

Troubleshooting Guide

Oracle Banking Liquidity Management

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Troubleshooting Guide

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Contents

1	Introduction.....	1
1.1	About this Guide.....	1
1.2	Audience	1
1.3	Document Accessibility	1
1.4	List of Topics	1
1.5	Prerequisites	2
1.6	General Prevention	2
1.7	Best Practices	2
2	Troubleshooting Technical Flows.....	3
2.1	Where is the problem	3
2.2	Preliminary checks from UI	4
2.3	Preliminary checks from Service Log files	6
2.4	Troubleshooting using Zipkin Traces	7
2.4.1	Setting Zipkin Server.....	7
2.4.2	Login to Zipkin	7
2.4.3	Zipkin Issues	10
2.5	Troubleshooting Logs using ELK stack.....	13
2.5.1	Setting up ELK	13
2.5.2	Accessing Kibana.....	15
2.6	Troubleshooting Logs Kafka issues	16
2.6.1	Setting up kafka.....	16
2.6.2	Check if kafka is running	16
2.6.3	Some references that can be useful	16
2.7	Troubleshooting Environmental Issues	17
2.7.1	Possible issues while deploying services	17
2.7.2	Possible issues in login and screen launch	17
3	Health Checks	19
3.1	Weblogic.....	20
3.1.1	Unable to login to weblogic console.....	20
3.1.2	Unable to stop a service.....	20
3.1.3	GC Overhead limit exceeded/OutOfMemoryException error.....	21
3.1.4	Managed server is failed or not reachable	22
3.1.5	weblogic.application.ModuleException error.....	23
3.2	Application Services	24
3.3	Database	26
3.3.1	Configure Data Sources in WebLogic.....	26
3.3.2	Day0 Scripts	27

4	Troubleshooting Application Workflows	28
4.1	Micro Frontend Architecture	28
4.1.1	First level issues	30
4.1.2	Transaction data verification	34
4.2	Payment Service Integration Troubleshooting	35
4.2.1	Balance Fetch (FCUBS) is failing.....	35
4.2.2	Accounting call (FCUBS) is failing	36
4.2.3	OBPM call is failing	36
5	Business Error Codes	37
6	Appendix A: Acronyms, Abbreviations, and Definitions	70
7	Appendix B: Related Documentation.....	71

1 Introduction

1.1 About this Guide

This 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 List of Topics

This guide is organized into the following topics. The chapters 1 to 3 are generic and applicable for Oracle Banking Microservice Architecture platform wide troubleshooting and chapter 4 to 7 are specific to Oracle Banking Liquidity Management product

Table 1: List of Topics

Topic	Description
Introduction	This chapter provides the information about this guide and intended audience. It also lists the various chapters covered in this User Manual.
Troubleshooting Technical Flows	This chapter describes the platform wide troubleshooting of technical flows. This includes UI side checking, Service side logs, tracing using zipkin, debugging using ELK stack and some environment issues of weblogic
Health Checks	This chapter describes the health check measures and observability required.
Troubleshooting Functional Workflows	This chapter describes the Oracle Banking Liquidity Management specific troubleshooting of flows and specific data stores that can be checked for issues.

Business Error Codes	This chapter provides the list of error codes expected out of Oracle Banking Liquidity Management
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1.5 Prerequisites

The prerequisites are as follows:

- Basic understanding of Eventing platform
- Basic understanding application log analysis using tools.
- Basic understanding DB changes.

The following softwares should be pre-installed.

- Zipkin
- Kafka
- ELK
- Any SQL Database like SQLDEVELOPER
- WinSCP

1.6 General Prevention

Do not make changes to Flyway scripts manually.

1.7 Best Practices

The best practices are as follows:

- It is ideal to have ELK stack installed on a separate VM outside the product VMs to ensure flow of logs in case of app crash.
- Log levels can be adjusted to INFO and above to enable relevant logs to flow in.

2 Troubleshooting Technical Flows

This chapter describes various programming issues, possible causes, and solutions to resolve the issues. This topic contains the following sections:

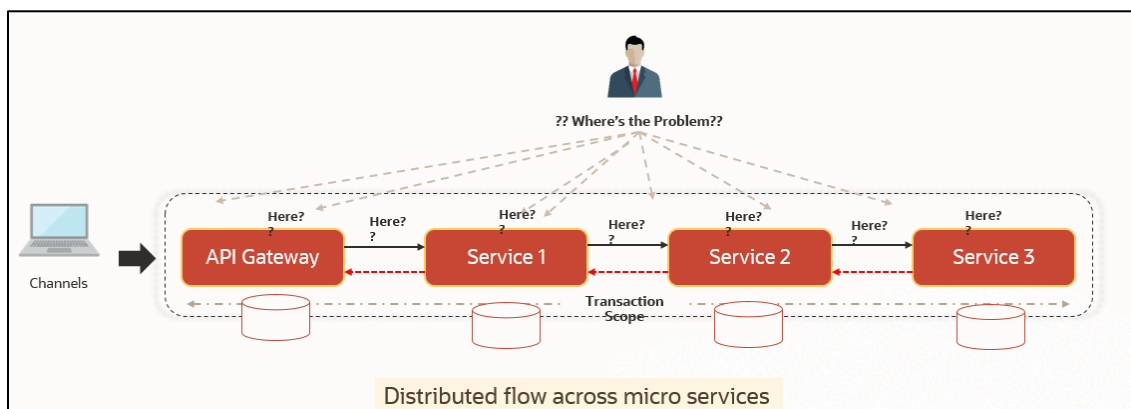
- [2.1 Where is the problem](#)
- [2.2 Preliminary checks from UI](#)
- [2.3 Preliminary checks from Service Log files](#)
- [2.4 Troubleshooting using Zipkin Traces](#)
- [2.5 Troubleshooting Logs using ELK stack](#)
- [2.6 Troubleshooting Logs Kafka issues](#)
- [2.7 Troubleshooting Environmental Issues](#)

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

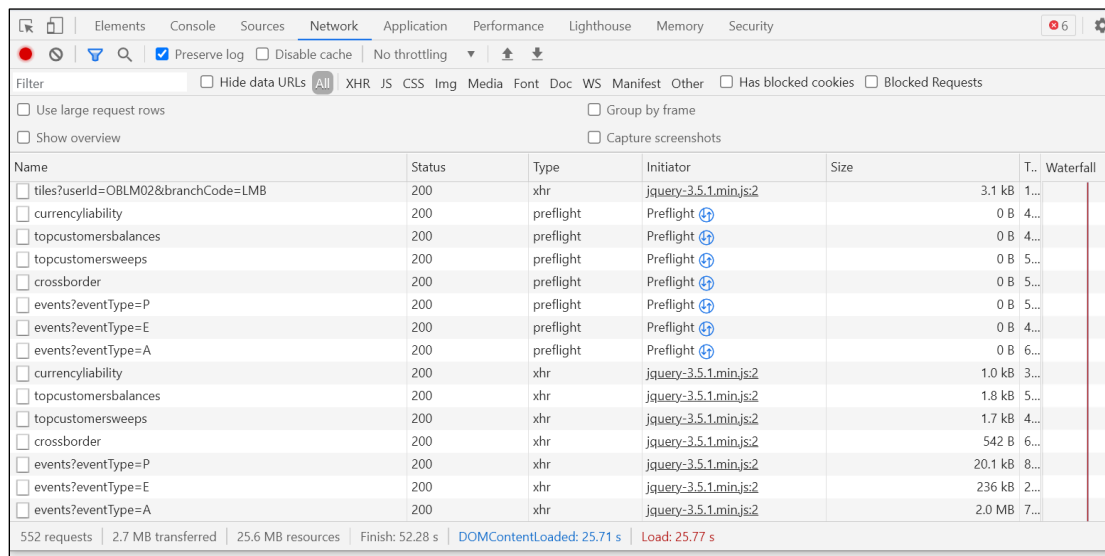


2.2 Preliminary checks from UI

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.

