User Troubleshooting Guide

Oracle Banking Cash Management

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User Troubleshooting Guide

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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



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

Торіс	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: <u>https://www.oracle.com/technical-resources/documentation/fsgbu.html</u>.>

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



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.

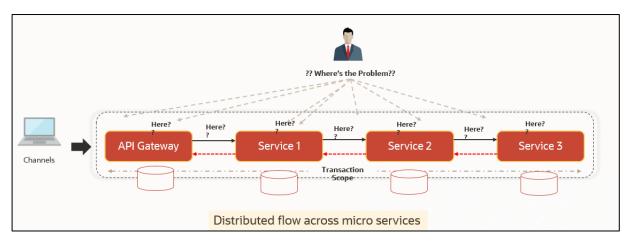


Figure 1: Distributed Flow across Micro Services

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.



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

Figure 2: Call	Responses
----------------	-----------

🖟 🚹 Elements Console Sources Network Performance	Memory Application	Security Lightho	ise			🙁 144 🔺 12 🛛 🇱
🖲 🔕 🛛 🍟 🔍 📄 Preserve log 📄 Disable cache 🛛 Online 🛛 🔻 🔤	<u>+</u>					
Filter Hide data URLs All XHR JS CSS Img M	edia Font Doc WS I	Manifest Other 🗌 Ha	blocked cookies 🗌 Blocked Requests			
1000 ms 2000 ms 3000 ms 4000 ms 5000 ms 600	0 ms 7000 ms	8000 ms 9000 ms	10000 ms 11000 ms 12000 ms	13000 ms 14000 m	s 15000 ms 1	6000 ms 17000 ms 18000 ms
Name	Status	Туре	Initiator	Size T	ime	Waterfall
1401	200		Other	0 B	73 ms	
userpreferences?userId=AKASH&branchCode=000	200	xhr	jquery-3.4.1.min.js:2	647 B	82 ms	1
1401	200	xhr	jquery-3.4.1.min.js:2	1.1 kB	150 ms	1
1401	200		Other	0 B	64 ms	1
1401	200	xhr	jquery-3.4.1.min.js:2	1.6 kB	89 ms	4
ui?userId=AKASH&branchCode=000&ccaName=fsgbu-ob-remo-srv-vp-telle	200		Other	0 B	63 ms	1
ui?userId=AKASH&branchCode=000&ccaName=fsgbu-ob-remo-srv-vp-telle	200	xhr	jquery-3.4.1.min.js:2	661 B	74 ms	- E
ui?userId=AKASH&branchCode=000&ccaName=fsgbu-ob-remo-srv-ds-cash	200		Other	0 B	68 ms	1
ui?userId=AKASH&branchCode=000&ccaName=fsgbu-ob-remo-srv-ds-char	200		Other	0 B	65 ms	1
ui?userId=AKASH&branchCode=000&ccaName=fsgbu-ob-remo-srv-ds-den	200		Other	0 B	64 ms	1
ui?userId=AKASH&branchCode=000&ccaName=fsgbu-ob-remo-srv-ds-cash	200	xhr	jquery-3.4.1.min.js:2	661 B	84 ms	1
ui?userId=AKASH&branchCode=000&ccaName=fsgbu-ob-remo-srv-ds-char	200	xhr	jquery-3.4.1.min.js:2	748 B	234 ms	4
ui?userId=AKASH&branchCode=000&ccaName=fsgbu-ob-remo-srv-ds-den	200	xhr	jquery-3.4.1.min.js:2	661 B	83 ms	1
GBP	200		Other	0 B	90 ms	1
CUSTOMER	200		Other	0 B	81 ms	1
GBP	200	xhr	jquery-3.4.1.min.js:2	3.6 kB	102 ms	1
CUSTOMER	200	xhr	jquery-3.4.1.min.js:2	820 B	273 ms	1
userpreferences?userId=AKASH&branchCode=000	200	xhr	jquery-3.4.1.min.js:2	647 B	99 ms	- I.
tiles?userId=AKASH&branchCode=000	200	xhr	jquery-3.4.1.min.js:2	4.0 kB	96 ms	1
0000000010048	200		Other	0 B	66 ms	
0000000010048	200	xhr	jquery-3.4.1.min.js:2	1.6 kB	119 ms	
chargePickUp?txnAmount=100&txnCcy=GBP&accountBranchCode=000&fu	200		Other	0 B	64 ms	
_ c	200		Other	0 B	62 ms	
chargePickUp?txnAmount=100&txnCcy=GBP&accountBranchCode=000&fu	201	xhr	jquery-3.4.1.min.js:2	1.0 kB	109 ms	
□ c	200	xhr	jquery-3.4.1.min.js:2	2.7 kB	137 ms	

