OTHERD”
```

Note. The service name can be other than DGServer_obsd_0. However, we assume that DGServer_obsd_0 is specified in this manual.

When setting of Slave and Master is completed, Repository for MaxGauge for Java should be configured in Repository. Run the following command for configuration:

```
>   cd DataGather_M\bin
>   java -jar DGServer.jar install
```

Once it is operated, select *1. Install Respository.* The Repository is configured in the database that is set in the Server.xml file.



```
InterMax DataGather TFT (Build 160826.01)
========== DataGather Install Menu ==========
1. Install Repository
2. Remove Repository
9. Get Repository Script
0. Exit
SELECT>
```

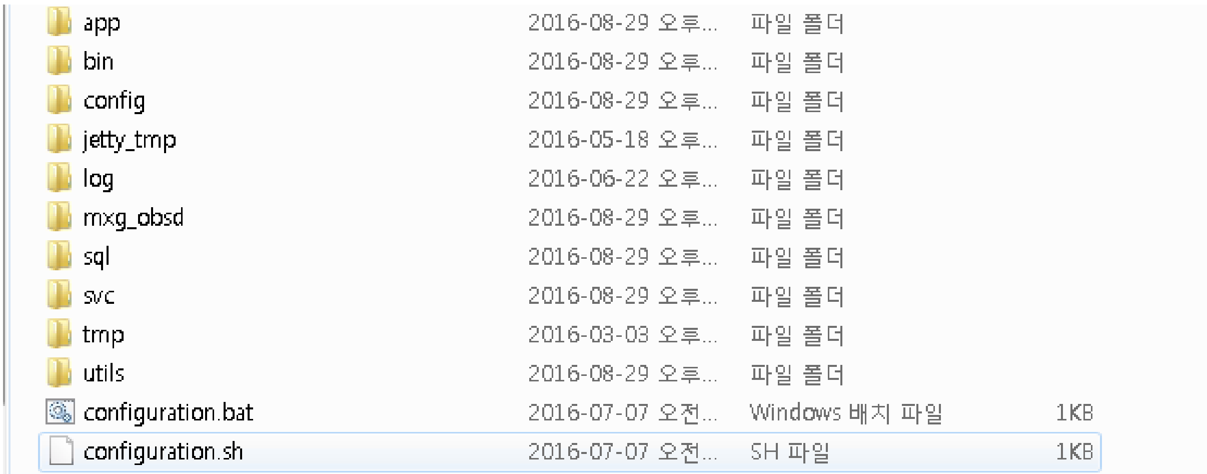
When the configuration of the repository is completed, type 0 to exit.
This will complete the basic configuration of the **Data Gatherer**.

Platform.JS Manual installation

The installation method of Platform.JS on Window is as follows.

Extract MaxGauge for Java_WEB_YYMMDD.zip.

Run Configuration.bat.



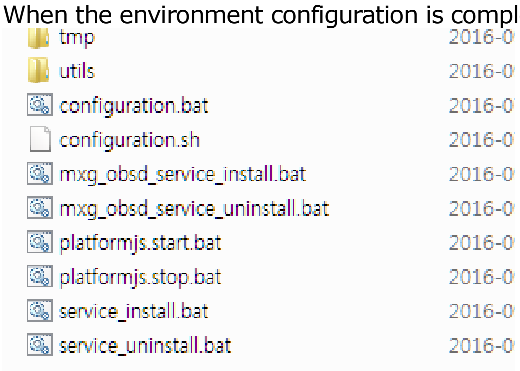
app	2016-08-29 오후...	파일 폴더	
bin	2016-08-29 오후...	파일 폴더	
config	2016-08-29 오후...	파일 폴더	
jetty_tmp	2016-05-18 오후...	파일 폴더	
log	2016-06-22 오후...	파일 폴더	
mxg_obsd	2016-08-29 오후...	파일 폴더	
sql	2016-08-29 오후...	파일 폴더	
svc	2016-08-29 오후...	파일 폴더	
tmp	2016-03-03 오후...	파일 폴더	
utils	2016-08-29 오후...	파일 폴더	
configuration.bat	2016-07-07 오전...	Windows 배치 파일	1KB
configuration.sh	2016-07-07 오전...	SH 파일	1KB

Performing example

```
1 : Configurations
2: SSL Settiongs ( Current state : Disabled )
0 : Exit

Select Number : 1

Step 1. DataGather IP [ Default : 127.0.0.1 ] ( BACK : 0 )
Input Text : 10.10.202.182

Step 2. DataGather Port [ Default : 1313 ] ( BACK : 0 )
Input Text : 1313

Step 3. Repository DB Type [ Default (1)PostgreSQL ] ( BACK : 0 )

.
1.PostgreSQL
2.Oracle
Select Number : 1

Step 4. Database Server [ Default : 127.0.0.1 ] ( BACK : 0 )
Input Text : 10.10.202.98

Step 5. Database Port [ Default : 5432 ] ( BACK : 0 )
Input Text : 5432

Step 6. Database Name [ Default : MaxGauge for Java ] ( BACK : 0 )
```

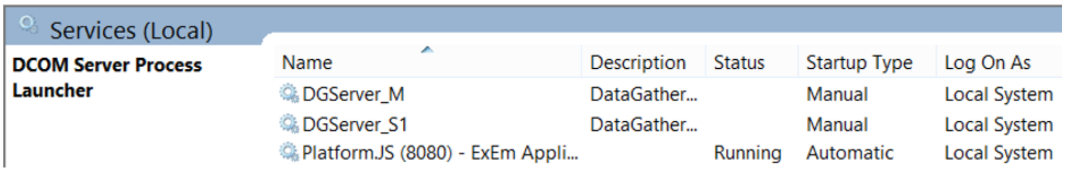
```
Input Text : MaxGauge for Java

Step 7. Database User [ Default : MaxGauge for Java ] ( BACK : 0 )
Input Text : MaxGauge for Java

Step 8. Database Password [ Default : MaxGauge for Java ] ( BACK : 0 )
Input Text : MaxGauge for Java

Step 9. Service Port [ Default : 8082 ] ( BACK : 0 )
Input Text : 8899

Do you want to save ? 1.Save 2.Cancel [ Default (1)Save ]
Select Number : 1
```

When the environment configuration is completed, the executable file is added to the same folder.