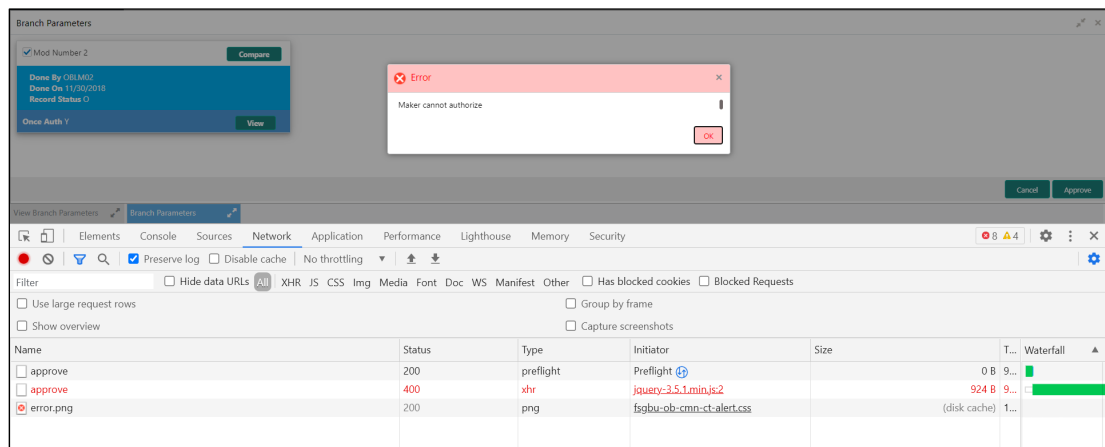
Figure 2: Call Responses



Name	Status	Type	Initiator	Size	T...	Waterfall
tiles?userId=OBLM02&branchCode=LMB	200	xhr	jquery-3.5.1.min.js:2	3.1 kB	1...	
currencyliability	200	preflight	Preflight	0 B	4...	
topcustomersbalances	200	preflight	Preflight	0 B	4...	
topcustomersweeps	200	preflight	Preflight	0 B	5...	
crossborder	200	preflight	Preflight	0 B	5...	
events?eventType=P	200	preflight	Preflight	0 B	5...	
events?eventType=E	200	preflight	Preflight	0 B	4...	
events?eventType=A	200	preflight	Preflight	0 B	6...	
currencyliability	200	xhr	jquery-3.5.1.min.js:2	1.0 kB	3...	
topcustomersbalances	200	xhr	jquery-3.5.1.min.js:2	1.8 kB	5...	
topcustomersweeps	200	xhr	jquery-3.5.1.min.js:2	1.7 kB	4...	
crossborder	200	xhr	jquery-3.5.1.min.js:2	542 B	6...	
events?eventType=P	200	xhr	jquery-3.5.1.min.js:2	20.1 kB	8...	
events?eventType=E	200	xhr	jquery-3.5.1.min.js:2	236 kB	2...	
events?eventType=A	200	xhr	jquery-3.5.1.min.js:2	2.0 MB	7...	

552 requests | 2.7 MB transferred | 25.6 MB resources | Finish: 52.28 s | DOMContentLoaded: 25.71 s | Load: 25.77 s

Figure 3: Non 2xx response



Name	Status	Type	Initiator	Size	T...	Waterfall
approve	200	preflight	Preflight	0 B	9...	
approve	400	xhr	jquery-3.5.1.min.js:2	924 B	9...	
error.png	200	png	fsgbu-ob-cmn-ct-alert.css	(disk cache)	1...	

Branch Parameters: Mod Number 2, Done By OBLM02, Done On 11/20/2018, Record Status O, Once Auth Y, View

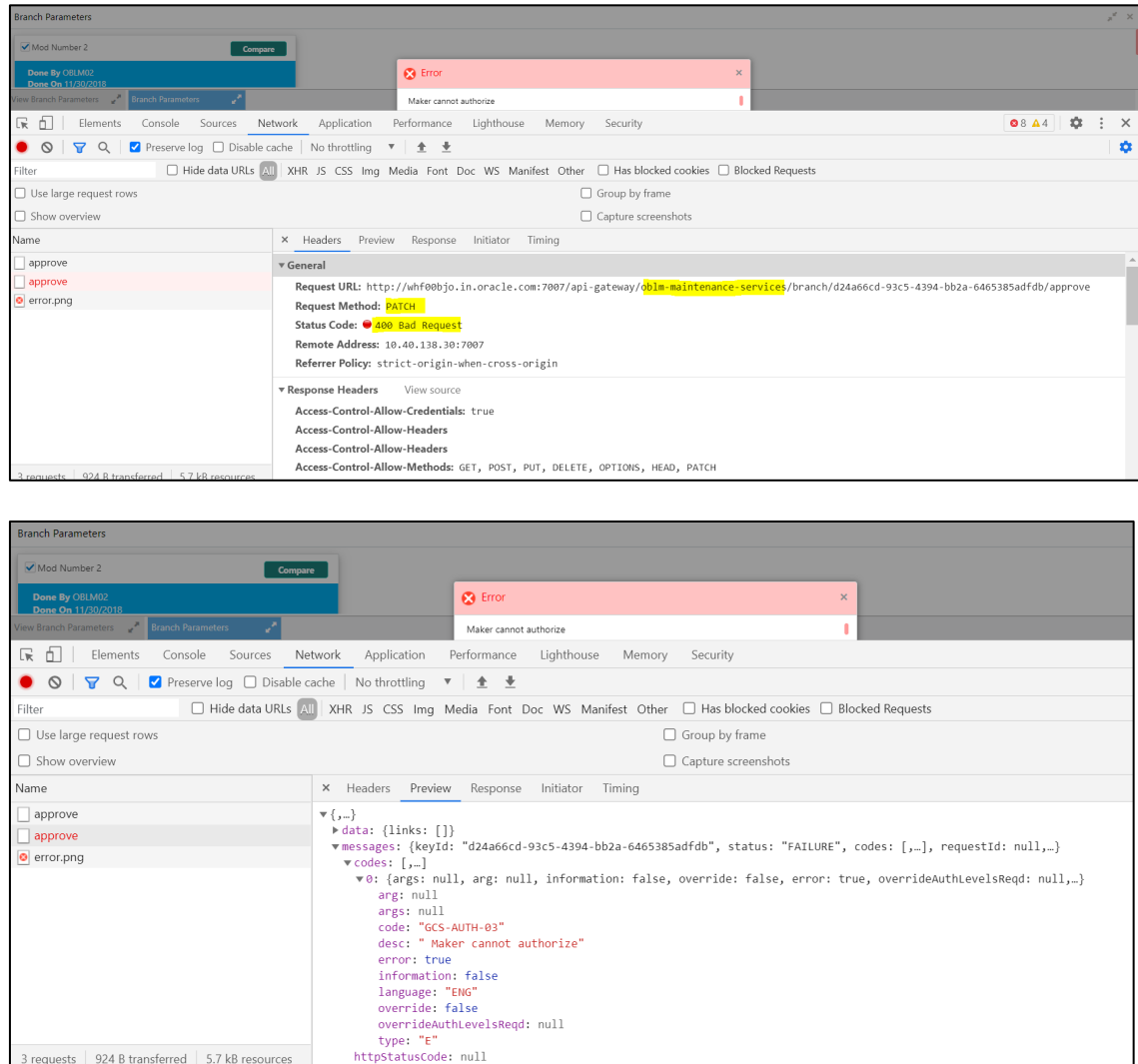
Error dialog: Error, Maker cannot authorize, OK

View Branch Parameters: Branch Parameters

Filter: Hide data URLs, All, XHR, JS, CSS, Img, Media, Font, Doc, WS, Manifest, Other, Has blocked cookies, Blocked Requests

Use large request rows, Show overview, Group by frame, Capture screenshots

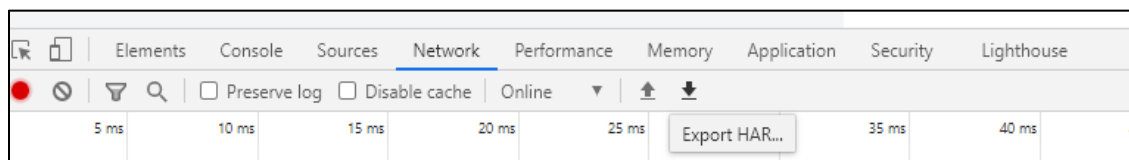
Figure 4: Details of Non 2xx Response



4. 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



NOTE: The tools such as **fiddler** and **wireshark** to get the browser to API gateway web traffic. This would help to investigate exact request and response payloads exchanged between UI and API Gateway.