Figure 3: Non 2xx Response

Teller Transaction	mer Search	×q						2	×
GL Description		GL Curr			×	Cash Deposit	Cash Withdrawal		
Exchange Rate		RM-BC-X Negotia	T-01: Failed in getting the exchange rat	te	- E				
1.00 Negotiated Reference Number		GL Amc			ок	Withdrawal	Deposit		
Negotiated Reference Number		100		1	_	Account	Domestic		
Onformers klowebour		RI-servicion				.franke	Submi	t Canc	cel
🕞 🔂 Elements Sources	Console Network		rformance Memory Application	Lighthouse			O 59 🗛 33	\$ 1	×Y
🔍 🛇 🛛 🗑 🔍 🗹 Preserve	log 🗌 Disable cache	Online 🔻	± ±						\$
Name	Status	Туре	Initiator	Size	Time			Waterfall	
1408	400	xhr	jquery-3.5.1.min.js:2	885 B			299 ms	0	
1408	200		Other	0 B			17 ms		
2 requests 885 B transferred 1	92 B resources								
Console What's New × Se	earch								×

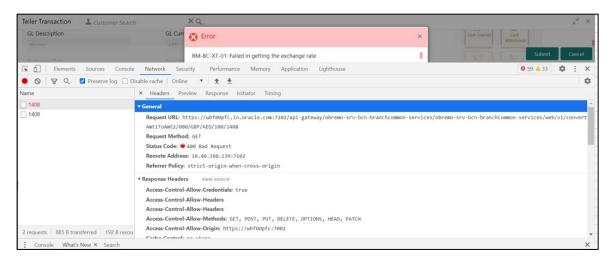


Figure 4: Non 2xx Response Details

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

Г

R	6	Ele	ments Cor	nsole Sources	Network	Performance	Memory	Application	Security	Lighthouse
🖲 🛇 🖙 🔍 🗌 Preserve log 🗋 Disable cache 🛛 Online 🔹 主										
		5 ms	10 m	ıs 15 m	s 20 ms	; 25 ms	5 Export H	IAR	35 ms	40 ms



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:



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.



2.3.2.1 Login page is not launching

Figure 6: Login Page

		_
ORAC Sign In	LE	
Sign In		
User Name *		
Password *		
	Sign In	
	Cancel	

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-apigateway 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)	$\textbf{UP(1)} \cdot fsgbu-phx-54. snphxprshared 1. gbucds int 02 phx. oraclevcn. com: plato-discovery-service: 5012 to 100 physical structure in the service of the$
PLATO-UI-CONFIG-SERVICES	n/a (1)	(1)	$\textbf{UP(1)} \cdot fsgbu-phx-54. snphxprshared 1. gbucds int 02 phx. oraclevcn. com: plato-ui-config-services: 5012 to 0.5 to 0$
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.



