User Troubleshooting Guide

Oracle Banking Cash Management

Release 14.5.5.0.0

Part No. F58735-01

May 2022

ORACLE®

User Troubleshooting Guide

Oracle Financial Services Software Limited

Oracle Park

Off Western Express Highway

Gurgaon (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

ORACLE®

Contents

ORACLE®

1 Preface

1.1 About this Guide

This Troubleshooting Guide provides guidance to users for the issues within the application. It describes various methods to figure out the error and then troubleshoot it.

1.2 Audience

This guide is intended for the software developers and software testers.

1.3 Document Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

1.4 Acronyms and Abbreviations

The following acronyms/abbreviations are used in this guide:

Table 1: Acronyms and Abbreviations

Acronyms	Definition
OBBRN	Oracle Banking Branch
SMS	Security management system
CMC	Common Core
MOC	Mid office Common Core
OBMA	Oracle Banking Micro Service Architecture
ELK	Elasticsearch Logstash Kibana

ORACLE®

1.5 List of Topics

This manual is organized into the following topics. The topics 1 to 3 are generic and applicable for OBMA platform wide troubleshooting and chapter 4 to 7 are specific to Oracle Banking Branch.

Table 2: List of Topic

Topic	Description
Troubleshooting Technical Flows	Explains the platform wide troubleshooting of technical flows. This includes UI side checking, Service side logs and some environment issues of WebLogic
Troubleshooting Kafka	This chapter details the various issues and troubleshooting techniques for Kafka use cases
Health Checks	Explains the health check measures and observability required.
Troubleshooting Functional Workflows	This chapter details the various troubleshooting functional workflows
Troubleshooting Automator issues	This chapter discusses the steps to collect heap dump for OutOfMemory issues.
Acronyms, Abbreviations and Definitions	This provides Acronyms, abbreviations and their definitions
Related Documentation	This page provides the detailed documentation reference of Oracle Banking Cash Management

1.6 Related Documents

FSGBU Root page for documentation can be found at: https://www.oracle.com/technical-resources/documentation/fsgbu.html.>

- Oracle Banking Cash Management Documentation
  https://docs.oracle.com/en/industries/financial-services/banking-cash-management/index.html

2   Troubleshooting Technical Flows

This chapter describes various programming issues, possible causes, and solutions to resolve the issues.

2.1   Where is the problem

Troubleshooting the problem in distributed system could be bit challenging if not understood fully. Each product has UI application components and service side application components. Each side requires different troubleshooting techniques and various logs that can be used to corroborate the problem.

The below picture shows that on service side, it is important to establish the area of the problem. This can be achieved by complete understanding of UI, Service side flows along with the data architecture of application.

Figure 1: Distributed Flow across Micro Services
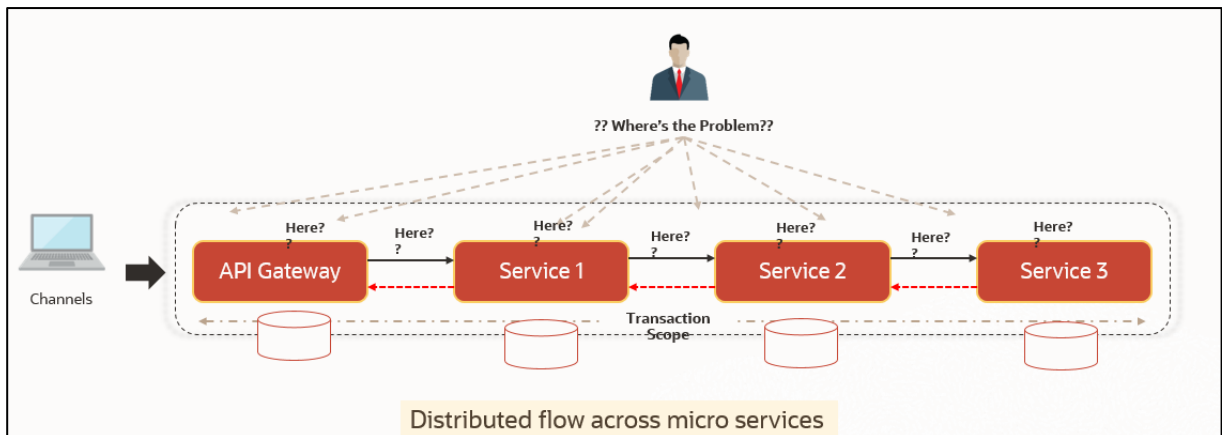
2.2   Preliminary checks from UI

This section describes how to launch the application and check for the basic errors. Perform the following steps:

1.   Launch the application with delegated URL.

2.   Press **F12** key, and select **Inspect and See network** tab.

ORACLE®

3. Verify that all the calls responses are successful. Usually red color indicates non 2xx HTTP response.

Figure 2: Call Responses
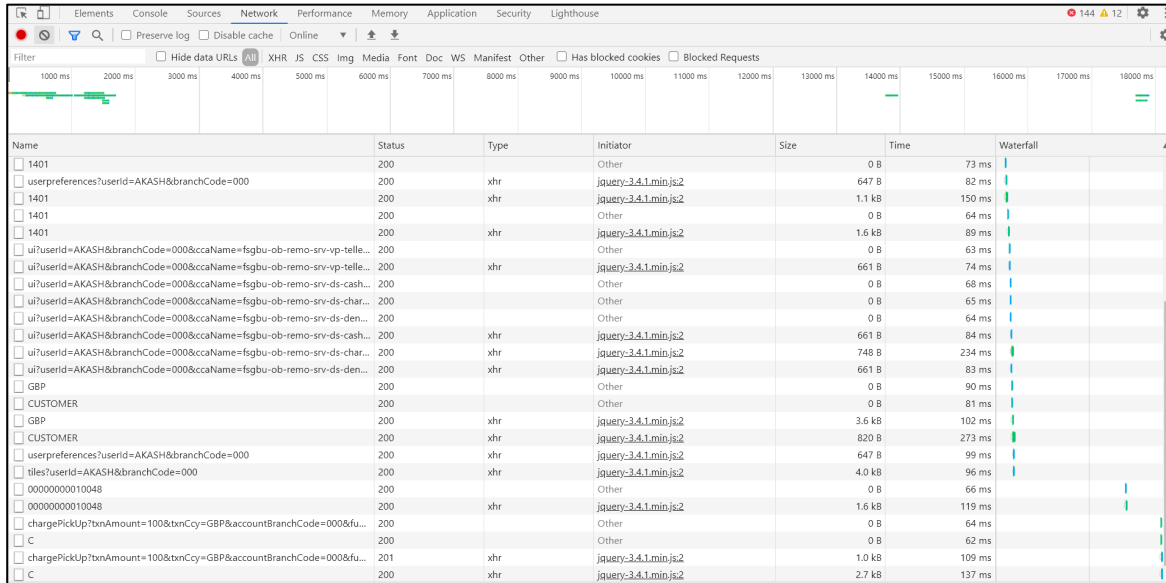
Figure 3: Non 2xx Response
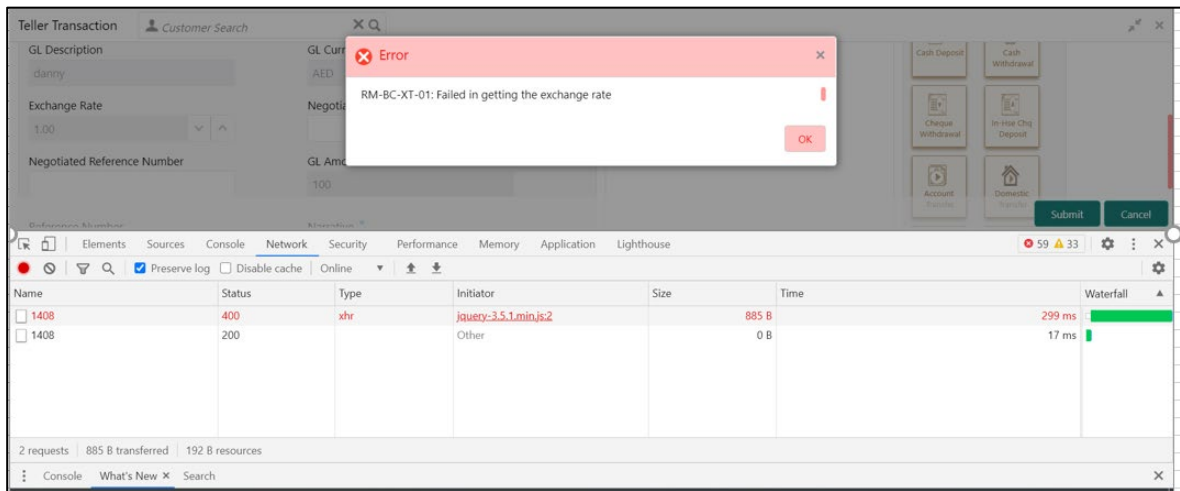
Figure 4: Non 2xx Response Details
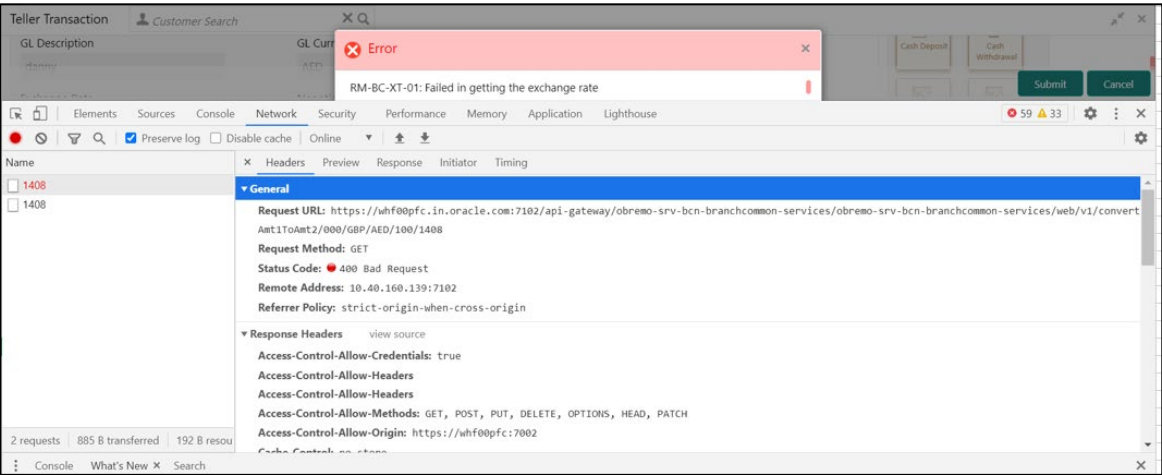
NOTE: You can also export the trace using export option in browsers. Example in Chrome you would see this option as below:

Figure 5: Export Option
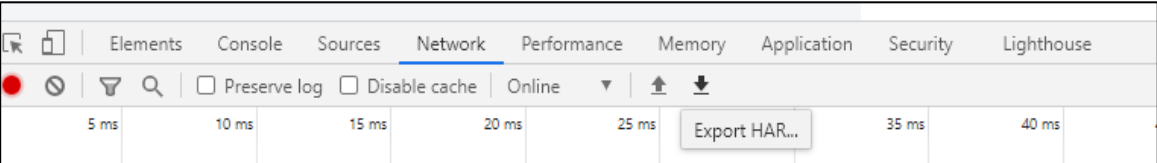
2.3 Troubleshooting Environmental Issues

2.3.1 Possible issues while deploying services

This subsection describes the possible issues that may occur in the environment.

2.3.1.1 Environment Variables

The environment variables are as follows:

OBCM_ENV.xlsx

Table 3: Environment Variables

2.3.1.2 Configuration properties to be verified

The configuration properties are as follows:

Table 4: Configuration Properties

Service Name	Config Param name	Config Param value	Comments

2.3.2 Possible issues in login and screen launch

This subsection describes the possible issues that may occur while logging in and launching the screens.