2.3 Preliminary checks from Service Log files

Each micro service sub domain war deployments can generate the log files in weblogic server. The configuration of this log can be found at logback.xml

```
<root level="INFO">  
  <appender-ref ref="FILE" />  
</root>
```

In production scenarios, it is wise to ensure the root level is configured as ERROR so that log files doesn't get overwhelmed

Refer Weblogic documentation to know the path where these files are generated. In on-premises cases, these log files can be zipped and send for remote troubleshooting purposes.

2.4 Troubleshooting using Zipkin Traces

2.4.1 Setting Zipkin Server

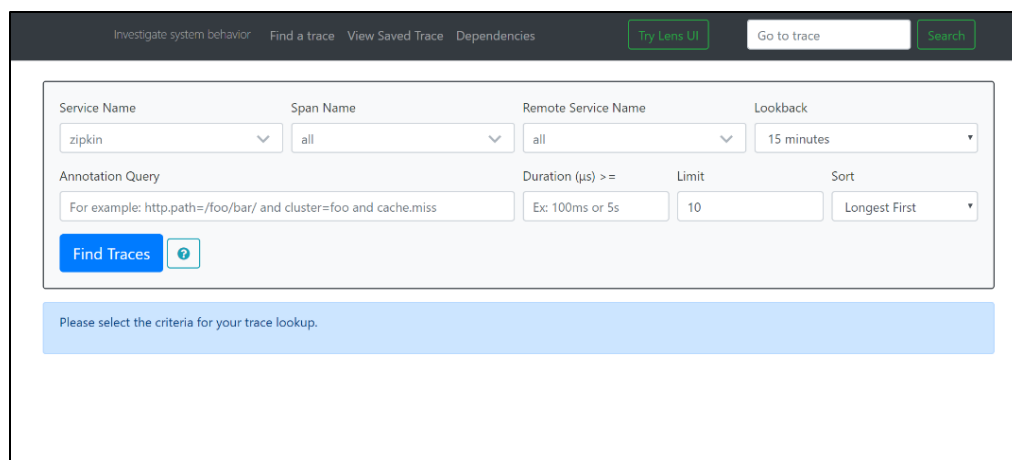
Refer the below document for Zipkin installation.

https://docs.oracle.com/cd/F41688_01/PDF/Installation_Guide/ANNEXURE-2.pdf

2.4.2 Login to Zipkin

The basic layout of Zipkin looks as follows

Figure 6: Layout of Zipkin

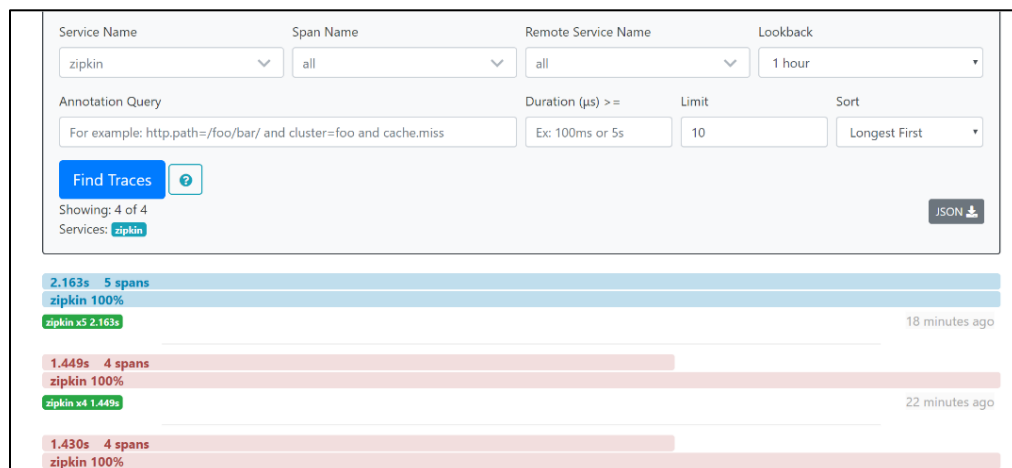


The screenshot shows the Zipkin web interface with the following fields and options:

- Service Name:** dropdown menu with 'zipkin' selected.
- Span Name:** dropdown menu with 'all' selected.
- Remote Service Name:** dropdown menu with 'all' selected.
- Lookback:** dropdown menu with '15 minutes' selected.
- Annotation Query:** text input field with the example text 'For example: http.path=/foo/bar/ and cluster=foo and cache.miss'.
- Duration (µs) >=:** text input field with the example text 'Ex: 100ms or 5s'.
- Limit:** text input field with the value '10'.
- Sort:** dropdown menu with 'Longest First' selected.
- Buttons:** 'Find Traces' (blue), 'Try Lens UI' (green), 'Go to trace' (white), and 'Search' (green).
- Message:** 'Please select the criteria for your trace lookup.'

We can find the traces of required API calls and services using the above search options given in the user interface. The search options given in the user interface are self-explanatory and there is another UI option (Try Lens UI). It's given a different user interface with the same functionality.

Figure 7: List of Traces



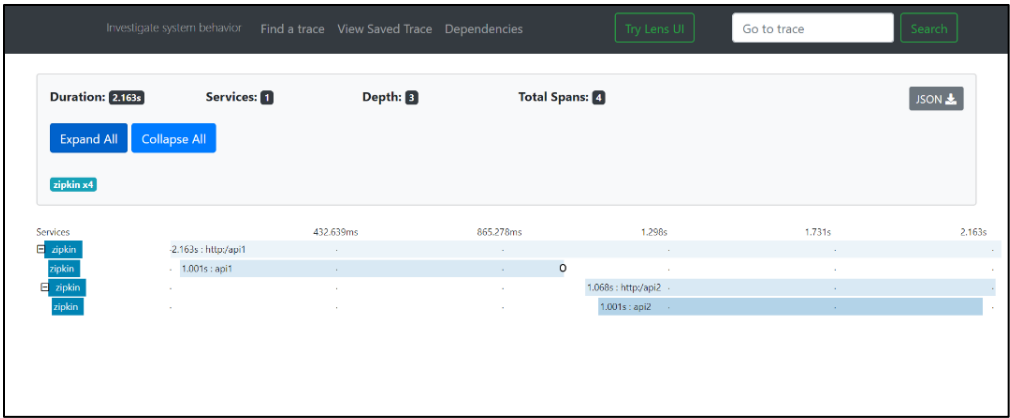
The screenshot shows the Zipkin web interface with the following fields and options:

- Service Name:** dropdown menu with 'zipkin' selected.
- Span Name:** dropdown menu with 'all' selected.
- Remote Service Name:** dropdown menu with 'all' selected.
- Lookback:** dropdown menu with '1 hour' selected.
- Annotation Query:** text input field with the example text 'For example: http.path=/foo/bar/ and cluster=foo and cache.miss'.
- Duration (µs) >=:** text input field with the example text 'Ex: 100ms or 5s'.
- Limit:** text input field with the value '10'.
- Sort:** dropdown menu with 'Longest First' selected.
- Buttons:** 'Find Traces' (blue), 'Try Lens UI' (green), 'JSON' (grey), and 'Download' (grey).
- Message:** 'Showing: 4 of 4 Services: zipkin'.
- Traces:**
 - Trace 1:** 2.163s, 5 spans, zipkin 100%, 18 minutes ago.
 - Trace 2:** 1.449s, 4 spans, zipkin 100%, 22 minutes ago.
 - Trace 3:** 1.430s, 4 spans, zipkin 100%.