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-

<pre>select * from PLAT0_EVENTHUB_IN_LOG; select * from PLAT0_EVENTHUB_OUT_LOG;</pre>				
Query Result ×				
📇 🙀 🙀 SQL Fetched 50 rows in 1.472 seconds				
2 ID	TOPIC_NAME	MESSAGE_KEY	EVENT_TYPE	PAYLOAD
1 277fffll-e7e5-499c-867e-cccd74f50a97	relationshipMaster	(null)	(null)	{"id": "Obel516f-888c-4856-85a0-334148ee3838", "authStat
2 lbd23ae2-d8d7-4e08-9a16-8ae72b801f37	relationshipMaster	(null)	(null)	{"id": "0903f003-485c-4122-9c3d-3d3a0beb8464", "authStat
3 39ac6e99-4bal-4362-a953-aac7a0b3a08f	relationshipMaster	(null)	(null)	{"id": "Obe1516f-888c-4856-85a0-334148ee3838", "authStat
4 35d602e5-0197-4012-9575-0b059eeac274	relationshipMaster	(null)	(null)	{"id": "0903f003-485c-4122-9c3d-3d3a0beb8464", "authSta
5 56b3b33a-e696-4b9f-b715-ebf88521ea8a	PublishPaymentUpdated	(null)	(null)	{"id": "Obel516f-888c-4856-85a0-334148ee3838", "authSta
6 c8f92ab0-8c0c-4910-a4a3-364598a6eb8f	relationshipMaster	(null)	(null)	{"id": "0903f003-485c-4122-9c3d-3d3a0beb8464", "authSta
7 9854da1b-27c2-420d-8660-d5bcb42842ff	relationshipMaster	(null)	(null)	{"id": "0903f003-485c-4122-9c3d-3d3a0beb8464". "authSta

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 <u>https://www.apache.org/dyn/closer.lua/zookeeper/zookeeper-</u> 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 <u>http://cloudurable.com/blog/kafka-tutorial-kafka-from-command-line/index.html</u>

3.4.3 Some references that can be useful

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



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



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
DBSCFCM-CHATBOT-SERVICES	n/a (1) (1)	UP (1) - whf00pgq.in.oracle.com:obscfcm-chatbot-services:7001
DBSCFCM-CORE-SERVICES	n/a (1) (1)	UP (1) - whf00pgq.in.oracle.com:obscfcm-core-services:7201
DBSCFCM-DAY0-SERVICE	n/a (1) (1)	UP (1) - whf00pgq.in.oracle.com:obscfcm-day0-service:7204
DBSCFCM-EOD-BATCH	n/a (1) (1)	UP (1) - whf00pgq.in.oracle.com:obscfcm-eod-batch:7102
DBSCFCM-FILTER-SERVICES	n/a (1) (1)	UP (1) - whf00pgq.in.oracle.com:obscfcm-filter-services:7201
DBSCFCM-INSTRUMENTS-RECEIVABLES-SERVICES	n/a (1) (1)	UP (1) - whf00pgq.in.oracle.com:obscfcm-instruments-receivables-services:7203
DBSCFCM-MANUAL-RECON-SERVICES	n/a (1) (1)	UP (1) - whf00pgq.in.oracle.com:obscfcm-manual-recon-services:7202
DBSCFCM-MASTER-MAINTENANCE-SERVICES	n/a (1) (1)	UP (1) - whf00pgq.in.oracle.com:obscfcm-master-maintenance-services:7203
DBSCFCM-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
DBCM-CASHFLOW-FORECASTING-SERVICES	n/a (1) (1)	UP (1) - whf00pgq.in.oracle.com:obcm-cashflow-forecasting-services:7401
BCM-CASHFLOW-PROJECTION-SERVICES	n/a (1) (1)	UP (1) - whf00pgq.in.oracle.com:obcm-cashflow-projection-services:7401
DBCM-COLLECTIONS-MAINTENANCE-SERVICES	n/a (1) (1)	UP (1) - whf00pgq.in.oracle.com:obcm-collections-maintenance-services:7402
BCM-COLLECTIONS-TRANSACTION-SERVICES	n/a (1) (1)	UP (1) - whf00pgq.in.oracle.com:obcm-collections-transaction-services:7401
BCM-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	