ORACLE®

2.3.2.1 Login page is not launching

Figure 6: Login Page
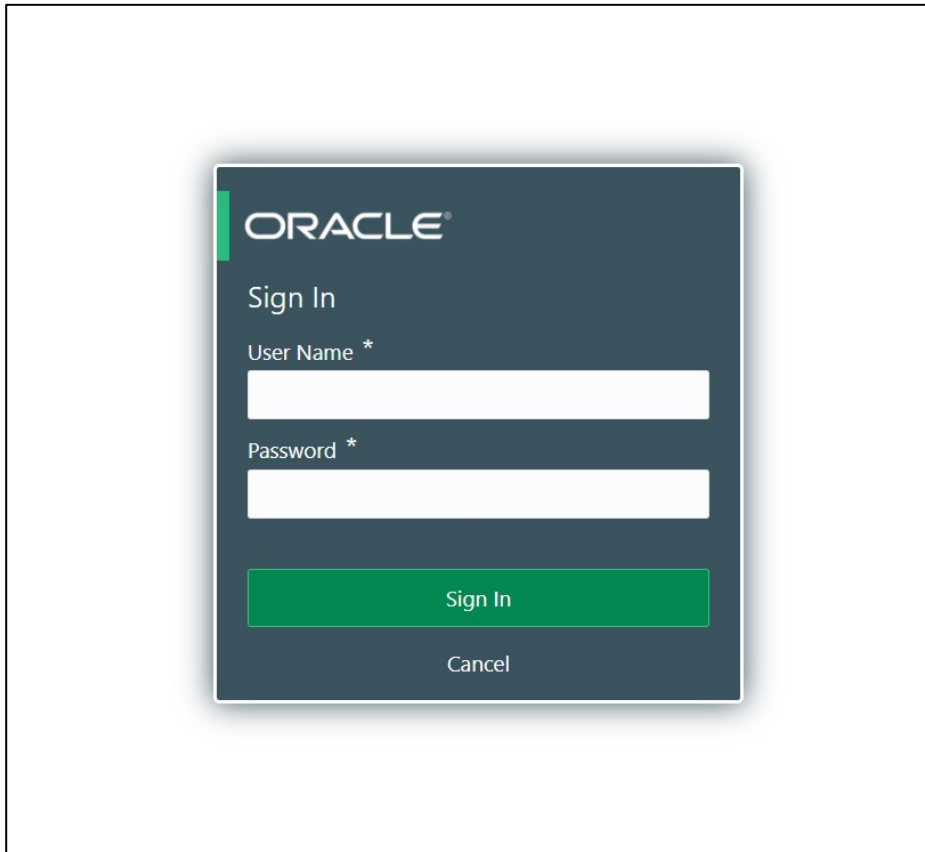
2.3.2.2 Unable to login after launching the application

If you are not able to login after the application is launched, make sure that the plato-api-gateway service, plato-ui-config service, sms-core-service, and common core services are up and running.

Figure 7: Status of Services

PLATO-API-GATEWAY	n/a (1)	(1)	UP (1) - fsgbu-phx-54.snphxprshared1.gbucdsint02phx.oraclevcn.com:plato-api-gateway:5012
PLATO-DISCOVERY-SERVICE	n/a (1)	(1)	UP (1) - fsgbu-phx-54.snphxprshared1.gbucdsint02phx.oraclevcn.com:plato-discovery-service:5012
PLATO-UI-CONFIG-SERVICES	n/a (1)	(1)	UP (1) - fsgbu-phx-54.snphxprshared1.gbucdsint02phx.oraclevcn.com:plato-ui-config-services:5012
SMS-CORE-SERVICES	n/a (1)	(1)	UP (1) - fsgbu-phx-54.snphxprshared1.gbucdsint02phx.oraclevcn.com:sms-core-services:5012

2.3.2.3 Unable to login after restarting the services

If you are not able to login after restarting the services, make sure that the LDAP server is up and running, and check if the entered credentials are correct.

2.3.2.4 Screens are not launching after logging in

If you are not able to launch the screens after logging in, make sure that the respective services are up and running.

NOTE: Verify the VPN connection while trying to troubleshoot the issues related to page launching, etc.

ORACLE®

3 Troubleshooting Kafka

3.1 Consumer Services

- obscfcm-report-services

- obcm-report-services

- obcm-cashflow-projection-services

3.2 Producer Services

- obscfcm-manual-recon-services

- obcm-collections-transaction-services

- obcm-cashflow-forecasting-services

3.3 Debugging Consumer/Producer health and troubleshooting

3.3.1 Logs to analyze

Logs of the Kafka, Zookeeper, Producer & Consumer needs to be checked, for details please check logs configuration section.

3.3.2 Tables to analyze

All the communication between producer & consumer happens via event hub and there are two tables in each schema for Producer & Consumer which keeps track of all the communication happen between them. These are PLATO_EVENTHUB_IN_LOG & PLATO_EVENTHUB_OUT_LOG like-

```
select * from PLATO_EVENTHUB_IN_LOG;
select * from PLATO_EVENTHUB_OUT_LOG;
```

Query Result ×

SQL | Fetched 50 rows in 1.472 seconds

	ID	TOPIC_NAME	MESSAGE_KEY	EVENT_TYPE	PAYLOAD
1	277fff11-e7e5-499c-867e-cccd74f50a97	relationshipMaster	(null)	(null)	{"id": "0be1516f-888c-4856-85a0-334148ee3838", "authStat":
2	1bd23ae2-d8d7-4e08-9a16-8ae72b801f37	relationshipMaster	(null)	(null)	{"id": "0903f003-485c-4122-9c3d-3d3a0beb8464", "authStat":
3	39ac6e99-4ba1-4362-a953-aac7a0b3a08f	relationshipMaster	(null)	(null)	{"id": "0be1516f-888c-4856-85a0-334148ee3838", "authStat":
4	35d602e5-0197-4012-9575-0b059eeac274	relationshipMaster	(null)	(null)	{"id": "0903f003-485c-4122-9c3d-3d3a0beb8464", "authStat":
5	56b3b33a-e696-4b9f-b715-ebf88521ea8a	PublishPaymentUpdated	(null)	(null)	{"id": "0be1516f-888c-4856-85a0-334148ee3838", "authStat":
6	c8f92ab0-8c0c-4910-a4a3-364598a6eb8f	relationshipMaster	(null)	(null)	{"id": "0903f003-485c-4122-9c3d-3d3a0beb8464", "authStat":
7	9854da1b-27c2-420d-8660-d5bcb42842ff	relationshipMaster	(null)	(null)	{"id": "0903f003-485c-4122-9c3d-3d3a0beb8464", "authStat":