The list of the traces can be seen as the above screen. I made some error API calls to showcase how to track errors. The blue listings show the successful API hits and the red listings indicate errors. Each block indicates a single trace in the listings.

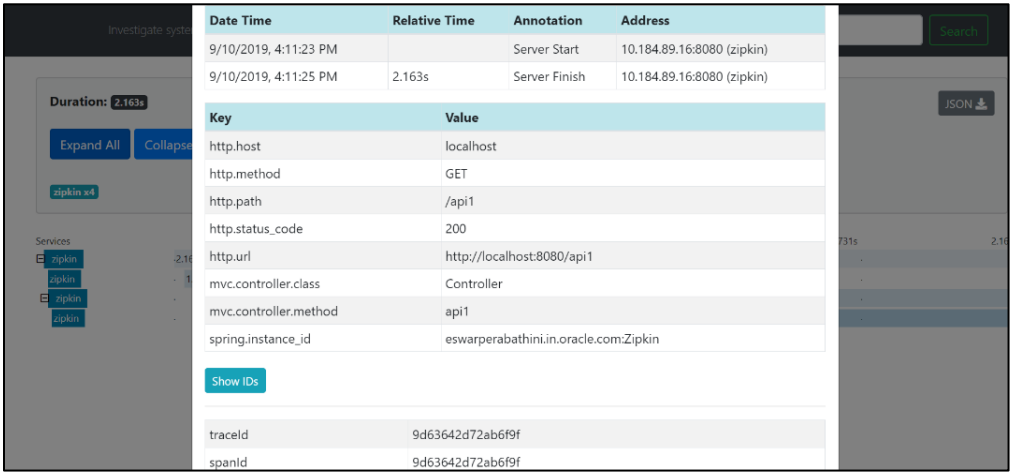
Opening an individual trace shows the below-shown screen.

Figure 8: Individual Trace



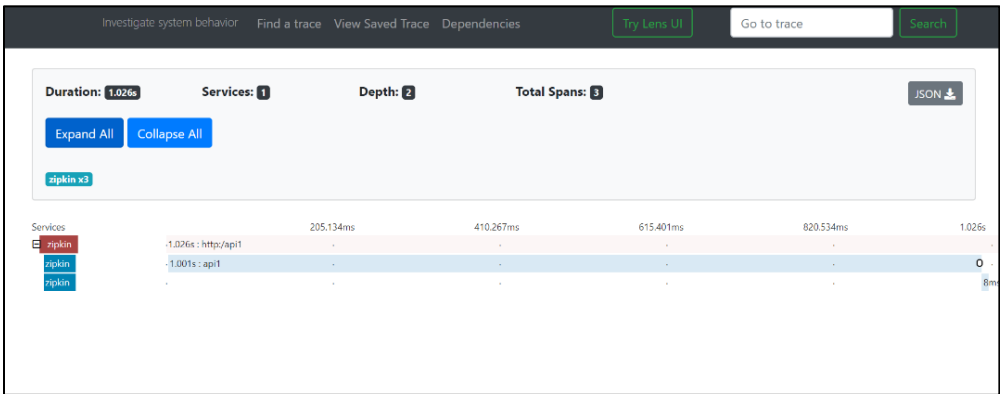
The above-shown image describes the time taken for each block. As I created 2 custom spans inside 2 service calls, we can find a total of 4 blocks. The time taken for an individual block can be seen above. Clicking an individual block shows the following details.

Figure 9: Details of Individual Block



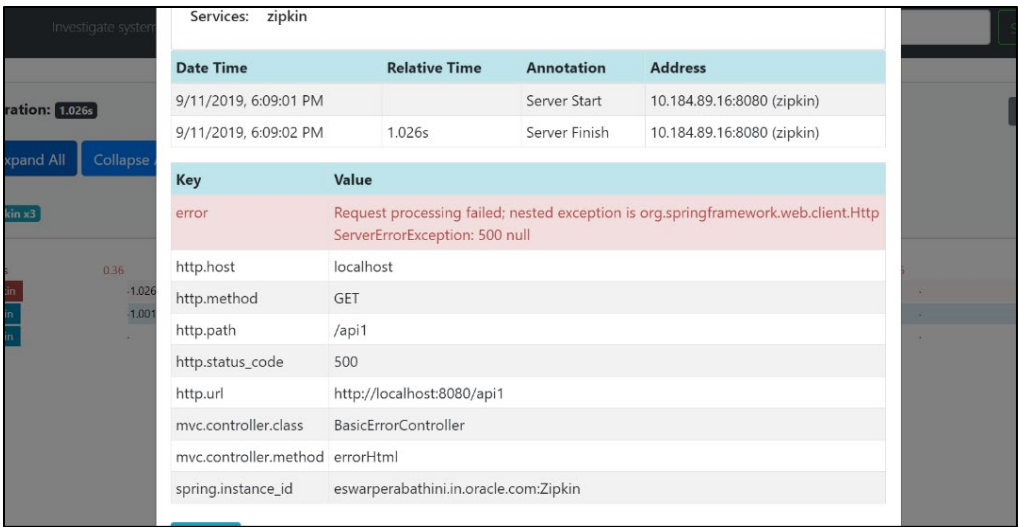
The details of the specific span block are shown above, and the logging events can also be seen in the Zipkin UI as small circular blocks. An example of an error log is shown below.

Figure 10: Sample Error Log



Clicking on the error portion gives a clear detail about the error and where the error has arisen. An example is shown below.

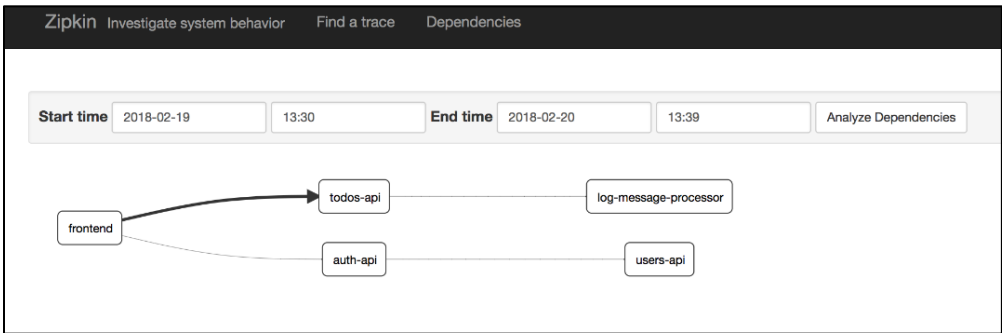
Figure 11: Details of Error



If the Lens UI is used in Zipkin, the above screenshots are not applicable but are relatable to the Lens UI as well.

Traces of the application can be found using Traceld, which can be found in the debug logs of the deployment when spring-cloud-sleuth is included in the dependencies (Included in spring-cloud-starter-zipkin dependency). Clicking the dependency tab gives the dependency graph info between micro-services. An example dependency graph is shown below.