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



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



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



ОВСМ	obscfcm-instruments-receivables-services-7.3.0	
ОВСМ	obscfcm-manual-recon-services-7.3.0	
ОВСМ	obscfcm-master-maintenance-services-7.3.0	
ОВСМ	obscfcm-report-services-7.3.0	
ОВСМ	obscfcm-workflow-management-services-7.3.0	
ОВСМ	obcm-cashflow-forecasting-services-7.3.0	
ОВСМ	obcm-cashflow-projection-services-7.3.0	
ОВСМ	obcm-collections-maintenance-services-7.3.0	
ОВСМ	obcm-collections-transaction-services-7.3.0	
ОВСМ	obcm-day0-services-7.3.0	
ОВСМ	obcm-report-services-7.3.0	
ОВСМ	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	



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



5 Troubleshooting Functional Workflows

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

Figure 9: Subdomains

Со	mposition of Oracle Banking Ca	sh Management
Micro Services	View obcm- cashflow- forecasting- services obcm- collectiona- maintenance -services obcm-dayO- service obscf-eod- batch obscf-eod- batch obcm- cashflow- projection- services obcm- collectiona- transaction- services obcm- cobcm-report- services obscfrm- account- maintenance -services obscfrm- account- services obscfrm- account- services obscfrm- account- services obscfrm- account- services	obscfcm- betch-jobs obscfcm- chatbot- services obscfcm- dayO-service obscfcm- receivables- services obscfcm- maintenance services obscfcm- maintenance services Obscfcm- charges- services obscfcm- core-services obscfcm- manual- filter-services obscfcm- manual- recon- services obscfcm- report- services
on Core	Checklist Comments Priority Process Queues Overrides Char Codes Queues Overrides Char Core Chart of Accounts Core Customer Account Core Account Core Account Core Account Core Core Core Core Core Core Core Core	Class Canguages Directory Codes Codes Contract Sync
Common	Config Config Cateway Users (Auth) Alerts Batch Orchestrator Chat Gateway (Auth) Alerts Batch Orchestrator Chat Transport Service SMS (RBAC) Event Hub Feeds Conductor Uchat	ssis Controller Logging Advices Audit Cache Processing Annotator



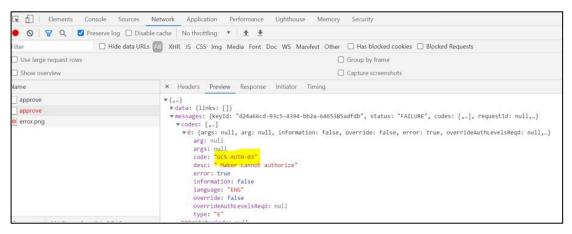
5.1.1 Log analysis

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;

-	y Res	de v			
_					
	CT2	SQL All Rov	vs Fetched: 3 in 0.05 seco	nds	
	∲ ID	MODIFY_FIELD	PARAM_NAME	<pre> @ PARAM_VAL </pre>	
1	1	N	LOG_PATH	/scratch/oblm/request-logs	
2	2	N	LOG_LEVEL	INFO	
3	3	N	LOG MSG WITH TIME	v	



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.