```
tmp                              2016-0
utils                            2016-0
configuration.bat                2016-0
configuration.sh                 2016-0
mxg_obsd_service_install.bat     2016-0
mxg_obsd_service_uninstall.bat   2016-0
platformjs.start.bat             2016-0
platformjs.stop.bat              2016-0
service_install.bat              2016-0
service_uninstall.bat            2016-0
```

Run service_install.bat with administrator authority and add it to the service.



Services (Local)

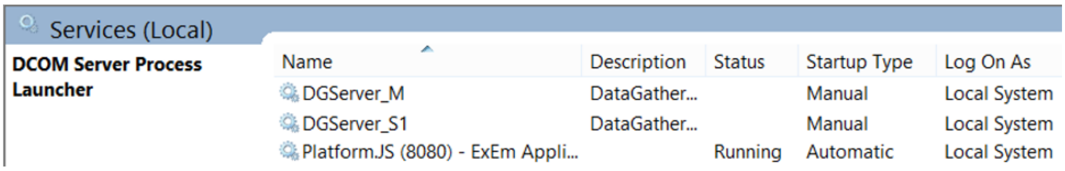
DCOM Server Process Launcher

Name	Description	Status	Startup Type	Log On As
DGServer_M	DataGather...		Manual	Local System
DGServer_S1	DataGather...		Manual	Local System
Platform.JS (8080) - ExEm Appli...		Running	Automatic	Local System

3.2.4. Startup and Connection confirmation

MaxGauge for Java Local Services

Platform.JS, Data Gatherer, Postgresql/Oracle Database run individual services in Windows Services (Local) and start individual automatically/manually.



Services (Local)

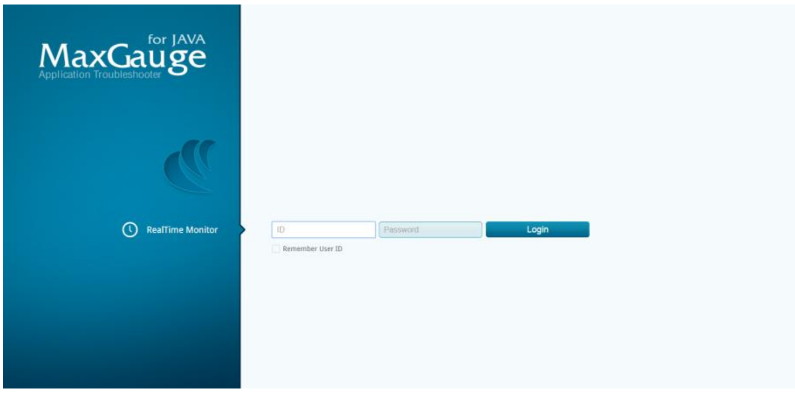
DCOM Server Process Launcher

Name	Description	Status	Startup Type	Log On As
DGServer_M	DataGather...		Manual	Local System
DGServer_S1	DataGather...		Manual	Local System
Platform.JS (8080) - ExEm Appli...		Running	Automatic	Local System

MaxGauge for Java Connection confirmation

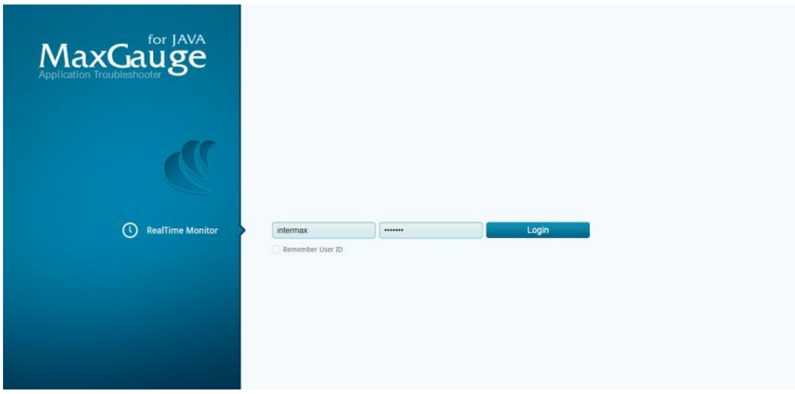
To use MaxGauge for Java, you need a chrome browser (We will skip Chrome browser installation - the latest version is recommended) and proceed through the browser in the following steps.

Connect to http://127.0.0.1:8080/MaxGauge for Java/Config on Chrome Web Browser.



Note. Enter Host IP and Service Port in where Platform.JS is installed for IP and Port fields.

Connect as a default account. (ID: MaxGauge for Java / PW:manager)

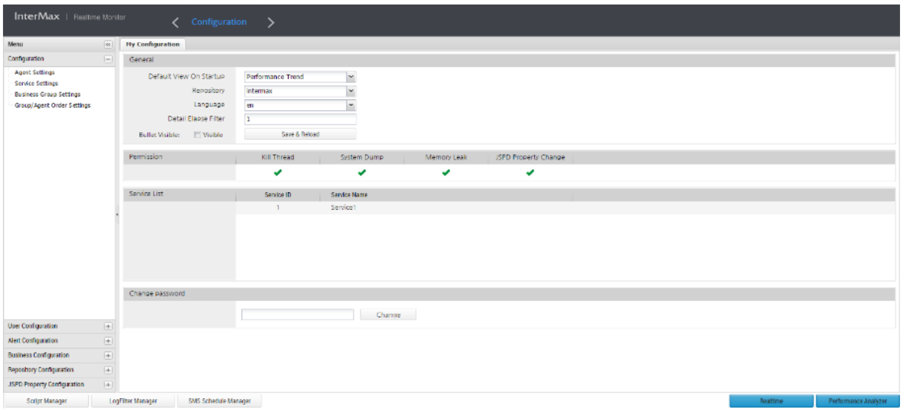


intermax

•••••••

Set configuration.

You must configure at least one **Service Group**, and authorize the connected user with **Service Authority.**



General

Default View On Startup: Performance Trend

Repository: intermax

Language: en

Detail Elapse Filter: 1

Bullet Visible: □ Visible

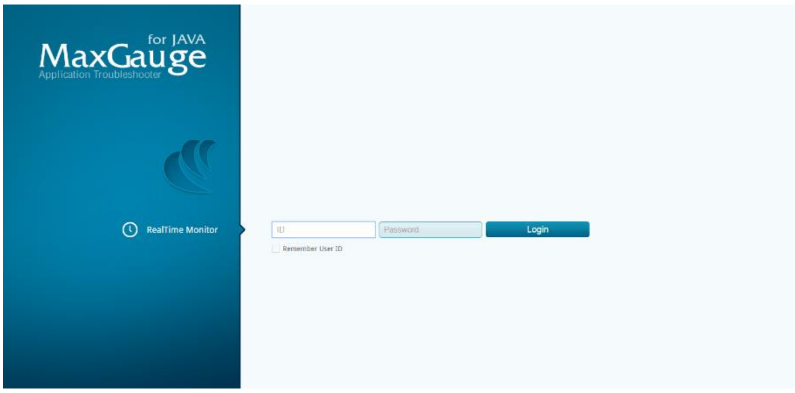
Permission	Kill Thread	System Dump	Memory Leak	JSPD Property Change
	✓	✓	✓	✓

Service List	Service ID	Service Name
	1	Service1

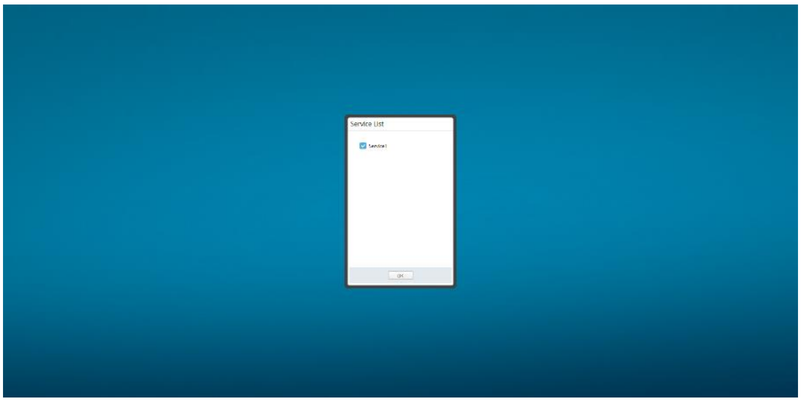
Change password

Note. Please refer to "MaxGauge for Java Configuration Guide" for more detail about MaxGauge for Java Configuration setting.

In Chrome web browser, connect to http://127.0.0.1:8080/MaxGauge for Java/RTM, enter ID/Password and login. (ID: MaxGauge for Java / PW: manager)



When the **service group** list that is set in the configuration process is displayed, select the **Service Group** to monitor and click OK to load the monitoring view.



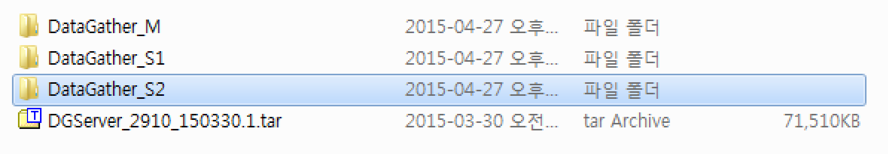
☑ Service1

3.2.5. User-defined Option

Add Slave Gatherer Process

A load can occur if one **Slave Data Gatherer** communicates with too many **MaxGauge for Java Agent Sets**. In this case, it is necessary to add **Slave DG**. The method to add **Slave DG** is as follows.

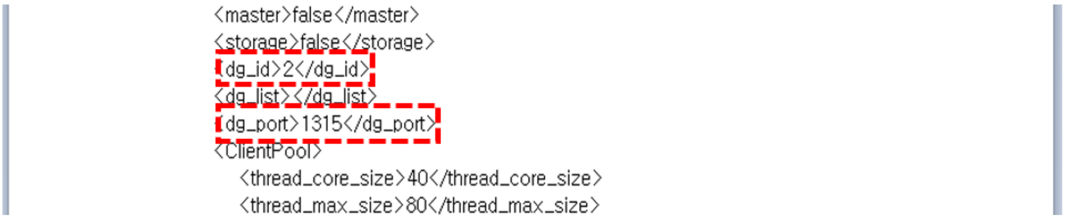
Copy **DataGather_S1** folder in the path where MaxGauge for Java is installed and create **DataGather_S#** folder.



DataGather_M	2015-04-27 오후...	파일 폴더	
DataGather_S1	2015-04-27 오후...	파일 폴더	
DataGather_S2	2015-04-27 오후...	파일 폴더	
DGServer_2910_150330.1.tar	2015-03-30 오전...	tar Archive	71,510KB

Change names of DataGather_S#\bin\DGServer_x86_64_1314.exe file and DGServer_x86_64_1314.config file as DGServer_x86_64_{other port#}.

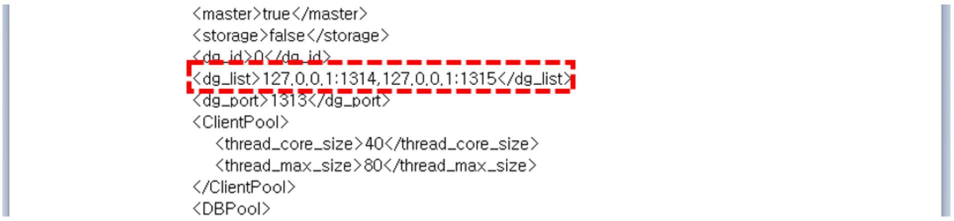
Edit DataGather**_S#\conf\DGServer.xml** file and change dg_id and dg**_**Port.



```
<master>false</master>
<storage>false</storage>
<dg_id>2</dg_id>
<dg_list></dg_list>
<dg_port>1315</dg_port>
<ClientPool>
    <thread_core_size>40</thread_core_size>
    <thread_max_size>80</thread_max_size>
```

Note. Please be careful of setting so that other Slave Data Gatherer’s dg_id and dg_port do not duplicate.

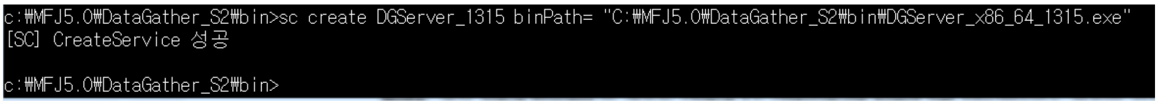
Edit DataGather**_M\conf\DGServer.xml** file and add IP address and Port number on **Slave_Gather_List**.



```
<master>true</master>
<storage>false</storage>
<dg_id>0</dg_id>
<dg_list>127.0.0.1:1314,127.0.0.1:1315</dg_list>
<dg_port>1313</dg_port>
<ClientPool>
    <thread_core_size>40</thread_core_size>
    <thread_max_size>80</thread_max_size>
</ClientPool>
<DBPool>
```

Register **Slave DG #** as a service in administrator authority command window.

```
sc create {Service Name} binPath= “Absolute\path\to\Data Gather_S#\bin\DGServer_{bit}.exe”
```



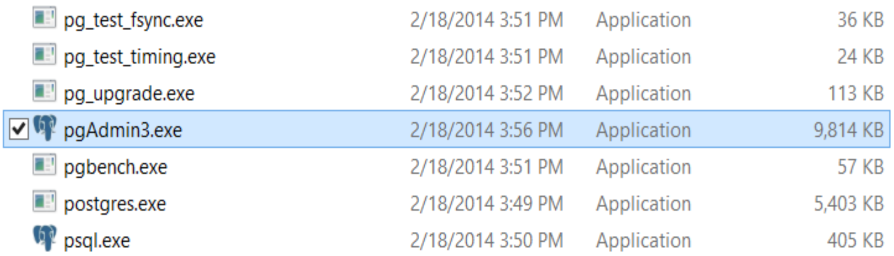
```
c:₩MFJ5.0₩DataGather_S2₩bin>sc create DGServer_1315 binPath= "C:₩MFJ5.0₩DataGather_S2₩bin₩DGServer_x86_64_1315.exe"
[SC] CreateService 성공