Figure 12: Sample Dependency Graph



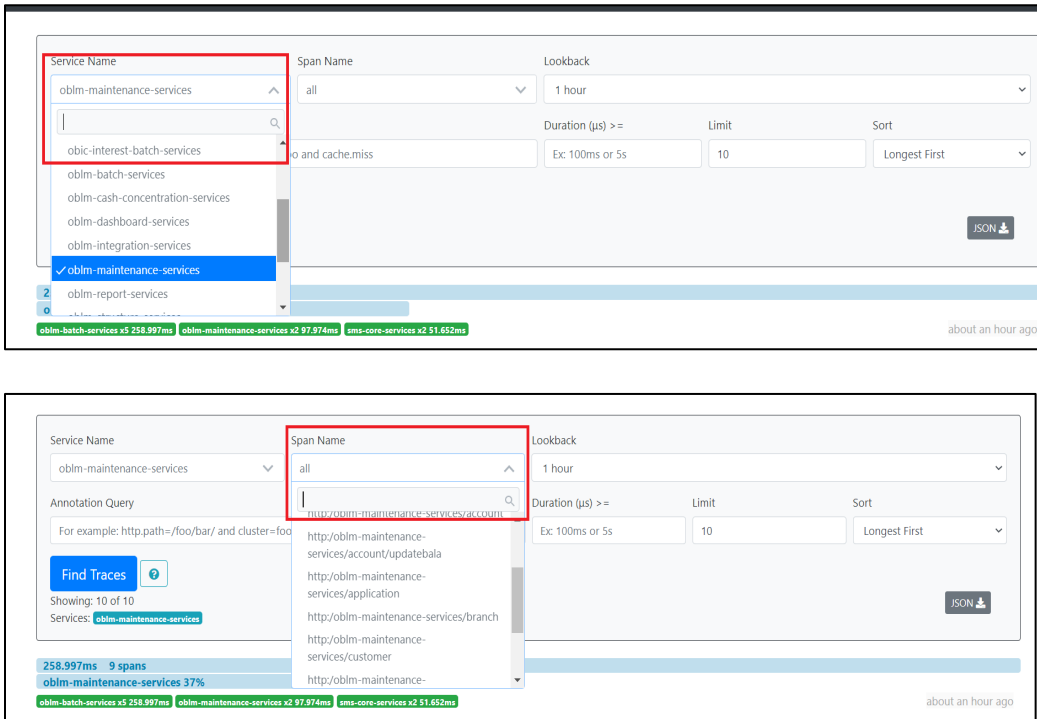
2.4.3 Zipkin Issues

2.4.3.1 Application service not registered

Perform the following steps to find the cause of this error:

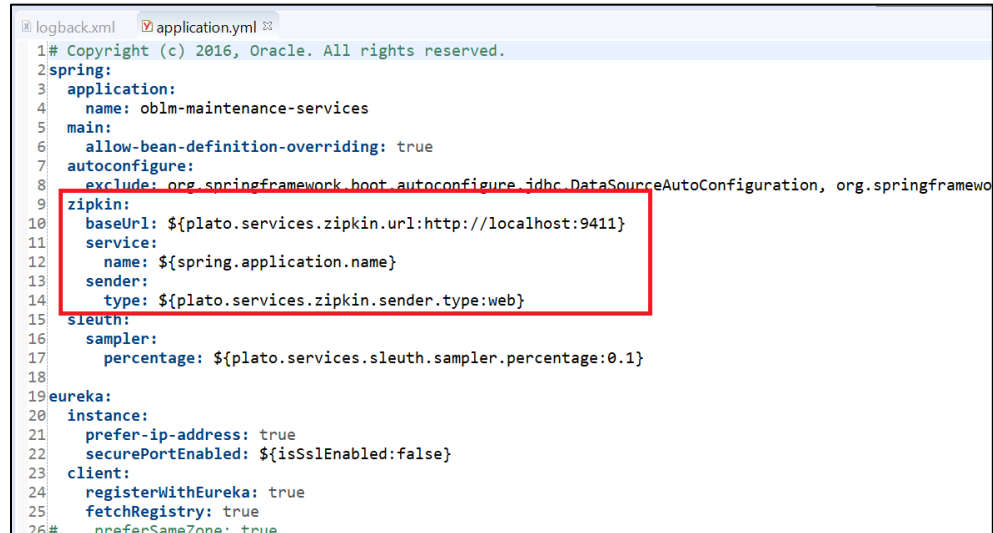
- 1. Check the applications, which are sending the trace to zipkin server from **Service Name** drop-down list.

Figure 13: Find Traces



- If the required application is not listed in Zipkins, check the application.yml file for zipkin base URL configuration. The shipped application.yml should have the zipkin entry.

Figure 14: Application.yml File



```

1# Copyright (c) 2016, Oracle. All rights reserved.
2spring:
3  application:
4    name: oblm-maintenance-services
5  main:
6    allow-bean-definition-overriding: true
7  autoconfigure:
8    exclude: org.springframework.boot.autoconfigure.jdbc.DataSourceAutoConfiguration, org.springframework
9
10 zipkin:
11   baseUrl: ${plato.services.zipkin.url:http://localhost:9411}
12   service:
13     name: ${spring.application.name}
14     sender:
15       type: ${plato.services.zipkin.sender.type:web}
16 sleuth:
17   sampler:
18     percentage: ${plato.services.sleuth.sampler.percentage:0.1}
19 eureka:
20   instance:
21     prefer-ip-address: true
22     securePortEnabled: ${isSslEnabled:false}
23   client:
24     registerWithEureka: true
25     fetchRegistry: true
26   preferSameZone: true
  
```

NOTE: Every service should have **spring-cloud-sleuth-zipkin** dependency added in build gradle file for the service to generate and send trace Id and span Id.

Compile group: 'org.springframework.cloud', name: 'spring-cloud-sleuth-zipkin', version: '2.1.2.RELEASE'.

Figure 15: Branch Common Services

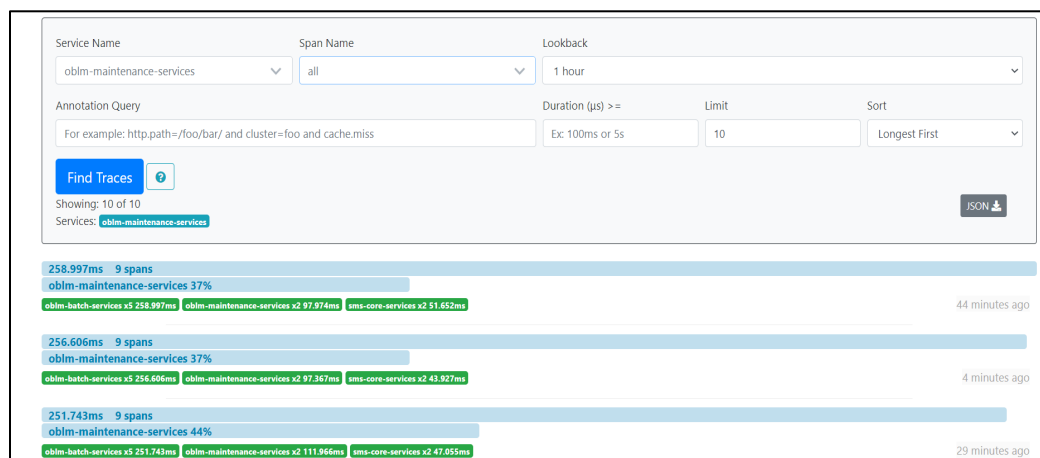
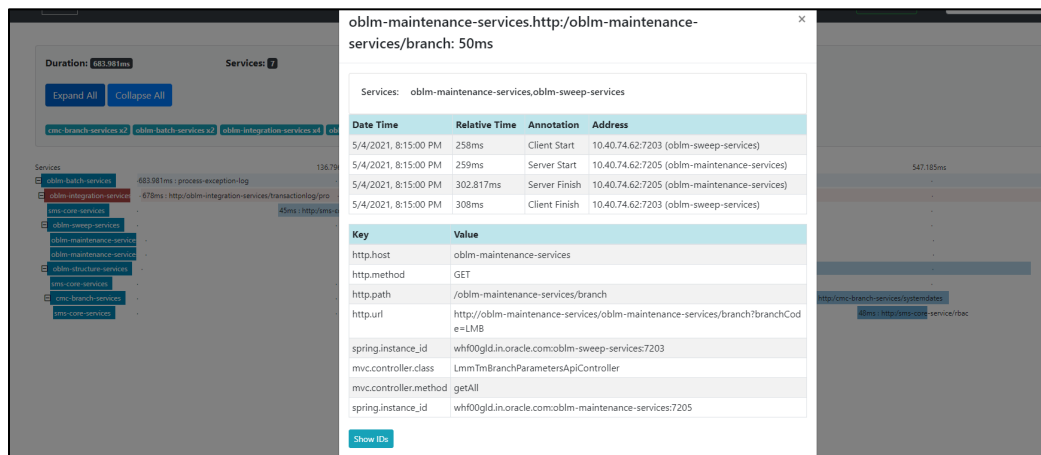