3.4 Configurations

3.4.1 Setting up kafka

Download kafka from https://www.apache.org/dyn/closer.cgi?path=/kafka/2.7.0/kafka_2.12-2.7.0.tgz

Download Zookeeper from https://www.apache.org/dyn/closer.lua/zookeeper/zookeeper-3.6.2/apache-zookeeper-3.6.2-bin.tar.gz

Now first we need to start zookeeper and then kafka.

Please flow steps mentioned here

https://kafka.apache.org/quickstart

3.4.2 Check if kafka is running

Run cmd $ netstat –tlnp | grep :9092

(9092 is default port of kafka)

Possible issue while starting kafka

1. Kafka is not starting may be because zookeeper is not yet started run cmd

> $ netstat –tlnp | grep :2181

(2181 is default port of zookeeper)

if any service is not running on this port means zookeeper is down

2. Check if any permission issue is there for kafka log folder.

Create console producer and consumer for troubleshooting

here is a use full reference for that http://cloudurable.com/blog/kafka-tutorial-kafka-from-command-line/index.html

3.4.3 Some references that can be useful

https://docs.cloudera.com/documentation/kafka/latest/topics/kafka_faq.html

ORACLE®

4   Health Checks

4.1   Eureka Dashboard

Now, the health of services needs to be monitored using weblogic JVM managed server console and Eureka dashboard

Figure 8: Eureka Dashboard

Instances currently registered with Eureka

Application	AMIs	Availability Zones	Status
CMC-ACCOUNT-SERVICES	n/a (1)	(1)	UP (1) - whf00ist.in.oracle.com:cmc-account-services:7301
CMC-ADDITIONAL-ATTRIBUTES-SERVICES	n/a (1)	(1)	UP (1) - whf00ist.in.oracle.com:cmc-additional-attributes-services:7301
CMC-ADVICE-SERVICES	n/a (1)	(1)	UP (1) - whf00ist.in.oracle.com:cmc-advice-services:7301
CMC-BASE-SERVICES	n/a (1)	(1)	UP (1) - whf00ist.in.oracle.com:cmc-base-services:7301
CMC-BATCH-SERVICES	n/a (1)	(1)	UP (1) - whf00ist.in.oracle.com:cmc-batch-services:7301
CMC-BRANCH-SERVICES	n/a (1)	(1)	UP (1) - whf00ist.in.oracle.com:cmc-branch-services:7301
CMC-BUSINESSOVERRIDES-SERVICES	n/a (1)	(1)	UP (1) - whf00ist.in.oracle.com:cmc-businessoverrides-services:7301
CMC-CHARGES-CALCULATION-SERVICES	n/a (1)	(1)	UP (1) - whf00ist.in.oracle.com:cmc-charges-calculation-services:7301
CMC-COREBANKING-ADAPTER-SERVICE	n/a (1)	(1)	UP (1) - whf00ist.in.oracle.com:cmc-corebanking-adapter-service:7302
CMC-CURRENCY-SERVICES	n/a (1)	(1)	UP (1) - whf00ist.in.oracle.com:cmc-currency-services:7302
CMC-CUSTOMER-SERVICES	n/a (1)	(1)	UP (1) - whf00ist.in.oracle.com:cmc-customer-services:7302
CMC-DATASEGMENT-SERVICES	n/a (1)	(1)	UP (1) - whf00ist.in.oracle.com:cmc-datasegment-services:7302
CMC-EXTERNAL-CHART-ACCOUNT-SERVICES	n/a (1)	(1)	UP (1) - whf00ist.in.oracle.com:cmc-external-chart-account-services:7302

Application	AMIs	Availability Zones	Status
CMC-EXTERNAL-SYSTEM-SERVICES	n/a (1)	(1)	UP (1) - whf00ist.in.oracle.com:cmc-external-system-services:7302
CMC-EXTERNAL-VIRTUAL-ACCOUNT-SERVICES	n/a (1)	(1)	UP (1) - whf00ist.in.oracle.com:cmc-external-virtual-account-services:7302
CMC-FACILITIES-SERVICES	n/a (1)	(1)	UP (1) - whf00ist.in.oracle.com:cmc-facilities-services:7302
CMC-MIS-SERVICES	n/a (1)	(1)	UP (1) - whf00ist.in.oracle.com:cmc-mis-services:7303
CMC-OBRH-SERVICES	n/a (1)	(1)	UP (1) - whf00ist.in.oracle.com:cmc-obrh-services:7303
CMC-REPORT-SERVICES	n/a (1)	(1)	UP (1) - whf00ist.in.oracle.com:cmc-report-services:7303
CMC-RESOURCE-SEGMENT-ORCHESTRATOR-SERVICE	n/a (1)	(1)	UP (1) - whf00ist.in.oracle.com:cmc-resource-segment-orchestrator-service:7303
CMC-RESOURCECLASS-SERVICES	n/a (1)	(1)	UP (1) - whf00ist.in.oracle.com:cmc-resourceclass-services:7303
CMC-SCREENCLASS-SERVICES	n/a (1)	(1)	UP (1) - whf00ist.in.oracle.com:cmc-screenclass-services:7303
CMC-SETTLEMENTS-SERVICES	n/a (1)	(1)	UP (1) - whf00ist.in.oracle.com:cmc-settlements-services:7303
CMC-TRANSACTIONCONTROLLER-SERVICES	n/a (1)	(1)	UP (1) - whf00ist.in.oracle.com:cmc-transactioncontroller-services:7303
CMC-TXN-CODE-SERVICES	n/a (1)	(1)	UP (1) - whf00ist.in.oracle.com:cmc-txn-code-services:7303
CONFIG-SERVICE	n/a (1)	(1)	UP (1) - whf00mfg.in.oracle.com:config-service:7101