c:₩MFJ5.0₩DataGather_S2₩bin>
```

Note. The recommended number of slave processes is (Slave 1): (The number of JVM instance <50). However, since 1G memory is allocated to each slave process, it should be added after considering Free Memory. The allocated memory of DG can be changed by editing DGServer_*. config file in each bin folder.

PostgreSQL Tablespace Setting

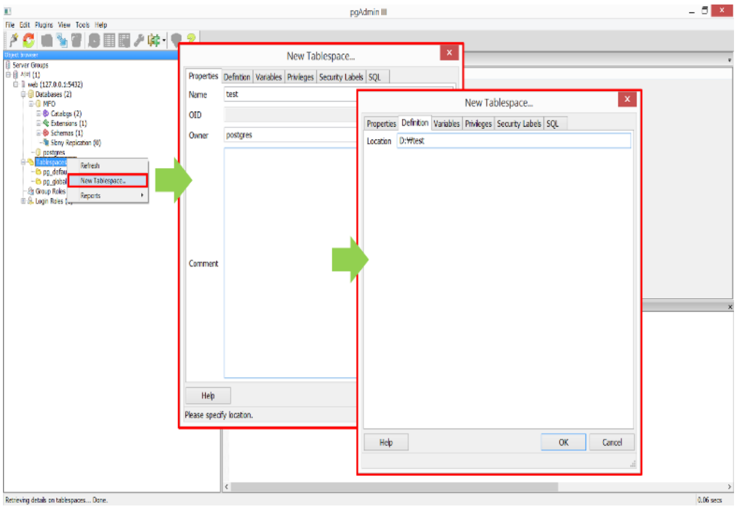
An increase in the amount of data stored in the PostgreSQL Repository can cause disk space shortage. This problem can be solved by creating separate table spaces for individual tables and storing them separately. The method to allocate tablespace is as follows.

Run *pgAdmin3.* ({MaxGauge for Java Home Directory}/Database/bin/pgAdmin3)



pg_test_fsync.exe	2/18/2014 3:51 PM	Application	36 KB
pg_test_timing.exe	2/18/2014 3:51 PM	Application	24 KB
pg_upgrade.exe	2/18/2014 3:52 PM	Application	113 KB
☑ pgAdmin3.exe	2/18/2014 3:56 PM	Application	9,814 KB
pgbench.exe	2/18/2014 3:51 PM	Application	57 KB
postgres.exe	2/18/2014 3:49 PM	Application	5,403 KB
psql.exe	2/18/2014 3:50 PM	Application	405 KB

Create a new tablespace and enter the name/owner/path.



Name: test

Owner: postgres

Comment

Please specify location.

Location: D:₩test

Retrieving details on tablespaces... Done.

Identify large tables.

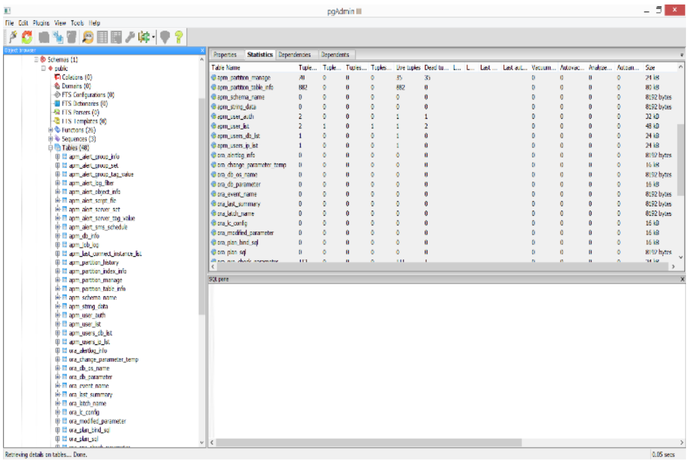


Table Name	Tuple...	Tuple...	Tuples...	Tuples...	Live tuples	Dead tu...	L...	L...	Last ...	Last aut...	Vacuum...	Autovac...	Analyze...	Autoan...	Size
apm_partition_manage	70	0	0	0	35	35					0	0	0	0	24 kB
apm_partition_table_info	882	0	0	0	882	0					0	0	0	0	80 kB
apm_schema_name	0	0	0	0	0	0					0	0	0	0	8192 bytes
apm_string_data	0	0	0	0	0	0					0	0	0	0	8192 bytes
apm_user_auth	2	0	0	0	1	1					0	0	0	0	32 kB
apm_user_list	2	1	0	1	1	2					0	0	0	0	48 kB
apm_users_db_list	1	0	0	0	1	0					0	0	0	0	24 kB
apm_users_ip_list	1	0	0	0	1	0					0	0	0	0	24 kB
ora_alertlog_info	0	0	0	0	0	0					0	0	0	0	8192 bytes
ora_change_parameter_temp	0	0	0	0	0	0					0	0	0	0	16 kB
ora_db_os_name	0	0	0	0	0	0					0	0	0	0	8192 bytes
ora_db_parameter	0	0	0	0	0	0					0	0	0	0	16 kB
ora_event_name	0	0	0	0	0	0					0	0	0	0	8192 bytes
ora_last_summary	0	0	0	0	0	0					0	0	0	0	8192 bytes
ora_latch_name	0	0	0	0	0	0					0	0	0	0	8192 bytes
ora_lc_config	0	0	0	0	0	0					0	0	0	0	16 kB
ora_modified_parameter	0	0	0	0	0	0					0	0	0	0	16 kB
ora_plan_bind_sql	0	0	0	0	0	0					0	0	0	0	16 kB
ora_plan_sql	0	0	0	0	0	0					0	0	0	0	8192 bytes

Retrieving details on tables... Done.

You can specify the tablespace that you created in the table individually.

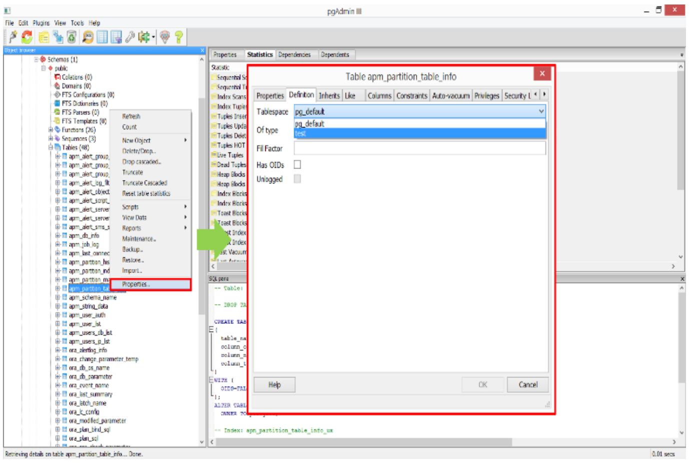


Table apm_partition_table_info

Definition

Tablespace: pg_default

- pg_default
- test

Of type

Fill Factor

Has OIDs ☐

Unlogged ☐

Retrieving details on table apm_partition_table_info... Done.

Note. Data storage cycle can be changed in MaxGauge for Java configuration. Please refer to “MaxGauge for Java Configuration Guide” for more detail.

3.3. Unix/Linux environment

3.3.1. Advance Preparation

Java (JDK 1.8 or higher)
Java is installed in the same server with Data Gatherer and Platfrom_JS.

3.3.2. Installation Procedure (Manual)

Manual installation is recommended since Automatic installation through MaxGauge for Java Unix/Linux installer is flexible according to customer's system environment (CDE), and has low utilization.

PostgreSQL Manual installation

In this Install Guide section, it mainly explains about PostgreSQL Database installation. Please refer to Windows Manual installation content which is similar. Please refer to PostgreSQL's official Install Guide for detail of Database installation.

Creating Repository User and authorization setting
Run psql to create Repository user and database.
(Run ./psql in installed folder/bin)

Performing example

```
Psql postgres


Postgres=#
CREATE USER MaxGauge for Java PASSWORD 'MaxGauge for Java';
ALTER USER MaxGauge for Java WITH SUPERUSER;
ALTER USER MaxGauge for Java WITH CREATEROLE;
ALTER USER MaxGauge for Java WITH REPLCATION;
ALTER UAER MaxGauge for Java WITH VALID UNTL 'infinity


Postgres=# \du
        List of roles
Role name |        Attributes                                         | Member of
----------------+-----------------------------------------------------------------+----------------
MaxGauge for Java    | Superuser, Create role, Create DB, Replication + | {}
                | Password valid until infinity                            |
Postgres      | Superuser, Create role, Create DB, Replication    | {}
```

Creating tablespace

Performing example

```
Psql template1


Template1=#
```

```
CREATE TABLESPACE MaxGauge for Java OWNER MaxGauge for Java
LOCATION 'app/postgresql/pgsql/data/pg_tblspc';

CREATE DATABASE MaxGauge for Java
WITH OWNER = MaxGauge for Java
ENCODING = 'UTF8'
TEMPLATE = template0
TABLESPACE = MaxGauge for Java
LC_COLLATE = 'C'
LC_CTYPE = 'C'
CONNECTION LIMIT = -1;

template1=# \l
     List of databases
   Name      |   Owner     | Encodiong   |   Collate     |   Ctype      |     Access authority
------------------- + ---------------- + ----------------- + --------------- + --------------- + -------------------------
Intermasx      | MaxGauge for Java   | UTF8         | C              | C            |
Postgres        | postgres   | UTF8          | ko_KR.utf8   | ko_KR.utf8   |
template0      | postgres   | UTF8          | ko_KR.utf8   | ko_KR.utf8   | =c/postgres              +
               |            |               |              |              | postgres=CTc/postgres
template1      | postgres    | UTF8        | ko_KR.utf8     | ko_KR.utf8   | =c/postgres              +
             |            |               |              |              | postgres=CTc/postgres
(4 rows)

template1=# \db
                          List of tablespaces
    Name      |   Owner     |                    Location
------------+----------+--------------------------------------
 MaxGauge for Java     | MaxGauge for Java | /app/postgresql/pgsql/data/pg_tblspc
 pg_default | postgres |
 pg_global    | postgres |
(3 rows)
```

Oracle Manual installation

In this Install Guide section, it mainly explains about Oracle Database installation. We recommend installing Oracle Database by referring to Oracle's official Install Guide.

Creating Repository User and Database Setting
Run SQl*Plus to create the Repository User and Database in Oracle.

Creating tablespace
Create a tablespace which will be used in MaxGauge for Java.

Performing example

```
SQL>create tablespace [tablespace_name] datafile '위치' size[size]
SQL>extent management local
SQL>segment space management auto;
```

Creating user
Create MaxGauge for Java User and authorize.

Performing example