Figure 16: Branch Common Services Trace



2.4.3.2 404 error

If there is 404 error, check if the zipkin-server.jar is running in the system where the application is deployed.

To check this execute the following command

```
netstat -ltnup | grep ':9411'
```

output should be like:

```
tcp6      0      0 :::9411          :::*              LISTEN        10892/java
```

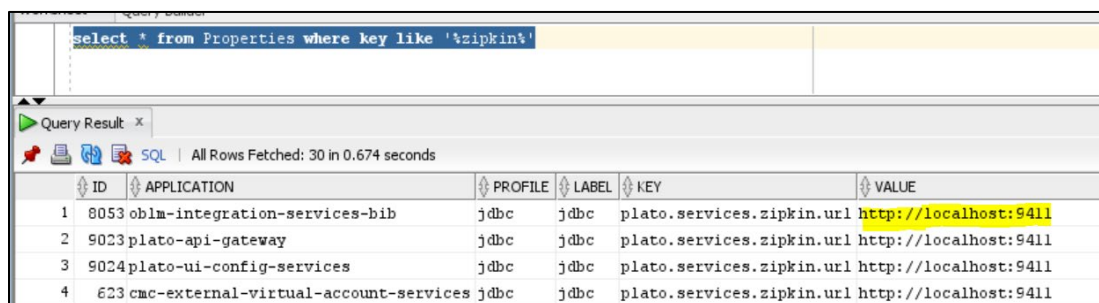
Here 10892 is the PID.

2.4.3.3 Unable to change zipkin default port number

Zipkin default port number is not editable. Hence, verify that the port 9411 is available to start Zipkin-server.jar file. Also check if the zipkin url is provided for the services in the PROPERTIES table.

SELECT * FROM PROPERTIES WHERE KEY LIKE '%zipkin%'

Figure 17: ELK Setup



2.5 Troubleshooting Logs using ELK stack

2.5.1 Setting up ELK

Download the Elastic search from <https://www.elastic.co/downloads/elasticsearch>

Kibana download <https://www.elastic.co/downloads/kibana>

Logstash download <https://www.elastic.co/downloads/logstash>

Default port for Elastic search- 9200

Default port for Kibana- 5601

Step to run ELK:

Run the elasticsearch.sh file present inside /scratch/software/ELK/elasticsearch-6.5.1/bin

- Edit network.host to "localhost" and port if necessary. This should be enough for it to run.
- Start: **nohup bin/elasticsearch &**

Configure Kibana to point the running instance of elastic search in kibana.yml file as below.

Figure 18: Logstash Configuration

```
# Kibana is served by a back end server. This setting specifies the port to use.
#server.port: 5601

# Specifies the address to which the Kibana server will bind. IP addresses and host names are both valid values.
# The default is 'localhost', which usually means remote machines will not be able to connect.
# To allow connections from remote users, set this parameter to a non-loopback address.
server.host: "whf00peb"

# Enables you to specify a path to mount Kibana at if you are running behind a proxy.
# Use the 'server.rewriteBasePath' setting to tell Kibana if it should remove the basePath
# from requests it receives, and to prevent a deprecation warning at startup.
# This setting cannot end in a slash.
#server.basePath: ""

# Specifies whether Kibana should rewrite requests that are prefixed with
# `server.basePath` or require that they are rewritten by your reverse proxy.
# This setting was effectively always `false` before Kibana 6.3 and will
# default to `true` starting in Kibana 7.0.
#server.rewriteBasePath: false

# The maximum payload size in bytes for incoming server requests.
#server.maxPayloadBytes: 1048576

# The Kibana server's name. This is used for display purposes.
#server.name: "your-hostname"

# The URL of the Elasticsearch instance to use for all your queries.
#elasticsearch.url: "http://localhost:9200"

# When this setting's value is true Kibana uses the hostname specified in the server.host
```

Configuring Logstash consists of 3 steps:

1. **Input-** This configuration is required to provide the log file location for the Logstash to read from.
2. **Filter-** Filters in logstash is basically used to control or format the read operation(Line by line or Bulk read)
3. **Output-** In this section we provide the running elastic search instance to send the data for persisting.

Figure 19: Kibana

```
logstash.conf

#Point to the application logs
input {
  beats {
    port => 5044
  }
}

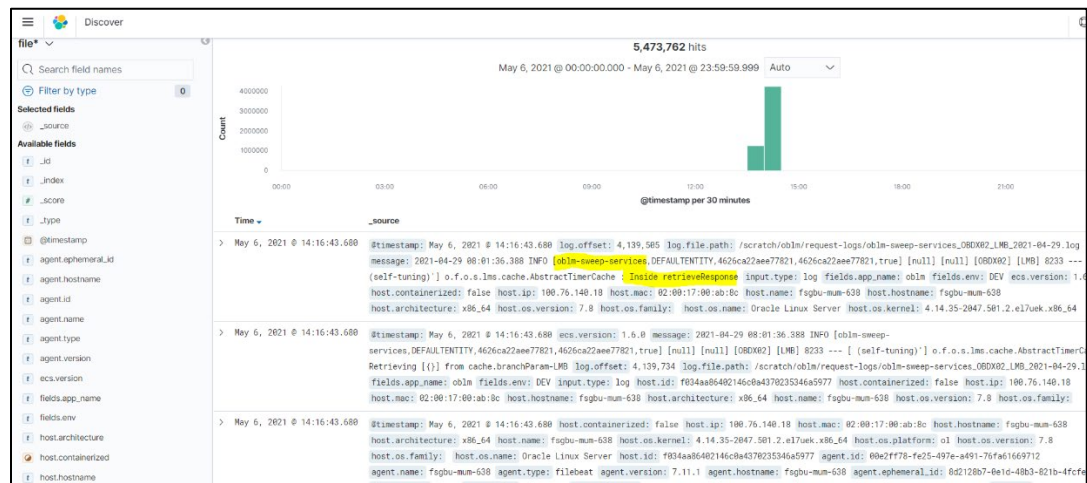
#Provide the parsing logic to transform logs into JSON
filter {
  # Adding @metadata needed for index sharding to Filebeat logs
  mutate {
    copy => {
      "[fields][app_name]" => "[@metadata][app_name]"
      "[fields][env]" => "[@metadata][envt]"
    }
  }

  #If log line contains tab character followed by 'at' then we will tag that entry as stacktrace
  if [message] =~ "\tat" {
    grok {
      match => ["message", "^(\tat)"]
      add_tag => ["stacktrace"]
    }
  }
}
```