ORACLE®

PLATO-ALERTS-MANAGEMENT-SERVICES	n/a (1)	(1)	UP (1) - whf00mfg.in.oracle.com:plato-alerts-management-services:7103
PLATO-API-GATEWAY	n/a (1)	(1)	UP (1) - whf00mfg.in.oracle.com:plato-api-gateway:7102
PLATO-BATCH-SERVER	n/a (1)	(1)	UP (1) - whf00mfg.in.oracle.com:plato-batch-server:7103
PLATO-DISCOVERY-SERVICE	n/a (1)	(1)	UP (1) - whf00mfg.in.oracle.com:plato-discovery-service:8761
PLATO-FEED-SERVICES	n/a (1)	(1)	UP (1) - whf00mfg.in.oracle.com:plato-feed-services:7103
PLATO-O	n/a (1)	(1)	UP (1) - whf00pgq
PLATO-ORCH-SERVICE	n/a (1)	(1)	UP (1) - whf00mfg.in.oracle.com:plato-orch-service:7103
PLATO-RULE-SERVICE	n/a (1)	(1)	UP (1) - whf00mfg.in.oracle.com:plato-rule-service:7103
PLATO-UI-CONFIG-SERVICES	n/a (1)	(1)	UP (1) - whf00mfg.in.oracle.com:plato-ui-config-services:7102
SMS-CORE-SERVICES	n/a (1)	(1)	UP (1) - whf00mfg.in.oracle.com:sms-core-services:7201

OBSCFCM-ACCOUNT-MAINTENANCE-SERVICES	n/a (1)	(1)	UP (1) - whf00pgq.in.oracle.com:obscfcm-account-maintenance-services:7202
OBSCFCM-ALERTS-SERVICES	n/a (1)	(1)	UP (1) - whf00pgq.in.oracle.com:obscfcm-alerts-services:7201
OBSCFCM-AUTO-RECON-BATCH	n/a (1)	(1)	UP (1) - whf00pgq.in.oracle.com:obscfcm-auto-recon-batch:7102
OBSCFCM-BATCH-JOBS	n/a (1)	(1)	UP (1) - whf00pgq.in.oracle.com:obscfcm-batch-jobs:7202
OBSCFCM-CHARGES-SERVICES	n/a (1)	(1)	UP (1) - whf00pgq.in.oracle.com:obscfcm-charges-services:7202
OBSCFCM-CHATBOT-SERVICES	n/a (1)	(1)	UP (1) - whf00pgq.in.oracle.com:obscfcm-chatbot-services:7001
OBSCFCM-CORE-SERVICES	n/a (1)	(1)	UP (1) - whf00pgq.in.oracle.com:obscfcm-core-services:7201
OBSCFCM-DAY0-SERVICE	n/a (1)	(1)	UP (1) - whf00pgq.in.oracle.com:obscfcm-day0-service:7204
OBSCFCM-EOD-BATCH	n/a (1)	(1)	UP (1) - whf00pgq.in.oracle.com:obscfcm-eod-batch:7102
OBSCFCM-FILTER-SERVICES	n/a (1)	(1)	UP (1) - whf00pgq.in.oracle.com:obscfcm-filter-services:7201
OBSCFCM-INSTRUMENTS-RECEIVABLES-SERVICES	n/a (1)	(1)	UP (1) - whf00pgq.in.oracle.com:obscfcm-instruments-receivables-services:7203
OBSCFCM-MANUAL-RECON-SERVICES	n/a (1)	(1)	UP (1) - whf00pgq.in.oracle.com:obscfcm-manual-recon-services:7202
OBSCFCM-MASTER-MAINTENANCE-SERVICES	n/a (1)	(1)	UP (1) - whf00pgq.in.oracle.com:obscfcm-master-maintenance-services:7203
OBSCFCM-REPORT-SERVICES	n/a (1)	(1)	UP (1) - whf00pgq.in.oracle.com:obscfcm-report-services:7201
OBSCFCM-WORKFLOW-MANAGEMENT-SERVICES	n/a (1)	(1)	UP (1) - whf00pgq.in.oracle.com:obscfcm-workflow-management-services:7203

OBCM-CASHFLOW-FORECASTING-SERVICES	n/a (1)	(1)	UP (1) - whf00pgq.in.oracle.com:obcm-cashflow-forecasting-services:7401
OBCM-CASHFLOW-PROJECTION-SERVICES	n/a (1)	(1)	UP (1) - whf00pgq.in.oracle.com:obcm-cashflow-projection-services:7401
OBCM-COLLECTIONS-MAINTENANCE-SERVICES	n/a (1)	(1)	UP (1) - whf00pgq.in.oracle.com:obcm-collections-maintenance-services:7402
OBCM-COLLECTIONS-TRANSACTION-SERVICES	n/a (1)	(1)	UP (1) - whf00pgq.in.oracle.com:obcm-collections-transaction-services:7401
OBCM-DAY0-SERVICES	n/a (1)	(1)	UP (1) - whf00pgq.in.oracle.com:obcm-day0-services:7403

4.2 Application Services

Catalog of services required for Oracle Banking Cash Management

Table 5: Application Services

OBMA Group (eg Plato, CMC, MOC)	Service Name (Name of the service)	Comments (Business relevance or additional details)
Plato	plato-ui-config-services-7.3.0	
Plato	plato-feed-services-7.3.0	
Plato	plato-report-services-7.3.0	
Plato	plato-batch-server-7.3.0	
Plato	plato-config-service-7.3.0	
Plato	platoref-6.0.0	
Plato	plato-api-gateway-7.3.0	
Plato	plato-orch-service-7.3.0	
Plato	plato-alerts-management-services-7.3.0	
Plato	plato-swagger-api-7.3.0	
Plato	plato-rule-service-7.3.0	
Plato	plato-discovery-service-7.2.0	
Plato	plato-security-toolkit-7.2.0	