```
# By sys or dba User
SQL> create user [user_name] identified by [password] default tablespace [tablespace_name] temporary tablespace temp;
SQL>GRANT RESOURCE TO MaxGauge for Java;
SQL>GRANT CONNECT TO MaxGauge for Java;
SQL>GRANT CREATE SESSION TO MaxGauge for Java;
SQL>GRANT CREATE DATABASE LINK TO MaxGauge for Java;
SQL>GRANT SELECT_CATALOG_ROLE TO MaxGauge for Java;
SQL>GRANT SELECT ANY TABLE TO MaxGauge for Java;
SQL>GRANT EXECUTE ON SYS.DBMS_SESSION TO MaxGauge for Java;
SQL>GRANT EXECUTE ON SYS.DBMS_SYSTEM TO MaxGauge for Java;
SQL>GRANT EXECUTE ON DBMS_LOCK TO MaxGauge for Java;
SQL>GRANT ALTER SESSION TO MaxGauge for Java;
SQL>GRANT ALTER SYSTEM TO MaxGauge for Java;
SQL>GRANT SELECT ANY DICTIONARY TO MaxGauge for Java;
SQL>GRANT CREATE VIEW TO MaxGauge for Java;
SQL>GRANT CREATE SEQUENCE TO MaxGauge for Java;
SQL>GRANT EXECUTE ON CTXSYS.CTX_DDL TO MaxGauge for Java;
SQL>GRANT SELECT ON DBA_TAB_PARTITIONS TO MaxGauge for Java;
```

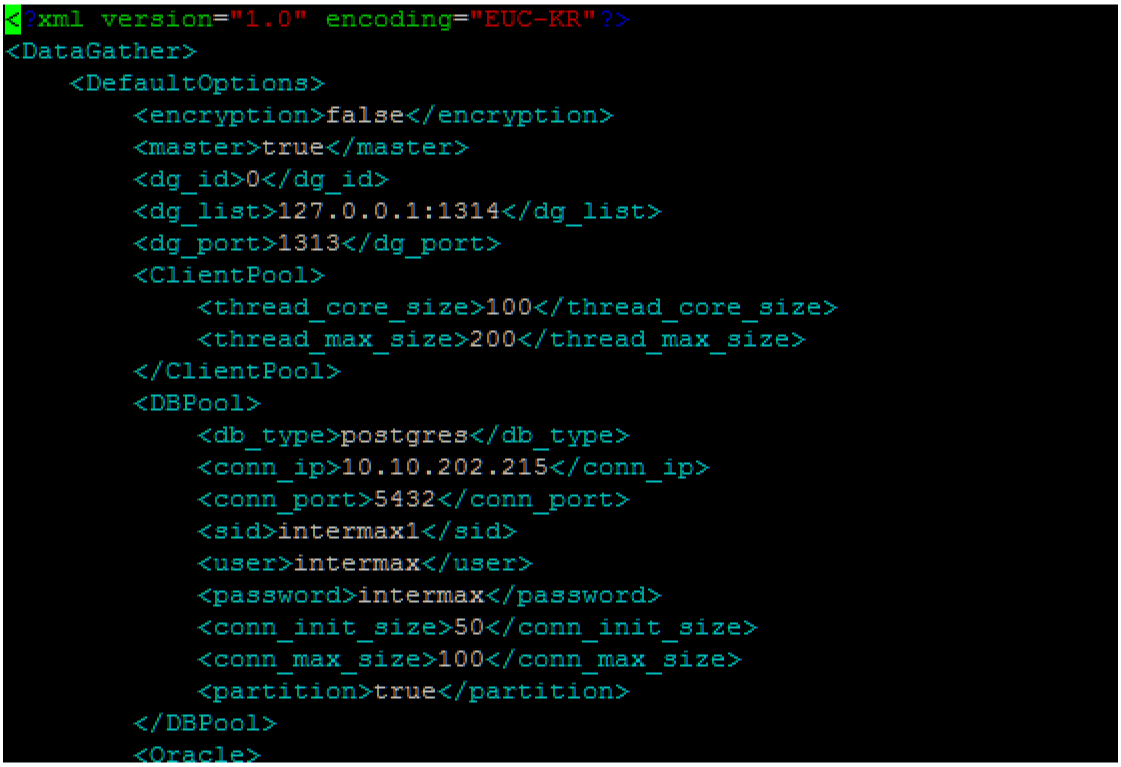
Data Gatherer Manual installation

Extract MaxGauge for Java_DG_YYMMDD.tar.

Performing example

```
$ tar –xvf MaxGauge for Java_DG_YYMMDD.tar
```

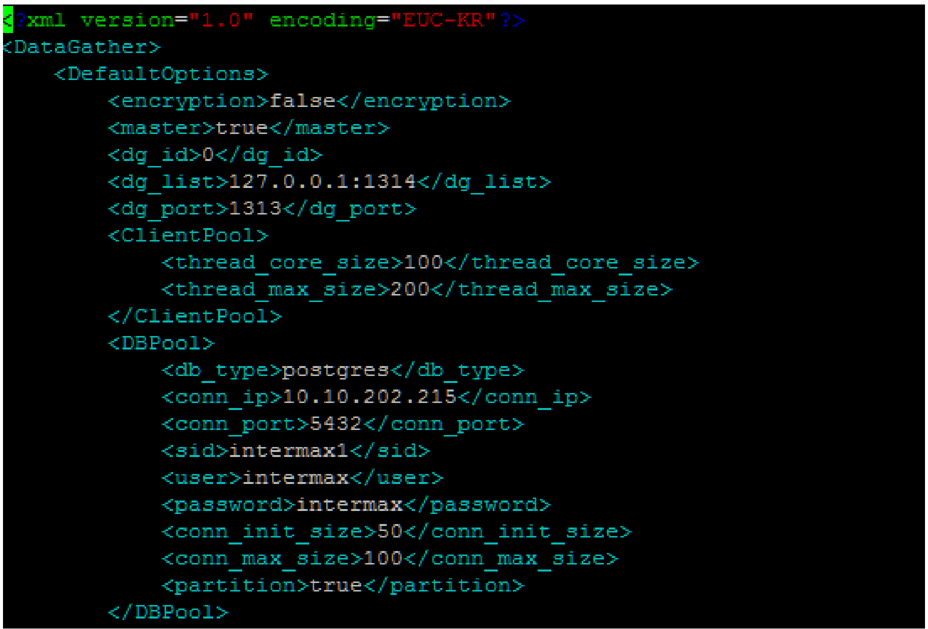
Write DGServer.xml in DGServer_M/conf folder.



```
<?xml version="1.0" encoding="EUC-KR"?>
<DataGather>
    <DefaultOptions>
        <encryption>false</encryption>
        <master>true</master>
        <dg_id>0</dg_id>
        <dg_list>127.0.0.1:1314</dg_list>
        <dg_port>1313</dg_port>
        <ClientPool>
            <thread_core_size>100</thread_core_size>
            <thread_max_size>200</thread_max_size>
        </ClientPool>
        <DBPool>
            <db_type>postgres</db_type>
            <conn_ip>10.10.202.215</conn_ip>
            <conn_port>5432</conn_port>
            <sid>intermax1</sid>
            <user>intermax</user>
            <password>intermax</password>
            <conn_init_size>50</conn_init_size>
            <conn_max_size>100</conn_max_size>
            <partition>true</partition>
        </DBPool>
        <Oracle>
```

Parameter Name	DESCRIPTION
master	Set Master option ● true in case of Master Data Gatherer
dg_id	IDSetting ● 0 in case of Master Data Gatherer
dg_port	Communication Port of Master Data Gatherer ● 1313 is recommended for Master Port
dg_list	Enter IP : Port of Slave Data Gatherer belonging to this Master Data Gatherer, separating with ",". ● e.g.) 127.0.0.1:1314,127.0.0.1:1315, ...
db_type	Repository Database type setting ● postgres in case of PostgreSQL ● oracle in case of Oracle
conn_ip	Repository database IP setting to connect to JDBC
conn_port	Repository database Listener Port Setting to connect to JDBC ● The default value for PostgreSQL is 5432 ● The default value for Oracle is 1521
sid	Repository database name setting
user	Repository database User
password	Password of Repository database User

Write DGServer.xml in DGServer_S1/conf folder.



```
<?xml version="1.0" encoding="EUC-KR"?>
<DataGather>
    <DefaultOptions>
        <encryption>false</encryption>
        <master>true</master>
        <dg_id>0</dg_id>
        <dg_list>127.0.0.1:1314</dg_list>
        <dg_port>1313</dg_port>
        <ClientPool>
            <thread_core_size>100</thread_core_size>
            <thread_max_size>200</thread_max_size>
        </ClientPool>
        <DBPool>
            <db_type>postgres</db_type>
            <conn_ip>10.10.202.215</conn_ip>
            <conn_port>5432</conn_port>
            <sid>intermax1</sid>
            <user>intermax</user>
            <password>intermax</password>
            <conn_init_size>50</conn_init_size>
            <conn_max_size>100</conn_max_size>
            <partition>true</partition>
        </DBPool>
```

Parameter Name	DESCRIPTION
master	Set Master option ● False in case of Slave Data Gatherer
dg_id	ID Setting ● 1 or higher in case of Slave Data Gatherer

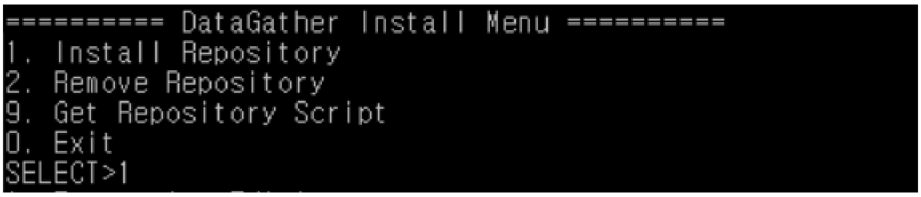
dg_port	Communication Port of Slave Data Gatherer ● 1314 is recommended for Slave port
db_type	Repository Database type setting ● postgres in case of PostgreSQL
conn_ip	Repository database IP setting to connect to JDBC
conn_port	Repository database Listener Port Setting to connect to JDBC ● The default value for PostgreSQL is 5432
sid	Repository database name setting
user	Repository database User
password	Password of Repository database User

When setting of Slave and Master is completed, Repository for MaxGauge for Java should be configured in Repository. Run the following command for configuration.

```
> cd DataGather_M/bin
> java -jar DGServer.jar install
```

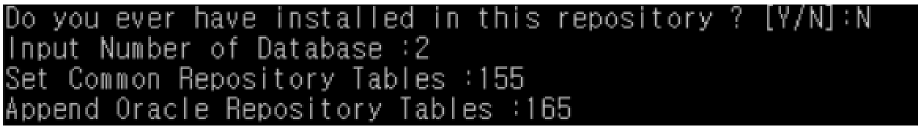
The Install Menu appears as shown below, and the Repository starts the configuration operation on the database.

1. Select install Respository.



```
========== DataGather Install Menu ==========
1. Install Repository
2. Remove Repository
9. Get Repository Script
0. Exit
SELECT>1
```

Enter "N" in case of initial installation, and enter "Y" in case of reinstallation to keep existing environmentSetting information

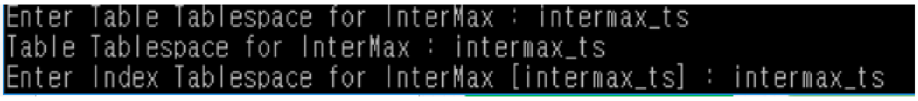


```
Do you ever have installed in this repository ? [Y/N]:N
Input Number of Database :2
Set Common Repository Tables :155
Append Oracle Repository Tables :165
```

Input Number of Databsse: 2 means the number of DB Instance to be monitored of the client. Enter the number of the object to be monitored through imxdbm module (it is not necessary to enter the value when imxdbm module is not installed).

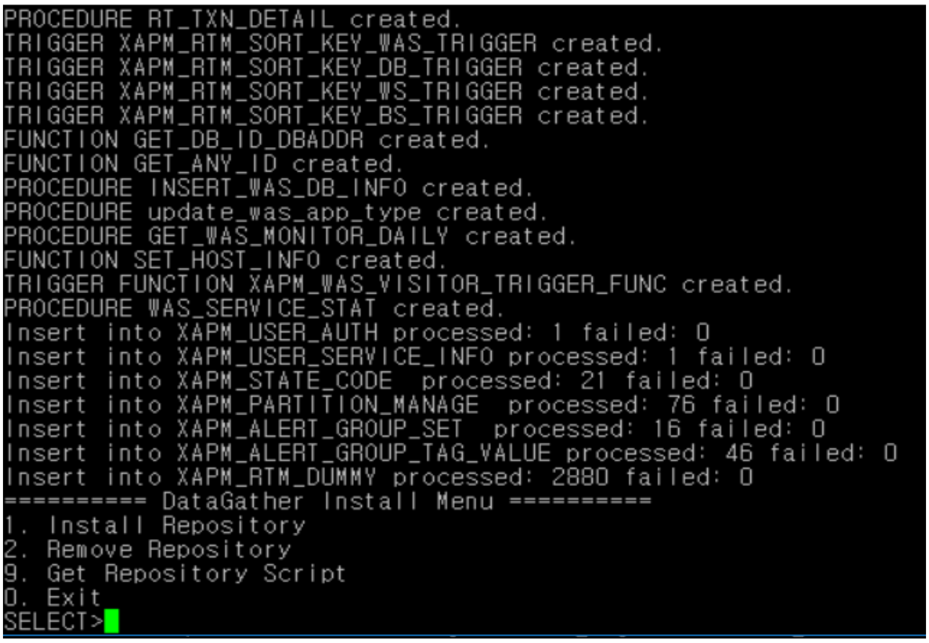
The reason why the corresponding value is because it is needed to be used as a reference value for creating a sub-partition when a partition table is saved in performance data collected through imxdbm. (If you do not enter, the default partition table will be created only)

Enter Table Tablespace for MaxGauge for Java : MaxGauge for Java_ts (Enter created tablespace name)



```
Enter Table Tablespace for InterMax : intermax_ts
Table Tablespace for InterMax : intermax_ts
Enter Index Tablespace for InterMax [intermax_ts] : intermax_ts
```

Enter Index Tablespace for MaxGauge for Java [MaxGauge for Java_ts] : MaxGauge for Java_ts (If you want to separate the index tablespace, enter the tablespace name. If you are using the default tablespace, you can do enter the same value.)