2.5.2 Accessing Kibana

- Goto path `../kibana-7.8.1-linux-x86_64/config/kibana.yml`
- Edit `server.host`: "0.0.0.0" for access outside host and `server.port`: <any port, defaults to 5601>
- Validate elasticsearch properties - it defaults to localhost:9200
- Goto : **http://host:port** you should be able to see the Kibana console UI. Kibana needs elasticsearch to be UP as it creates indexes & fetches logs from it.
- Start: **nohup bin/kibana &**

Figure 20: Accessing Kibana



2.6 Troubleshooting Logs Kafka issues

2.6.1 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>

2.6.2 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 services 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>

2.6.3 Some references that can be useful

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

2.7 Troubleshooting Environmental Issues

This section contains the following subsections:

- [2.7.1 Possible issues while deploying services](#)
- [2.7.2 Possible issues in login and screen launch](#)

2.7.1 Possible issues while deploying services

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

2.7.1.1 Service deployment is failing due to flyway

If the service deployment is failing due to flyway, verify that the object or record is already present and make changes in the flyway scripts accordingly.

You may check **flyway_schema_history** table of the respective schema for finding the flyway script entries.

2.7.1.2 Other possible issues

The other possible issue while deploying services could be multiple version of dependency jars present in the war file. For example,

“weblogic.application.naming.EnvironmentException: duplicate persistence units with name PLATO in scope cmc-customer-services-5.3.0.war.”

2.7.2 Possible issues in login and screen launch

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

2.7.2.1 Login page is not launching

If the login page is not launching, check if the app-shell war file is deployed. If it is deployed, make sure that the war file is up and running in the deployed managed server and try to login. In addition, check if you are logged in with the appshell URL according to the war file deployed.

Also, check if the required component-server wars like cmc-component-server, oblm-component-server etc are also deployed along with the app-shell.

For example, <http://whf00bjp.in.oracle.com:7403/app-shell/index.jsp> will load the login page of the application.

Figure 21: Login Page

2.7.2.2 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 22: Services

PLATO-API-GATEWAY	n/a (1)	(1)	UP (1) - whf00bjo.in.oracle.com:plato-api-gateway:7007
PLATO-BATCH-SERVER	n/a (1)	(1)	UP (1) - whf00bjo.in.oracle.com:plato-batch-server:7013
PLATO-DISCOVERY-SERVICE	n/a (1)	(1)	UP (1) - whf00bjo.in.oracle.com:plato-discovery-service:7003
PLATO-O	n/a (1)	(1)	UP (1) - whf00bjo
PLATO-ORCH-SERVICE	n/a (1)	(1)	UP (1) - whf00bjo.in.oracle.com:plato-orch-service:7017
PLATO-UI-CONFIG-SERVICES	n/a (1)	(1)	UP (1) - whf00bjo.in.oracle.com:plato-ui-config-services:7009
SMS-CORE-SERVICES	n/a (1)	(1)	UP (1) - whf00bjo.in.oracle.com:sms-core-services:7011

2.7.2.3 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.

2.7.2.4 Teller menus are not displayed after logging in

After you log in, if the teller menus are not displayed, map the functional activity codes in the table SMS_TM_ROLE_ACTIVITY. Once it is mapped, check if the corresponding role is assigned to your user id.

2.7.2.5 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 Health Checks

Until we get health check APIs implemented, the health needs to be monitored using weblogic JVM managed server status and Eureka instance.

Figure 23: Health Checks

Instances currently registered with Eureka			
Application	AMIs	Availability Zones	Status
CMC-ACCOUNT-SERVICES	n/a (1)	(1)	UP (1) - whf00bjo.in.oracle.com:cmc-account-services:7103
CMC-BASE-SERVICES	n/a (1)	(1)	UP (1) - whf00bjo.in.oracle.com:cmc-base-services:7103
CMC-BRANCH-SERVICES	n/a (1)	(1)	UP (1) - whf00bjo.in.oracle.com:cmc-branch-services:7103
CMC-CURRENCY-SERVICES	n/a (1)	(1)	UP (1) - whf00bjo.in.oracle.com:cmc-currency-services:7103
CMC-CUSTOMER-SERVICES	n/a (1)	(1)	UP (1) - whf00bjo.in.oracle.com:cmc-customer-services:7103
CMC-EXTERNAL-CHART-ACCOUNT-SERVICES	n/a (1)	(1)	UP (1) - whf00bjo.in.oracle.com:cmc-external-chart-account-services:7103
CMC-EXTERNAL-SYSTEM-SERVICES	n/a (1)	(1)	UP (1) - whf00bjo.in.oracle.com:cmc-external-system-services:7103
CMC-EXTERNAL-VIRTUAL-ACCOUNT-SERVICES	n/a (1)	(1)	UP (1) - whf00bjo.in.oracle.com:cmc-external-virtual-account-services:7103
CMC-OBRRH-SERVICES	n/a (1)	(1)	UP (1) - whf00bjo.in.oracle.com:cmc-obrrh-services:7103
CMC-REPORT-SERVICES	n/a (1)	(1)	UP (1) - whf00bjo.in.oracle.com:cmc-report-services:7103
CMC-SETTLEMENTS-SERVICES	n/a (1)	(1)	UP (1) - whf00bjo.in.oracle.com:cmc-settlements-services:7103
CMC-TXN-CODE-SERVICES	n/a (1)	(1)	UP (1) - whf00bjo.in.oracle.com:cmc-txn-code-services:7103
OBLM-BATCH-SERVICES	n/a (1)	(1)	UP (1) - whf00bjo.in.oracle.com:oblm-batch-services:7303
OBLM-CASH-CONCENTRATION-SERVICES	n/a (1)	(1)	UP (1) - whf00bjo.in.oracle.com:oblm-cash-concentration-services:7311
OBLM-DASHBOARD-SERVICES	n/a (1)	(1)	UP (1) - whf00bjo.in.oracle.com:oblm-dashboard-services:7211
OBLM-ICL-SERVICES	n/a (1)	(1)	UP (1) - whf00bjo.in.oracle.com:oblm-icl-services:7144
OBLM-INTEGRATION-SERVICES	n/a (1)	(1)	UP (1) - whf00bjo.in.oracle.com:oblm-integration-services:7307
OBLM-MAINTENANCE-SERVICES	n/a (1)	(1)	UP (1) - whf00bjo.in.oracle.com:oblm-maintenance-services:7205
OBLM-POOL-SERVICES	n/a (1)	(1)	UP (1) - whf00bjo.in.oracle.com:oblm-pool-services:7209