ORACLE®

CMC	cmc-account-services-7.3.0	
CMC	cmc-additional-attributes-services-7.3.0	
CMC	cmc-advice-services-7.3.0	
CMC	cmc-base-services-7.3.0	
CMC	cmc-batch-services-7.3.0	
CMC	cmc-branch-services-7.3.0	
CMC	cmc-businessoverrides-services-7.3.0	
CMC	cmc-charges-calculation-services-7.3.0	
CMC	cmc-corebanking-adapter-service-7.3.0	
CMC	cmc-currency-services-7.3.0	
CMC	cmc-customer-services-7.3.0	
CMC	cmc-datasegment-services-7.3.0	
CMC	cmc-external-chart-account-7.3.0	
CMC	cmc-external-system-services-7.3.0	
CMC	cmc-external-virtual-account-services-7.3.0	
CMC	cmc-facilities-service-7.3.0	
CMC	cmc-fc-ai-ml-services-7.3.0	
CMC	cmc-ml-indb-services-7.3.0	

CMC	cmc-nlp-dashboard-widget-services-7.3.0	
CMC	cmc-nlp-maintenance-services-7.3.0	
CMC	cmc-nlp-opennlp-services-7.3.0	
CMC	cmc-nlp-pipeline-services-7.3.0	
CMC	cmc-nlp-text-extraction-services-7.3.0	
CMC	cmc-obcbs-services-7.3.0	
CMC	cmc-obrh-service-7.3.0	
CMC	cmc-report-service-7.3.0	
CMC	cmc-resource-segment-orchestrator-service-7.3.0	
CMC	cmc-screenclass-services-7.3.0	
CMC	cmc-settlements-services-7.3.0	
CMC	cmc-transactioncontroller-services-7.3.0	
CMC	cmc-txn-code-services-7.3.0	
MOC	cmc-applicationcategory-services-7.3.0	
MOC	cmc-checklistmanagement-services-7.3.0	
MOC	cmc-checklist-services-7.3.0	
MOC	cmc-comments-services-7.3.0	
MOC	cmc-documentmanagement-services-7.3.0	

ORACLE®

MOC	cmc-document-services-7.3.0	
MOC	cmc-earmark-services-7.3.0	
MOC	cmc-kyccheck-services-7.3.0	
MOC	cmc-mailnotification-services-7.3.0	
MOC	cmc-priority-service-7.3.0	
MOC	cmc-processcode-service-7.3.0	
MOC	cmc-queue-service-7.3.0	
MOC	cmc-sequencegenerator-services-7.3.0	
MOC	cmc-sla-services-7.3.0	
OBCM	obscfcm-account-maintenance-services-7.3.0	
OBCM	obscfcm-alerts-services-7.3.0	
OBCM	obscfcm-auto-recon-batch-7.3.0	
OBCM	obscfcm-batch-jobs-7.3.0	
OBCM	obscfcm-charges-services-7.3.0	
OBCM	obscfcm-chatbot-services-7.3.0	
OBCM	obscfcm-core-services-7.3.0	
OBCM	obscfcm-day0-service-7.3.0	
OBCM	obscfcm-filter-services-7.3.0	

ORACLE®

OBCM	obscfcm-instruments-receivables-services-7.3.0	
OBCM	obscfcm-manual-recon-services-7.3.0	
OBCM	obscfcm-master-maintenance-services-7.3.0	
OBCM	obscfcm-report-services-7.3.0	
OBCM	obscfcm-workflow-management-services-7.3.0	
OBCM	obcm-cashflow-forecasting-services-7.3.0	
OBCM	obcm-cashflow-projection-services-7.3.0	
OBCM	obcm-collections-maintenance-services-7.3.0	
OBCM	obcm-collections-transaction-services-7.3.0	
OBCM	obcm-day0-services-7.3.0	
OBCM	obcm-report-services-7.3.0	
OBCM	obscfcm-eod-batch-7.3.0	
UI	app-shell-7.3.0	
UI	cmc-component-server-7.3.0	
UI	moc-component-server-7.3.0	
UI	obpy-component-server-7.3.0	
UI	obreports-component-server-7.3.0	
UI	obscfcm-component-server-7.3.0	