orkshe		-	ery Builder		
- Sel	ect *	fı	COM PLATO_DEBU	IG_USERS	
-					
Quer	y Result	х			
	R 🔊	s	QL All Rows Feto	hed: 42 in 0.34 seconds	
	2 ID	£	DEBUG_ENABLED	B SERVICE_CODE	USER_ID
1	1	Y		obscfcm-manual-recon-services	SWETA
2	83	Y		obscfcm-recon-maintenance-services	SUNIL
3	61	Y		obscfcm-filter-services	SUNIL
4	100	Y		obscfcm-charges-services	DEV
5	87	Y		obscfcm-auto-recon-batch	SUNIL
6	88	Y		obscfcm-core-services	SUNIL
7	89	Y		obscfcm-account-maintenance-services	SUNIL
8	90	Y		obscfcm-charges-services	SUNIL
9	99	Y		cmc-charges-calculation-services	DEV
10	104	Y		obcm-cashflow-forecasting-services	MAYANK
11	106	Y		obcm-cashflow-projection-services	MRINMAY
12	81	Y		obscfcm-report-services	SWETA
13	82	Y		obscfcm-workflow-management-services	SUNIL
14	84	Y		obscfcm-master-maintenance-services	SUNIL
15	85	Y		obscfcm-manual-recon-services	PRASHANT
16	86	Y		obscfcm-instruments-receivables-services	PRASHANT
17	110	v		cmc-resource-segment-orchestrator-service	SUNTL

Select *	from	PLATO	DEBUG	USERS;
				,

/scratch/work_area/application/logs/	
Name	S
t	
archive	
📓 obscfcm-report-services.log	21,239
📓 obscfcm-instruments-receivables-services.log	8,443
📓 obscfcm-core-services.log	5,043
obscfcm-account-maintenance-services.log	8,304
📓 obscfcm-chatbot-services.log	9,567
Z plato-feed-services.log	235



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

🧭 Postman File Edit View Help			- 0 X
🕂 New Import Runner 📭 🔻	My Worksp	ace 🔹 🛃 Invite	🧭 📽 👃 🌩 Sign In
Q Filter History Collections APIs	Post h. GET h GET h GET h GET h Post h. GET http://whf00peb:8002/obremo-srv-ac	he GET h POST he POST he + •	
+ New Collection Trash	Headers 🐵 6 hidden		
POST http://localhost:7001/obremo-srv GET http://localhost:7001/obremo-srv	KEY	VALUE	DESCRIPTION •••• Bulk Edit Presets •
GET http://localhost:7001/obremo-srv	appld	DANNY2 OBAC	
GET http://localhost:7001/obremo-srv POST http://localhost:7001/obremo-srv	authToken	у	
GET http://whf00peb:8002/obremo-sr	Content-Type	application/json	
AccountAddressUpdate	accept branchCode	application/json 000	
Charge_maintenancee	Кеу	Value	Description
12 requests	Body Cookies Headers (7) Test Results	Status: 200 O	K Time: 202 ms Size: 6.13 KB Save Response 🔻
POST http://whf00pgk.in.oracle.com:70	Pretty Raw Preview Visualize JSON	• -	Q
POST http://whf00mip.in.oracle.com:70 GET http://localhost:7001/obremo-srv GET http://localhost:7001/obremo-srv	1 () 2 "data": [3 { 4 "custNo": "000284", 5 "branchCode": "000",		
GET http://whf00min in oracle.com/70	6 "requestReferenceNo": "KP3ZCRS	200860001".	

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.



5.1.2 Analysis using execptions captured in tables





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.



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.

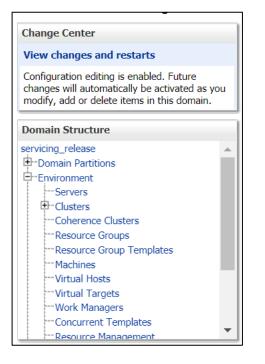
The below documentation provides steps to use JFRs to collect performance details and profiling data of services and can be used to report performance issues for OBMA services.

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

```
        Configuration
        Protocols
        Logging
        Debug
        Monitoring
        Control
        Deployments
        Services
        Security
        Notes

        General
        Cluster
        Services
        Keystores
        SSL
        Federation Services
        Deployment
        Migration
        Tuning
        Overload
        Concurrency
        Health Monitoring
        Services
        Coherence

        Save

        </t
```



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

juments: (mx2048m	