```
PROCEDURE RT_TXN_DETAIL created.
TRIGGER XAPM_RTM_SORT_KEY_WAS_TRIGGER created.
TRIGGER XAPM_RTM_SORT_KEY_DB_TRIGGER created.
TRIGGER XAPM_RTM_SORT_KEY_WS_TRIGGER created.
TRIGGER XAPM_RTM_SORT_KEY_BS_TRIGGER created.
FUNCTION GET_DB_ID_DBADDR created.
FUNCTION GET_ANY_ID created.
PROCEDURE INSERT_WAS_DB_INFO created.
PROCEDURE update_was_app_type created.
PROCEDURE GET_WAS_MONITOR_DAILY created.
FUNCTION SET_HOST_INFO created.
TRIGGER FUNCTION XAPM_WAS_VISITOR_TRIGGER_FUNC created.
PROCEDURE WAS_SERVICE_STAT created.
Insert into XAPM_USER_AUTH processed: 1 failed: 0
Insert into XAPM_USER_SERVICE_INFO processed: 1 failed: 0
Insert into XAPM_STATE_CODE  processed: 21 failed: 0
Insert into XAPM_PARTITION_MANAGE  processed: 76 failed: 0
Insert into XAPM_ALERT_GROUP_SET  processed: 16 failed: 0
Insert into XAPM_ALERT_GROUP_TAG_VALUE processed: 46 failed: 0
Insert into XAPM_RTM_DUMMY processed: 2880 failed: 0
========== DataGather Install Menu ==========
1. Install Repository
2. Remove Repository
9. Get Repository Script
0. Exit
SELECT>
```

When all the inputs are completed, the related table creation and configuration operation is completed and the message is displayed as described above.

Once the repository configuration is completed, enter 0 to exit.

Try booting from the $MAXGAUGE FOR JAVA_HOME/Bin folder, Data Gather is started.

Platform.JS Manual installation

Platform.JS installation method is as follows.
Extract MaxGauge for Java_WEB_YYMMDD.zip.
Run Configuration.sh.

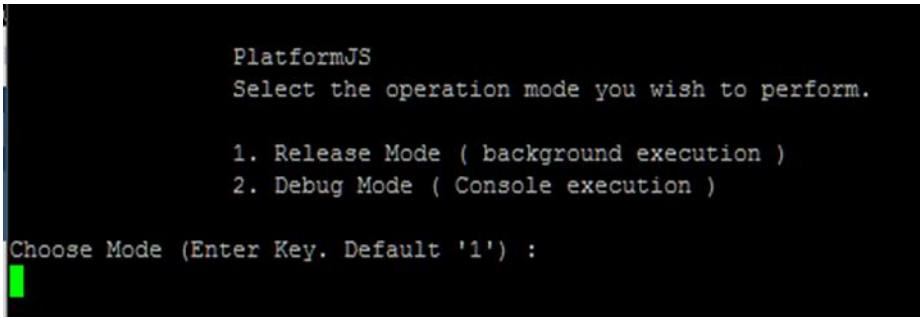
Performing example

```
================================================================================
                                    PlatformJS Configuration
================================================================================
1 : Configurations
2: SSL Settiongs ( Current state : Disabled )
0 : Exit

Select Number : 1

Step 1. DataGather IP [ Default : 127.0.0.1 ] ( BACK : 0 )
Input Text : 10.10.10.100

Step 2. DataGather Port [ Default : 1313 ] ( BACK : 0 )
Input Text : 1313

Step 3. Repository DB Type [ Default (1)PostgreSQL ] ( BACK : 0 )
1 PostgreSQL
2 Oracle
```

```
Select Number : 1

Step 4. Database Server [ Default : 127.0.0.1 ] ( BACK : 0 )
Input Text : 10.10.10.100

Step 5. Database Port [ Default : 5432 ] ( BACK : 0 )
Input Text : 5432

Step 6. Database Name [ Default : MaxGauge for Java ] ( BACK : 0 )
Input Text : MaxGauge for Java

Step 7. Database User [ Default : MaxGauge for Java ] ( BACK : 0 )
Input Text : MaxGauge for Java

Step 8. Database Password [ Default : MaxGauge for Java ] ( BACK : 0 )
Input Text : MaxGauge for Java

Step 9. Service Port [ Default : 8082 ] ( BACK : 0 )
Input Text : 8899

Do you want to save ? 1.Save 2.Cancel [ Default (1)Save ]
Select Number : 1
```

When the environment configuration is completed, the executable file is added to the same folder.

1. Once you run Platformjs.start.sh, PlatformJS Startup option is displayed.
   - 1 If selected, the service will be started by default as a back-ground service with log output of the operational level (The default selection is 1)
   - 2 If selected, the service will be started with the debug level log output as console mode.



```
                PlatformJS
                Select the operation mode you wish to perform.

                1. Release Mode ( background execution )
                2. Debug Mode ( Console execution )

Choose Mode (Enter Key. Default '1') :
```

3.3.3. Starting method

MaxGauge for Java PlatformJS Startup

It starts once you run PlatformJS.start.sh and select one option displayed.

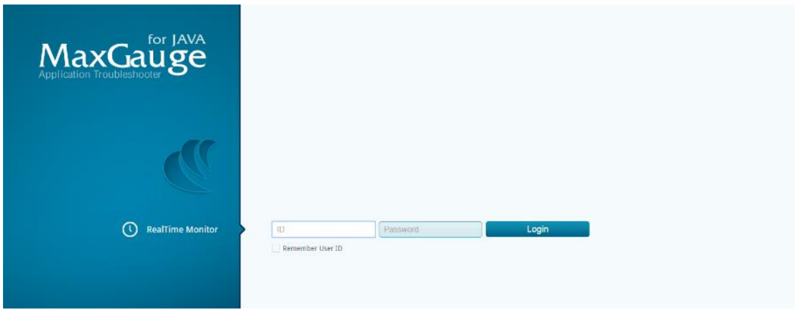
Option	Description
Release Mode	● Run PlatformJS as Background mode

Debug Mode	● Run PlatformJS as Debug mode

MaxGauge for Java Setting and confirmation method

To use MaxGauge for Java, you need a chrome browser (We will skip Chrome browser installation - the latest version is recommended) and proceed through the browser in the following steps.

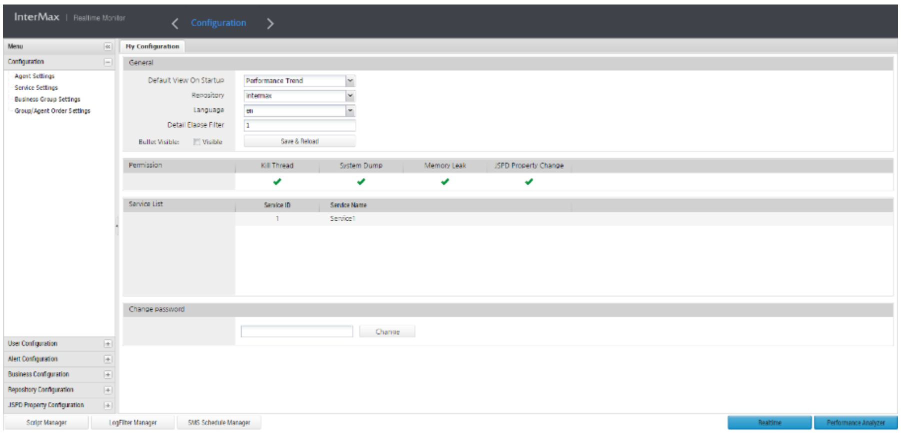
Connect to http://127.0.0.1:8080/MaxGauge for Java/Config on Chrome Web Browser.



Note. IP and Port enter the host IP and service port where Platform.JS is installed.

Connect as a default account. (ID: MaxGauge for Java / PW:manager)

Set Configuration. You must configure at least one **Service Group**, and authorize the connected user with **Service Authority.**



General

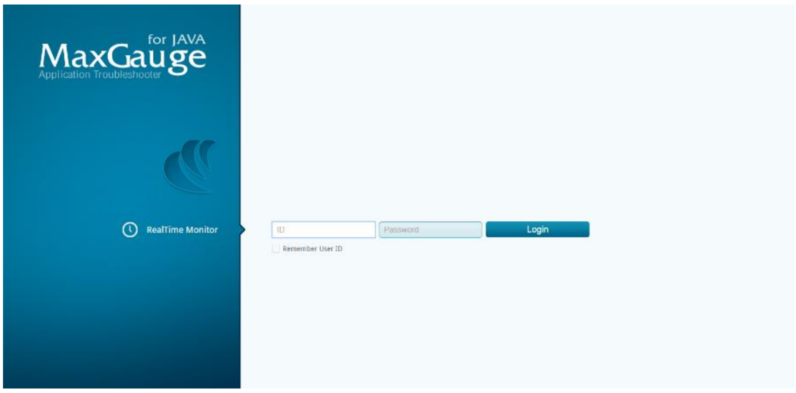
Default View On Startup: Performance Trend
Repository: intermax
Language: en
Detail Elapse Filter: 1
Bullet Visible: □ Visible

Permission	Kill Thread	System Dump	Memory Leak	JSPD Property Change
	✓	✓	✓	✓

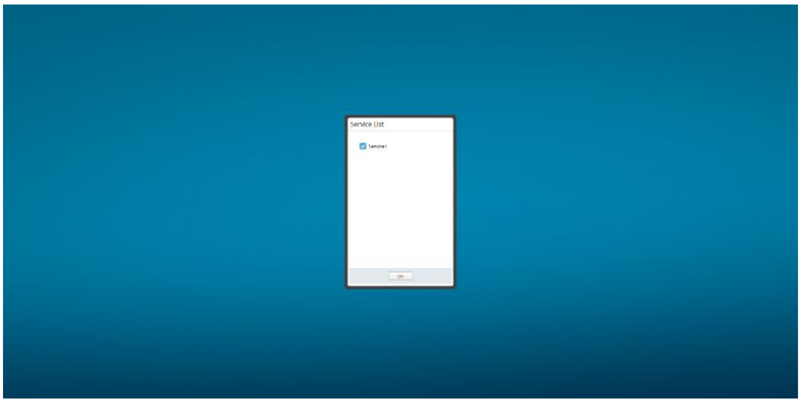
Service List	Service ID	Service Name
	1	Service1

Note. Please refer to "MaxGauge for Java Configuration Guide" for more detail about MaxGauge for Java Configuration setting.

In Chrome web browser, connect to http://127.0.0.1:8080/MaxGauge for Java/RTM, enter ID/Password and login. (ID: MaxGauge for Java / PW: manager)



When the **service group** list that is set in the configuration process is displayed, select the **Service Group** to monitor and click OK to load the monitoring view.



4. Appendix

4.1 MaxGauge for Java Option Setting by WAS vendor

As described in Chapter 2, the MaxGauge for Java option differs depending on the Java version.

Java Version 1.7 or higher