ORACLE®

UI	obcm-component-server-7.3.0	
UI	sms-component-server-7.3.0	

ORACLE®

5 Troubleshooting Functional Workflows

5.1 Oracle Banking Supply Chain Finance / Cash Management – Subdomains List

Figure 9: Subdomains
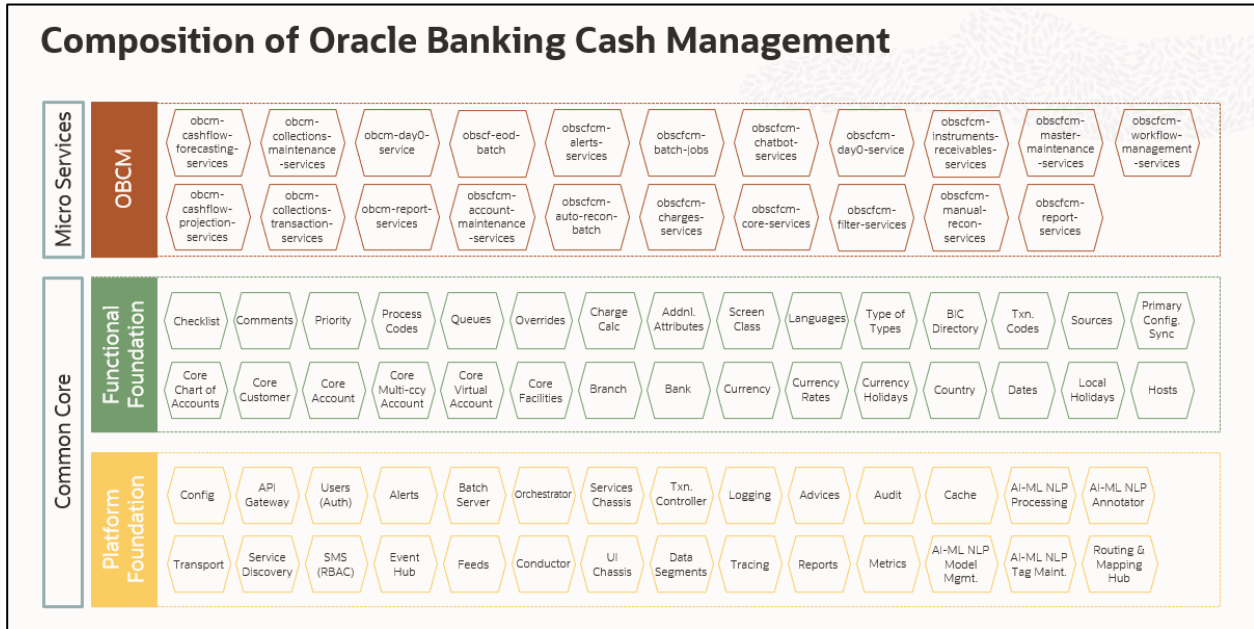
5.1.1 Log analysis

This subsection describes the possible ways to use logs to analyze issues in a transaction using logs. Please provide details of what 'states' to expect for what parameters in logs for the transaction.

5.1.1.1 Error Message not shown

If there is any improper calls, check ERTB_MSGS table of the respective schema to understand the cause of the error. Open the Networks tab (F12), check the error code in the response.

SELECT * FROM ERTB_MSGS WHERE ERR_CODE='GCS_AUTH-03'
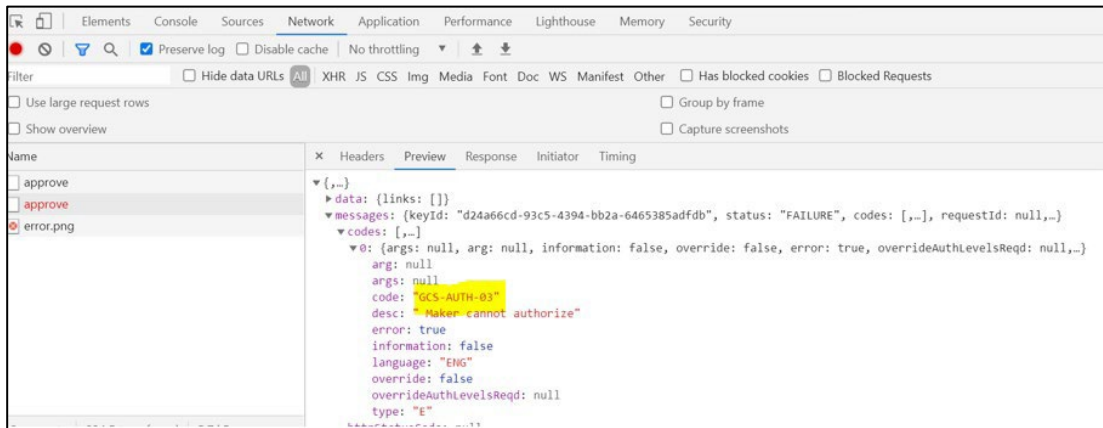
5.1.1.2 Setting Log file path

Log generation path needs to be defined in PLATO_LOGGER_PARAM_CONFIG table of PLATO schema.

Select * from PLATO_LOGGER_PARAM_CONFIG;

ORACLE®
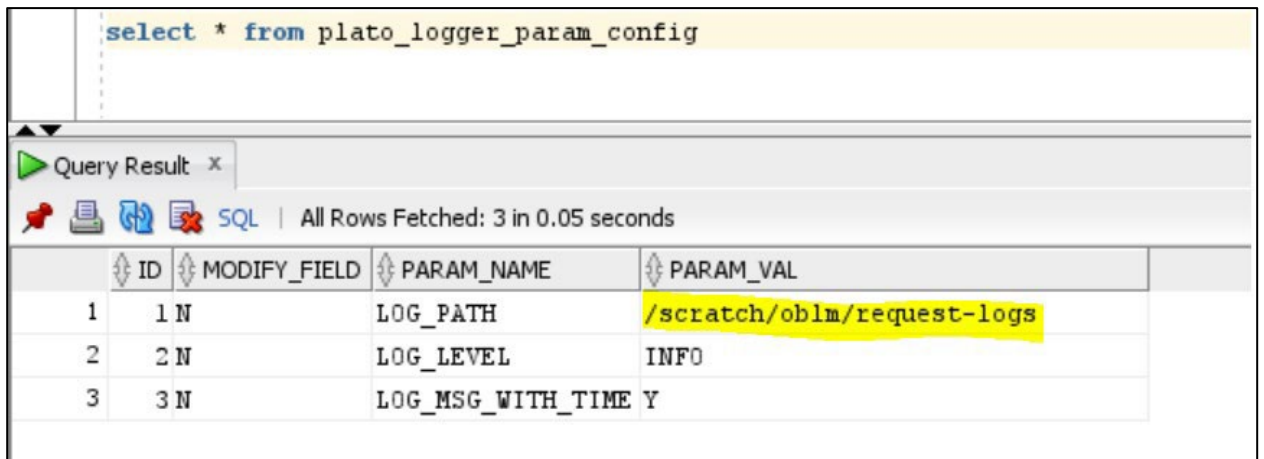
5.1.1.3 Dynamic log generation issues

For generating dynamic service logs, you need to insert data to PLATO_DEBUG_USERS table as shown in below screenshot.

