OBDX Best Practices Release
21.1.1.0.0 and above
June 2021

ORACLE

FINANCIAL SERVICES

ORACLE

Table of Contents

ORACLE

1. Introduction

1.1 Purpose of this Document

The purpose of this document is to recommend the various jvm/application configurations on Oracle WebLogic

- OBDX Products 21.1.1.0.0 (and above)

- WebLogic Version 14.1.1.0.0

- JDK 1.8.0_281 or higher

ORACLE

2.   Tuning

2.1   <u>JVM Tuning</u>

This section of the document provides JVM optimization for OBDX Products. Refer to section. 2.3 for additional JVM arguments related to logging.

How to modify the JVM heap parameters?

To change the JVM heap parameters create a file setUserOverrides.sh under "$DOMAIN_HOME/bin".
Paste below contents of USER_MEM_ARGS variable accordingly to override the standard memory arguments passed to java for SUN JDK.
JVM memory arguments can be set as follows:

```
USER_MEM_ARGS="\
 -Xms16g \
 -Xmx16g \
 -Xmn12g"
```

Notes:

1) Take a backup of the files (if required) before modifying the same.

2) The default self-tuning thread pool max size of 400. Based on expected concurrency, the WebLogic self-tuning thread pool may be configured manually to a higher size, subject to available OS limit on processes and open files.

   For example:

   -Dweblogic.threadpool.MaxPoolSize=800

3) The default minimum size may also be set manually if a burst of requests is expected to be incoming. In absence of this flag, WebLogic tunes the thread pool according to the workload up to the default or set maximum thread pool size.

   For example:

   -Dweblogic.threadpool.MinPoolSize=400

ORACLE

OBDX Component minimum sizing

#	Description	Server Type	# of Servers	Core Count	RAM (GB)	Total Cores	Disk space (GB)
1	HTTP Server serving the user interface JavaScript application	Oracle HTTP Server	2	1	8	2	100
2	Application server serving REST interfaces and connecting to database and backend systems	WebLogic Server	2	4	64	8	256
3	Database server for configuration items and any local persistence	Oracle Database	2	2	16	4	1024
4	OBRH*	WebLogic Server	2	2	64	4	256
* Only in case of standalone products							

ORACLE

2.2 <u>Logging</u>

2.2.1 <u>HTTP logging</u>

1) OBDX Domain → Environment → Clusters → <ServerName> → Logging → HTTP → Uncheck the **Access Logs** Flag

2.2.2 <u>Configuring the OBDX services logging</u>

Refer OBDX Logging Configuration section in Installation Guide

ORACLE

2.3   <u>JDBC Parameters Tuning</u>

Below JDBC parameters needs to updated for all the Data sources

PARAMETER	VALUE	Navigate To
Connection Reserve time out	30	Connection Pool->Advanced
Test Frequency	60	Connection Pool->Advanced
Inactive connection time out	30	Connection Pool->Advanced
Initial Capacity	1	Connection Pool
Max capacity	Based on Site Requirement	Connection Pool
Shrink Frequency	900	Connection Pool->Advanced
Test Connection on Reserve	Checked	Connection Pool->Advanced
Statement Cache Size	50	Connection Pool

ORACLE

3.   High Availability / Load Balancing

High Availability Architecture:

To make the OBDX Product highly available we can have the product setup done across two availability zones (same datacenters). The second zone will be replica of first zone.

For High Availability and Load Balancing to work, below configurations are required:
1. Load Balancer must be configured for OHS OBDX & APIs layer (Managed server)

For WebLogic Load balancing, we recommend below software load balancer

1) Oracle HTTP Server
2) Apache
3) HAProxy (Only HAProxy Community Edition has been used in internal performance tests with OBDX product)

ORACLE

4. Frequently Asked Questions

4.2 Machine status is unreachable

If the machine status is unreachable, means that machine is not reachable and from console you cannot start/stop the managed servers.

In the console, navigate through Domain structure → Machines → machine1 →Monitoring → Node Manager Status will be **Unreachable**

To change the status, you need to start the node manager on that server. Refer to startnode manager section on steps to start the node manager.

4.3 How to restart node manager?

1) Change directory to $DOMAIN_HOME/bin
2) Stop node manager using ./stopNodeManager.sh
3) Verify that the node manager is stopped by *tail –f nohup.out*
4) Start node manager using *nohup ./startNodeManager.sh &*
5) Verify node manager is started using *tail –f nohup.out*

4.4 Manager server restart is slow

Checklist before starting server:

1) Peak CPU Utilization should be lesser than 70%
2) Enough free RAM is available minimum 30% is free
3) Enough free disk space/storage available
4) Always make sure below task done before startup:

Delete below staging directories from servers fromDOMAIN_HOME/servers/SERVER_NAME/

-

ORACLE

- tmp
 - cache
 - logs
- Set logging level to Warning for Weblogic Server logs
- Disable Service Logging to console (.out and .log files)
- Disable Eclipse Link logging
- Disable application level DEBUG if enabled
- Disable Datasource Profile logging
- Log only WARNING for application logs (user logs) – Unless you want to debug a critical Application issue

ORACLE

OBDX Middleware Best Practices
[June] [2021]
Version 21.1.1.0.0 (and above)

Oracle Financial Services Software Limited
Oracle Park
Off Western Express Highway
Goregaon (East)
Mumbai, Maharashtra 400 063
India

Worldwide Inquiries:
Phone: +91 22 6718 3000
Fax: +91 22 6718 3001
https://www.oracle.com/industries/financial-services/index.html Copyright ©