```
-noverify -Djspd.wasid={WAS_ID} -javaagent:%JSPD_HOME%\lib\jspd.jar
```

Java Version 1.5 or higher

```
-Djspd.wasid={WAS_ID} -javaagent:%JSPD_HOME%\lib\jspd.jar
```

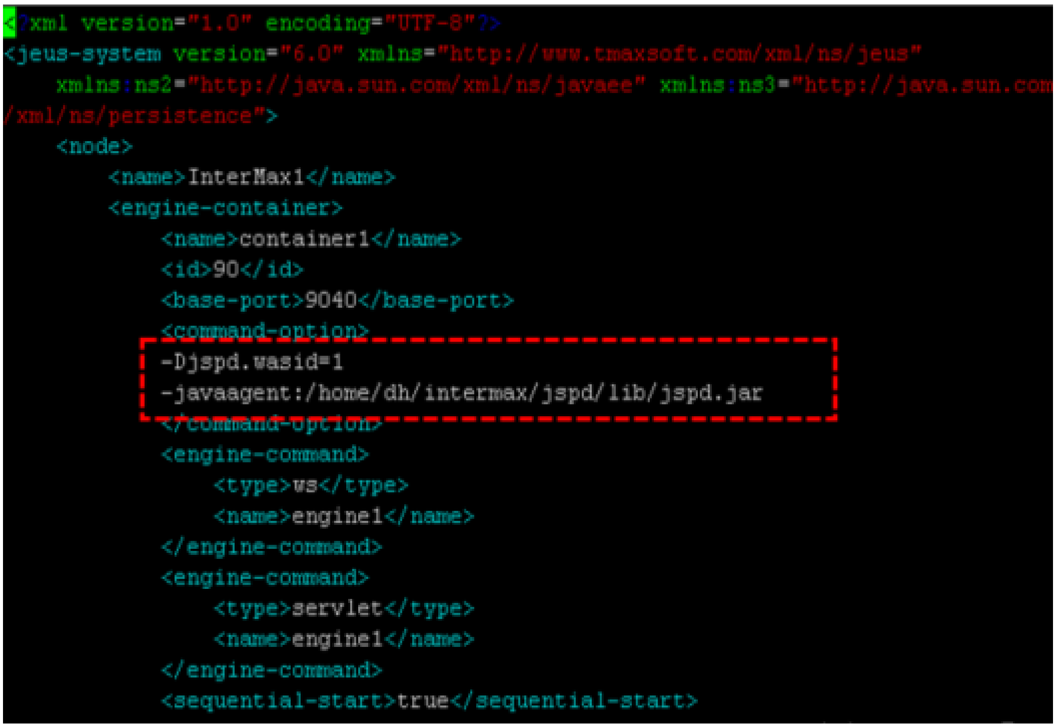
Java Version 1.4

```
-Djspd.wasid={WAS_ID} -Xbootclasspath/p:%JSPD_HOME%\lib\jspd.jar
```

Note. For each WAS-specific MaxGauge for Java JSDP option setting, see the following chapters.

4.1.1. JEUS MaxGauge for Java Option Setting

Apply the MaxGauge for Java option to $JEUS_HOME/config/`hostname`/JEUSMain.xml. Insert between <command-option></command-option> tags. If the existing option is applied, insert in after the existing option.

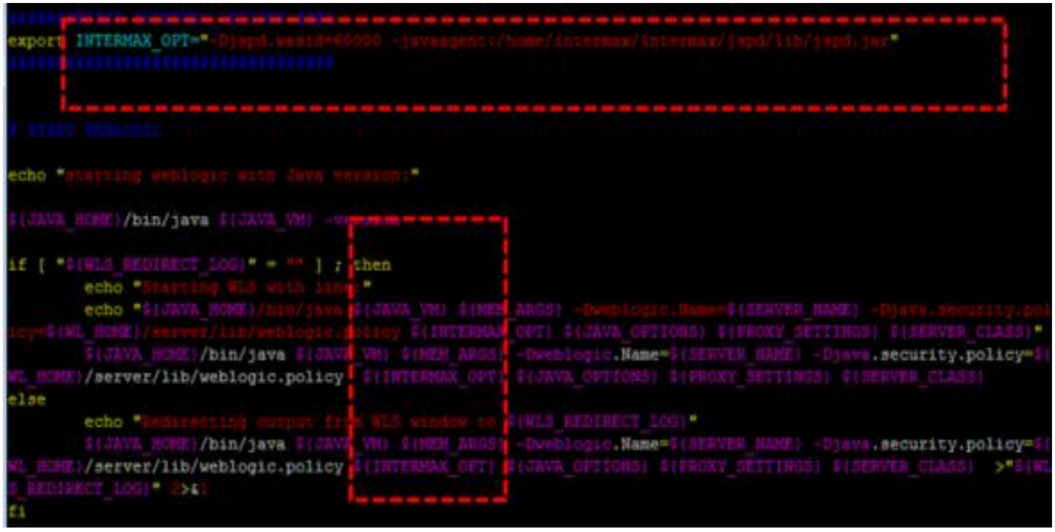


```
<?xml version="1.0" encoding="UTF-8"?>
<jeus-system version="6.0" xmlns="http://www.tmaxsoft.com/xml/ns/jeus"
    xmlns:ns2="http://java.sun.com/xml/ns/javaee" xmlns:ns3="http://java.sun.com
/xml/ns/persistence">
    <node>
        <name>InterMax1</name>
        <engine-container>
            <name>container1</name>
            <id>90</id>
            <base-port>9040</base-port>
            <command-option>
            -Djspd.wasid=1
            -javaagent:/home/dh/intermax/jspd/lib/jspd.jar
            </command-option>
            <engine-command>
                <type>ws</type>
                <name>engine1</name>
            </engine-command>
            <engine-command>
                <type>servlet</type>
                <name>engine1</name>
            </engine-command>
            <sequential-start>true</sequential-start>
```

Note. Perform a backup before modifying the script so that you can restore it when problem occurs.

4.1.2. WebLogic MaxGauge for Java Option Setting

Apply the MaxGauge for Java option to {Domain directory(same as $DOMAIN_HOME)}/bin/StartWeblogic.sh.
Export MAXGAUGE FOR JAVA_OPTION and input MAXGAUGE FOR JAVA_OPTION in the JVM run script

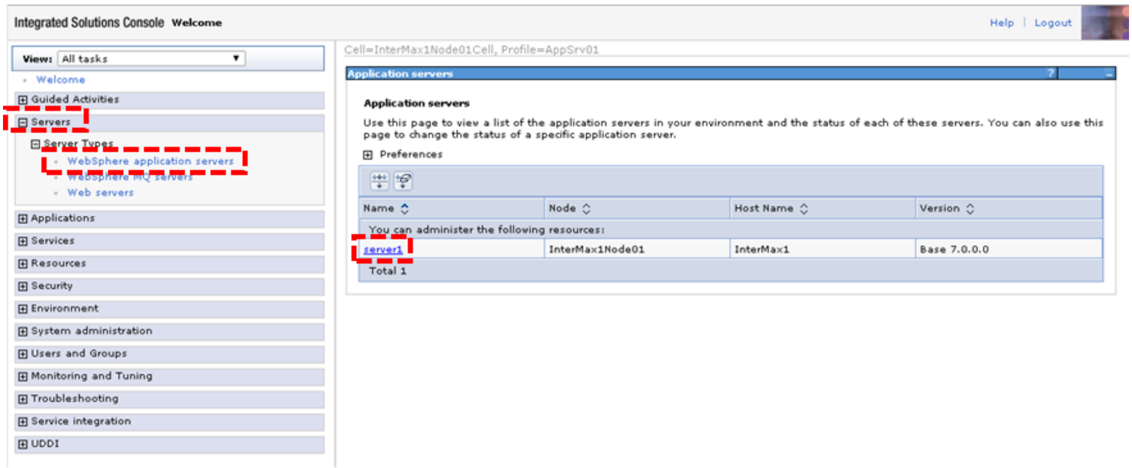


```
##############################
export INTERMAX_OPT="-Djspd.wasid=40000 -javaagent:/home/intermax/intermax/jspd/lib/jspd.jar"
##############################

# START WEBLOGIC

echo "starting weblogic with Java version:"