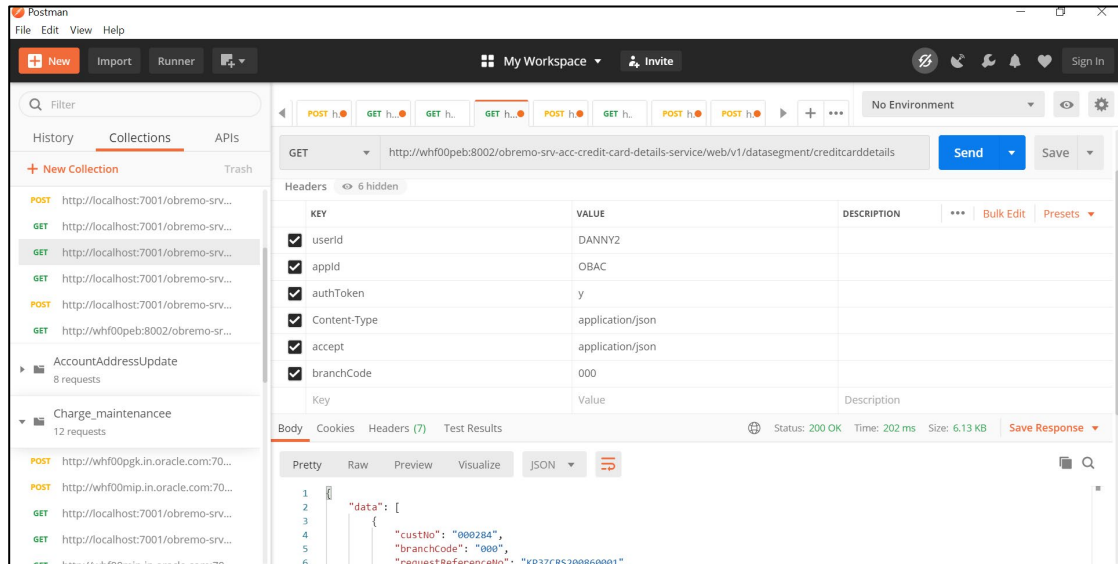**Select * from PLATO_DEBUG_USERS;**

ORACLE®

5.1.1.4 In case Logs are not generated

If you are not getting logs, put the loggers across API, hit through postman, and test again.

Figure 10: Logs

5.1.1.5 404 error

The possible causes for 404 error are as follows:

- Check service is not running on Eureka

- Check service is not deployed in Weblogic

5.1.1.6 500 internal error

The possible causes for 500 internal error are as follows:

- Issue with Plato entries

- Issue with Eureka

- Issue with any peace of code

The server-side debugging is needed for the above-mentioned issues, if it is not captured in logs.

ORACLE®

5.1.2 Analysis using execptions captured in tables

OBCM_ERROR_COD
ES.xlsx

ORACLE®

6 Troubleshooting OutOfMemory issues

6.1 Extracting Heapdump

If there is an error like GC Overhead limit exceeded or OutOfMemoryException is thrown while starting the services, the following details need to be shared.

6.1.1 Heap Dump

A heap dump is a snapshot of objects that are in memory in the JVM at a certain timestamp in a transaction. Heap dumps help to troubleshoot memory-leak problems and optimize memory usage in microservices. Heap dumps are usually stored in binary format hprof files.

The HeapDumpOnOutOfMemoryError command-line option that generates a heap dump when a java.lang.OutOfMemoryError is thrown can be used to generate heap dumps:

java -XX:+HeapDumpOnOutOfMemoryError -XX:HeapDumpPath=<file-or-dir-path>

6.1.1.1 Remote Heap Monitor setup

Alternatively, one can setup remote heap monitor to observe the memory leaks in the product. Perform the following steps:

1. To enable jmx, set the following environment variable to start jmx:

   - *-Dcom.sun.management.jmxremote*

   - *-Dcom.sun.management.jmxremote.port=8888*

   - *-Dcom.sun.management.jmxremote.authenticate=false*

   - *-Dcom.sun.management.jmxremote.ssl=false*

     NOTE: If the above variable are set, a jmx service will start on specified port.

2. Setup JVisualVM as follows, to collect heap dumps:

   a) Start *JVisualVM.*

   b) Under "Remote" option, add a host.

   c) Under new host, add new *jmx* connection.

      NOTE: With this setup, the JAVA process can be monitored remotely.

ORACLE®

6.2 JFR Tool in Java

Java Flight Recorder (**JFR**) is a **tool** for collecting diagnostic and profiling data about a running **Java** application. It is integrated into the **Java** Virtual Machine (JVM) and causes almost no performance overhead, so it can be used even in heavily loaded production environments.

The below documentation provides steps to use JFRs to collect performance details and profiling data of services and can be used to report performance issues for OBMA services.

6.3 Quick Recovery

As a quick fix, try to restart the managed server or try to increase the memory allocated to the managed server. Perform the following steps to increase the memory:
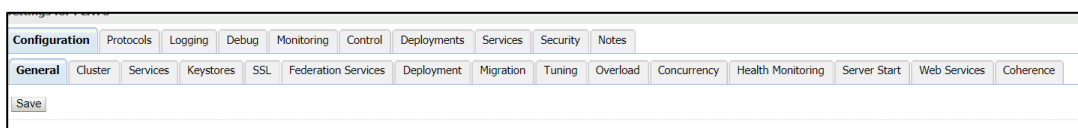
1. Click **Servers**.

Figure 11: Domain Structure
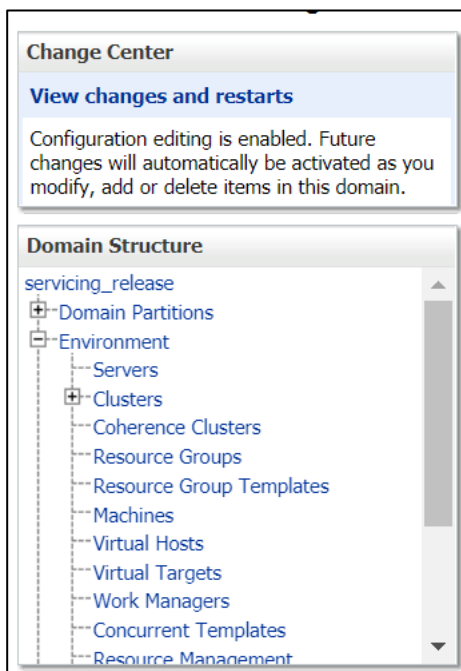
2. Select the managed server from which you are getting OutOfMemoryException or GC Overhead Limit exceeded, and click **Server Start** tab.

Figure 12: Server Start

3. Specify the memory (which needs to be increased) according to requirement in 512, 1024, 2048 etc., and restart the managed server to fix the issue.

Figure 13: Memory Requirements

ORACLE®