${JAVA_HOME}/bin/java ${JAVA_VM} -version

if [ "${WLS_REDIRECT_LOG}" = "" ] ; then
        echo "Starting WLS with line:"
        echo "${JAVA_HOME}/bin/java ${JAVA_VM} ${MEM_ARGS} -Dweblogic.Name=${SERVER_NAME} -Djava.security.pol
icy=${WL_HOME}/server/lib/weblogic.policy ${INTERMAX_OPT} ${JAVA_OPTIONS} ${PROXY_SETTINGS} ${SERVER_CLASS}"
        ${JAVA_HOME}/bin/java ${JAVA_VM} ${MEM_ARGS} -Dweblogic.Name=${SERVER_NAME} -Djava.security.policy=${
WL_HOME}/server/lib/weblogic.policy ${INTERMAX_OPT} ${JAVA_OPTIONS} ${PROXY_SETTINGS} ${SERVER_CLASS}
else
        echo "Redirecting output from WLS window to ${WLS_REDIRECT_LOG}"
        ${JAVA_HOME}/bin/java ${JAVA_VM} ${MEM_ARGS} -Dweblogic.Name=${SERVER_NAME} -Djava.security.policy=${
WL_HOME}/server/lib/weblogic.policy ${INTERMAX_OPT} ${JAVA_OPTIONS} ${PROXY_SETTINGS} ${SERVER_CLASS}  >"${WL
S_REDIRECT_LOG}" 2>&1
fi
```

Note1. Perform a backup before modifying the script so that you can restore it when problem occurs.
Note2. Depending on the vendor version or configured structure, the position to input MaxGauge for Java Option may vary slightly.

4.1.3. WebSphere MaxGauge for Java Option Setting

Connect WebSphere Web console.



Cell=InterMax1Node01Cell, Profile=AppSrv01

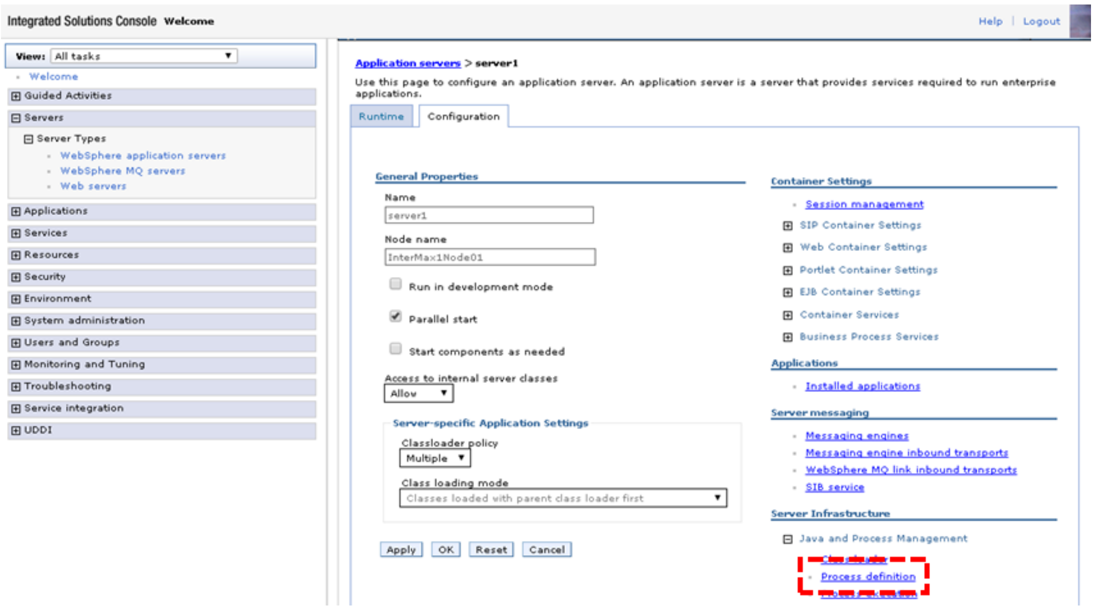
Application servers

Use this page to view a list of the application servers in your environment and the status of each of these servers. You can also use this page to change the status of a specific application server.

Name	Node	Host Name	Version
You can administer the following resources:			
server1	InterMax1Node01	InterMax1	Base 7.0.0.0
Total 1			

Server -> Server Types -> WebSphere application server -> Click "server1"

Click Process Definition



Application servers > server1

Use this page to configure an application server. An application server is a server that provides services required to run enterprise applications.

General Properties

Name: server1

Node name: InterMax1Node01

☐ Run in development mode

☑ Parallel start

☐ Start components as needed

Access to internal server classes: Allow

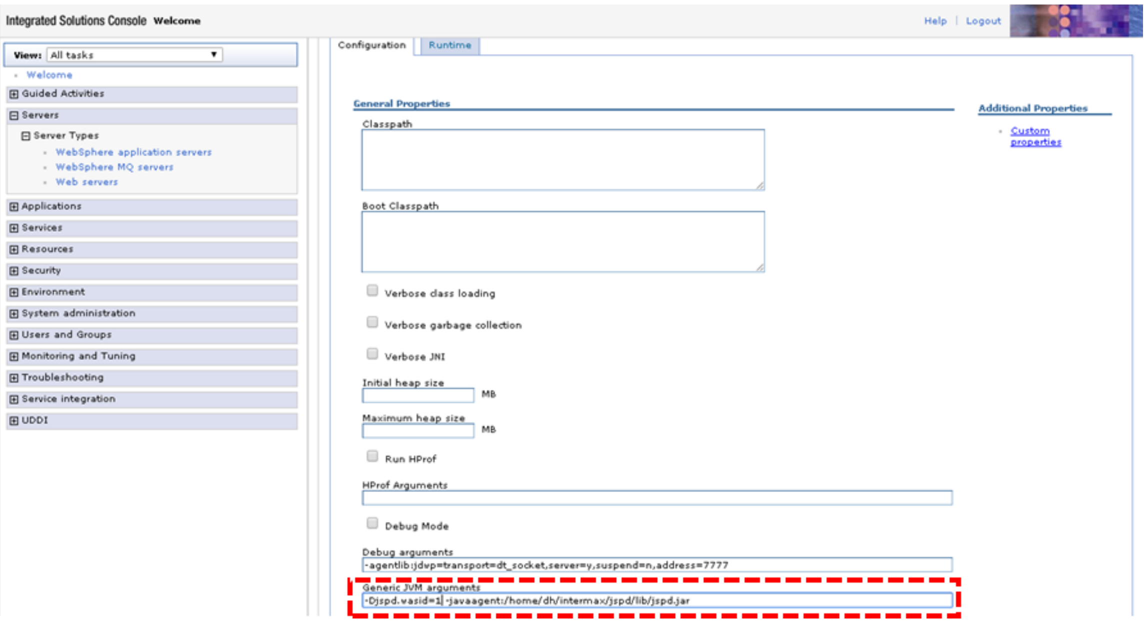
Server-specific Application Settings

Classloader policy: Multiple

Class loading mode: Classes loaded with parent class loader first

Click Java Virtual Machine

Apply MaxGauge for Java option in Generic JVM arguments section



General Properties

Classpath

Boot Classpath

□ Verbose class loading

□ Verbose garbage collection

□ Verbose JNI

Initial heap size MB

Maximum heap size MB

□ Run HProf

HProf Arguments

□ Debug Mode

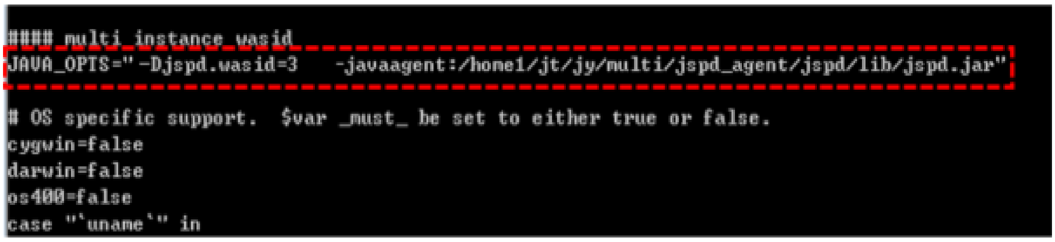
Debug arguments
-agentlib:jdwp=transport=dt_socket,server=y,suspend=n,address=7777

Generic JVM arguments
-Djspd.wasid=1 -javaagent:/home/dh/intermax/jspd/lib/jspd.jar

Note. Depending on the vendor version or configured structure, the position to input MaxGauge for Java Option may vary slightly.

4.1.4. Tomcat MaxGauge for Java Option Setting

Apply MaxGauge for Java Option in $CATALINA_HOME/bin/catalina.sh.
JAVA_OPTS = "$JAVA_OPTS:$MAXGAUGE FOR JAVA_OPTION"

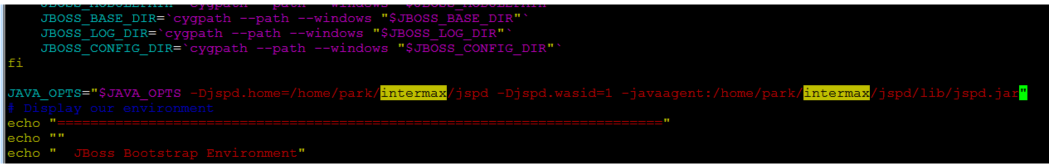


```
#### multi instance wasid
JAVA_OPTS=" -Djspd.wasid=3   -javaagent:/home1/jt/jy/multi/jspd_agent/jspd/lib/jspd.jar"

# OS specific support.  $var _must_ be set to either true or false.
cygwin=false
darwin=false
os400=false
case "`uname`" in
```

Note1. Perform a backup before modifying the script so that you can restore it when problem occurs.
Note2. Depending on the vendor version or configured structure, the position to input MaxGauge for Java Option may vary slightly.

4.1.5. JBoss MaxGauge for Java Option Setting

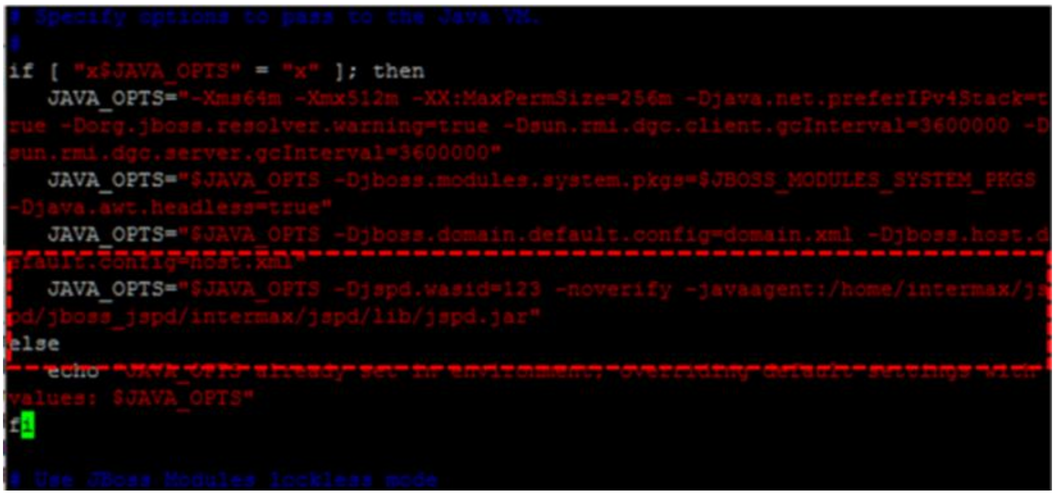
Depending on the operation mode, the position of MaxGauge for Java Option to insert is different.



```
    JBOSS_BASE_DIR=`cygpath --path --windows "$JBOSS_BASE_DIR"`
    JBOSS_LOG_DIR=`cygpath --path --windows "$JBOSS_LOG_DIR"`
    JBOSS_CONFIG_DIR=`cygpath --path --windows "$JBOSS_CONFIG_DIR"`
fi

JAVA_OPTS="$JAVA_OPTS -Djspd.home=/home/park/intermax/jspd -Djspd.wasid=1 -javaagent:/home/park/intermax/jspd/lib/jspd.jar"
# Display our environment
echo "========================================================================="
echo ""
echo "  JBoss Bootstrap Environment"
```

Apply MaxGauge for Java Option in $JBOSS_HOME/bin/standalone.sh for Standalone mode.
Apply MaxGauge for Java Option in $JBOSS_HOME/domain/configuration/host.xml for Multiple Instances mode.

Note. In case of JBoss7 which is OSGI class loader structure, it should be additionally applied in standalone.conf or domain.conf as follows.



```
# Specify options to pass to the Java VM.
#
if [ "x$JAVA_OPTS" = "x" ]; then
   JAVA_OPTS="-Xms64m -Xmx512m -XX:MaxPermSize=256m -Djava.net.preferIPv4Stack=t
rue -Dorg.jboss.resolver.warning=true -Dsun.rmi.dgc.client.gcInterval=3600000 -D
sun.rmi.dgc.server.gcInterval=3600000"
   JAVA_OPTS="$JAVA_OPTS -Djboss.modules.system.pkgs=$JBOSS_MODULES_SYSTEM_PKGS
-Djava.awt.headless=true"
   JAVA_OPTS="$JAVA_OPTS -Djboss.domain.default.config=domain.xml -Djboss.host.d
efault.config=host.xml"
   JAVA_OPTS="$JAVA_OPTS -Djspd.wasid=123 -noverify -javaagent:/home/intermax/js
pd/jboss_jspd/intermax/jspd/lib/jspd.jar"
else
   echo "JAVA_OPTS already set in environment; overriding default settings with
values: $JAVA_OPTS"
fi

# Use JBoss Modules lockless mode
```

Note1. Perform a backup before modifying the script so that you can restore it when problem occurs.
Note2. Depending on the vendor version or configured structure, the position to input MaxGauge for Java Option may vary slightly.

4.1.6. Resin MaxGauge for Java Option Setting

Depending on the Resion version, the position to apply MaxGauge for Java Option is different. In Resin 2.x/3.0.x, MaxGauge for Java Option is input on JAVA_OPTIONS relating tag on $RESIN_HOME/bin/httpd.sh, prefixed with –J.

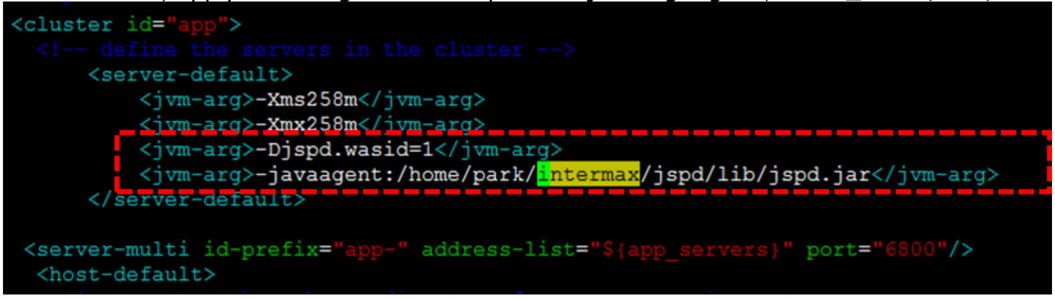
For example, input -Djspd.wasid={WAS ID} -J-javaagent:$JSPD_HOME/lib/jspd.jar.

In Resin 3.1.x, apply MaxGauge for Java option on jvm-arg tag in Server tag in $RESIN_HOME/conf/resion.conf.

For example, write <jvm-arg>Djspd.wasid={WAS ID}</jvm-arg>

<jvm-arg>-javaagent:$JSPD_HOME/lib\/spd.jar</jvm-arg>

In Resin 4.xm, apply MaxGauge for Java Option on jvm-arg tag of $RESIN_HOME/conf/resion.xml.



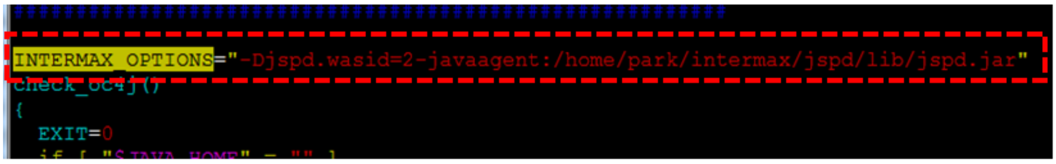
```
<cluster id="app">
  <!-- define the servers in the cluster -->
      <server-default>
          <jvm-arg>-Xms258m</jvm-arg>
          <jvm-arg>-Xmx258m</jvm-arg>
          <jvm-arg>-Djspd.wasid=1</jvm-arg>
          <jvm-arg>-javaagent:/home/park/intermax/jspd/lib/jspd.jar</jvm-arg>
      </server-default>

 <server-multi id-prefix="app-" address-list="${app_servers}" port="6800"/>
  <host-default>
```

Note1. Perform a backup before modifying the script so that you can restore it when problem occurs.
Note2. Depending on the vendor version or configured structure, the position to input MaxGauge for Java Option may vary slightly.

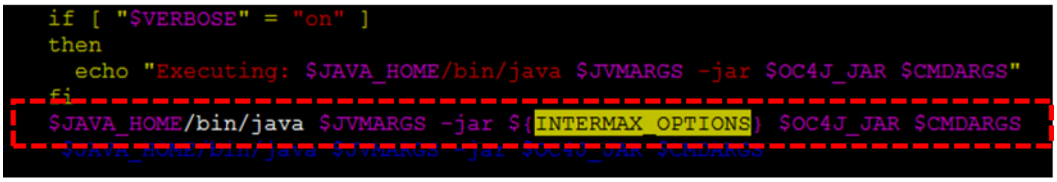
4.1.7. OC4J(Oracle Containers for J2EE) MaxGauge for Java

Option Setting

Depending on the operation method and the startup method, the position of MaxGauge for Java Option is changed.
The standalone method applies MaxGauge for Java Option to Startup script that starts up oc4j.jar.

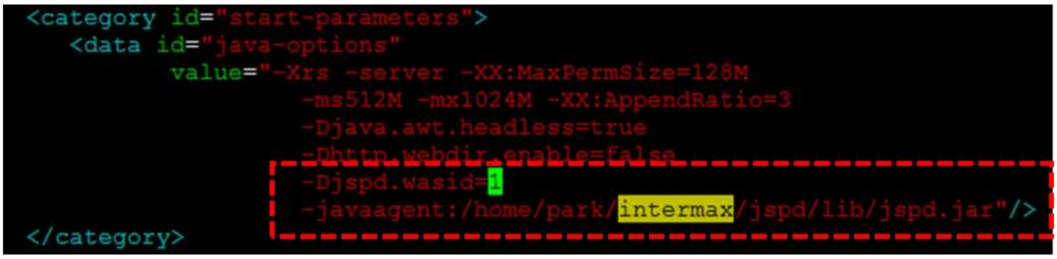


```
#################################################################
INTERMAX_OPTIONS="-Djspd.wasid=2-javaagent:/home/park/intermax/jspd/lib/jspd.jar"
check_oc4j()
{
  EXIT=0
  if [ "$JAVA_HOME" = "" ]
```



```
    if [ "$VERBOSE" = "on" ]
    then
      echo "Executing: $JAVA_HOME/bin/java $JVMARGS -jar $OC4J_JAR $CMDARGS"
    fi
    $JAVA_HOME/bin/java $JVMARGS -jar ${INTERMAX_OPTIONS} $OC4J_JAR $CMDARGS
     $JAVA_HOME/bin/java $JVMARGS -jar $OC4J_JAR $CMDARGS
```

The Multiple Instances method applies MaxGauge for Java Option to $OC4J_HOME/opmn/conf/opmn.xml <data id=”java-options” value=”   “> tag.

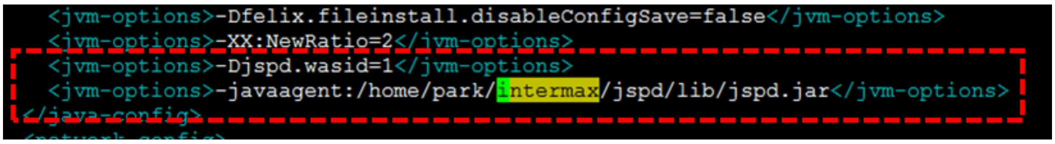


```
  <category id="start-parameters">
     <data id="java-options"
            value="-Xrs -server -XX:MaxPermSize=128M
                   -ms512M -mx1024M -XX:AppendRatio=3
                   -Djava.awt.headless=true
                   -Dhttp.webdir.enable=false
                   -Djspd.wasid=1
                   -javaagent:/home/park/intermax/jspd/lib/jspd.jar"/>
  </category>
```

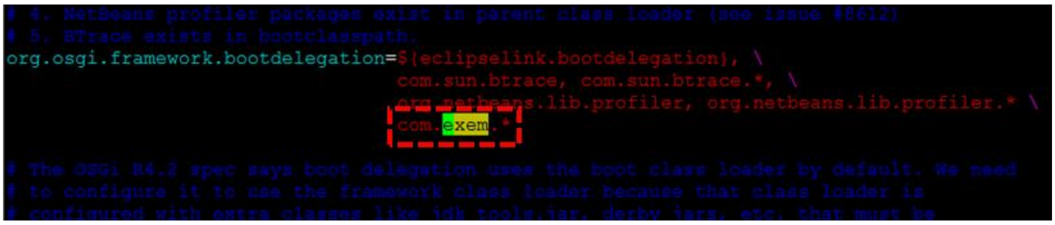
Note1. Perform a backup before modifying the script so that you can restore it when problem occurs.
Note2. Depending on the vendor version or configured structure, the position to input MaxGauge for Java Option may vary slightly.

4.1.8. GlassFish MaxGauge for Java Option Setting

Apply MaxGauge for Java Option to GlassFish Administration Console or GlassFish_HOME/domains/domain1/config/domain.xml.



```
   <jvm-options>-Dfelix.fileinstall.disableConfigSave=false</jvm-options>
   <jvm-options>-XX:NewRatio=2</jvm-options>
   <jvm-options>-Djspd.wasid=1</jvm-options>
   <jvm-options>-javaagent:/home/park/intermax/jspd/lib/jspd.jar</jvm-options>
 </java-config>
 <network-config>
```



```
# 4. NetBeans profiler packages exist in parent class loader (see issue #8612)
# 5. BTrace exists in bootclasspath.
org.osgi.framework.bootdelegation=${eclipselink.bootdelegation}, \
                                  com.sun.btrace, com.sun.btrace.*, \
                                  org.netbeans.lib.profiler, org.netbeans.lib.profiler.* \
                                  com.exem.*

# The OSGi R4.2 spec says boot delegation uses the boot class loader by default. We need
# to configure it to use the framework class loader because that class loader is
# configured with extra classes like jdk tools.jar, derby jars, etc. that must be
```

*In terms of GlassFish which is OSGI class loader structure, it should be added to osgi.properties as follows.

Note1. Perform a backup before modifying the script so that you can restore it when problem occurs.
Note2. Depending on the vendor version or configured structure, the position to input MaxGauge for Java Option may vary slightly.

Note. Perform a backup before modifying the script so that you can restore it when problem occurs.

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