3.1 Weblogic

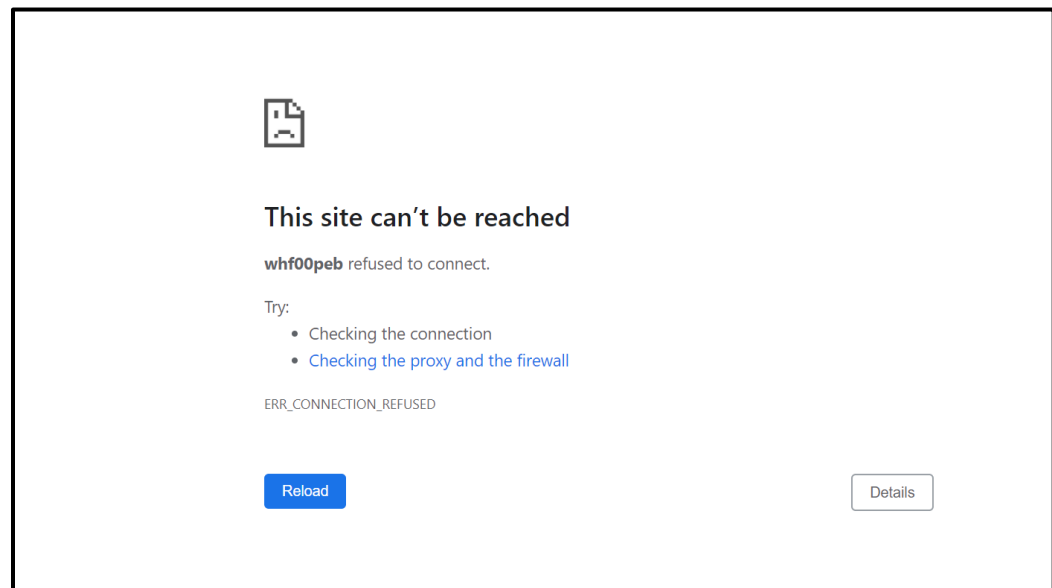
3.1.1 Unable to login to weblogic console

Sometimes you are unable to login to weblogic console or console is down when trying to deploy or re-deploy services

This issue can be fixed by restarting weblogic domain from server. Perform the following steps:

1. To stop the weblogic server, which is already running, go to path “/Oracle_Home/user_projects/domains/bin” and execute **sh** file with “.” prefixing to it. For example, **./stopWebLogic.sh**.
2. Once the server is stopped, try to start the server by executing below command, so that it can run in the background. For example, **./startWebLogic.sh &**.

Figure 24: Error Message



3.1.2 Unable to stop a service

If you are not able to stop a service, which is already running, try to bring down the managed server and remove the war file.

3.1.3 GC Overhead limit exceeded/OutOfMemoryException error

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.

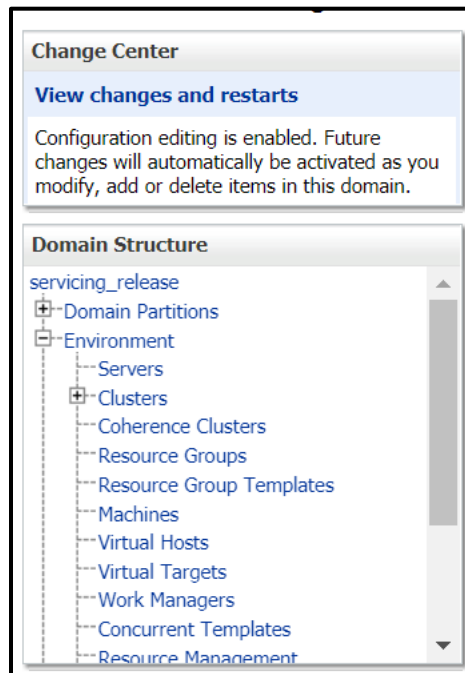
- Heap Dump
- Configuration of environment

For 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:

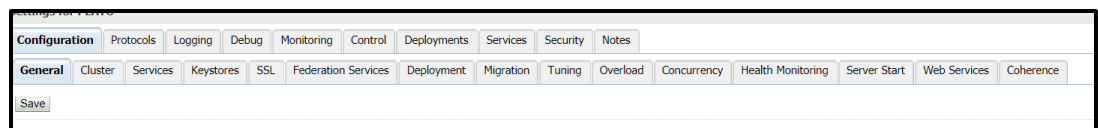
1. Click **Servers**.

Figure 25: Domain Structure



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

Figure 26: Managed Servers



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 27: Memory Update

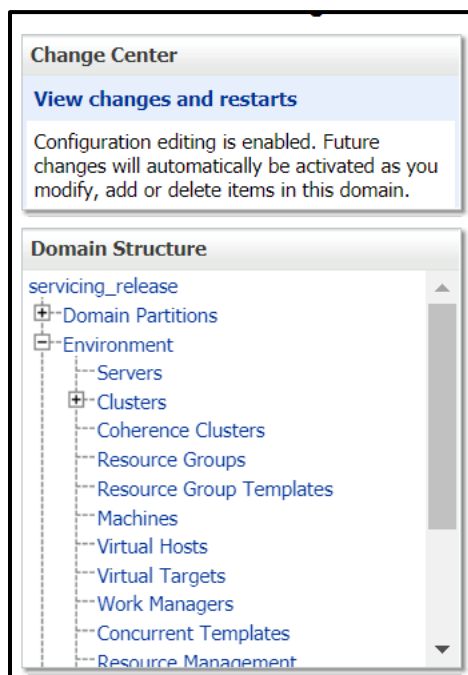


3.1.4 Managed server is failed or not reachable

If the managed server is in failed or not reachable state, perform the following steps to restart the managed server:

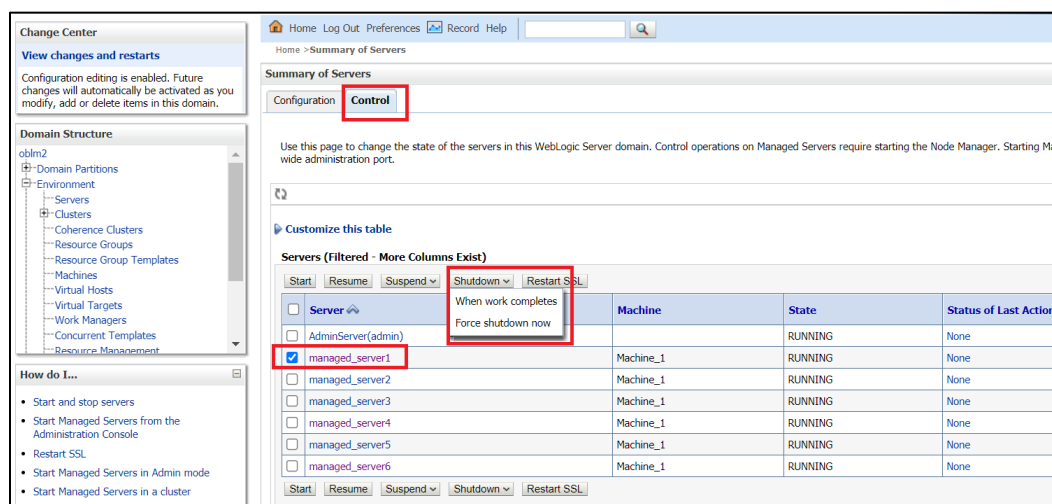
1. Go to **Servers**, select **Control** tab, and then select the managed server.

Figure 28: Domain Structure



2. Click **Shutdown**.

Figure 29: Control Tab



3. After you bring down the server, click **Start** to restart the server.

3.1.5 weblogic.application.ModuleException error

If there is an error like “weblogic.application.ModuleException: Context path '/oblm-maintenance-services' is already in use by the module”, make sure that the re-deploying service is removed properly. If the issue persists, try to restart the managed server.

3.2 Application Services

Catalog of services required for Oracle Banking Liquidity Management to run

Table 2: Application Services

Group	Service List	Usage
OBLM	oblm-batch-services	Used for running batch jobs
OBLM	oblm-cash-concentration-services	Used for various sweeps/cash concentration methods.
OBLM	oblm-dashboard-services	Used for loading oblm dashboard data
OBLM	oblm-icl-services	Used for inter-company loan creation
OBLM	oblm-integration-services	Used for integrating with external systems.
OBLM	oblm-maintenance-services	Used for LM parameter maintenances.
OBLM	oblm-messaging-services	Used for payment messaging
OBLM	oblm-pool-services	Used for pool structures
OBLM	oblm-report-services	Used for report generation
OBLM	oblm-rtl-services	Used for RTL structures
OBLM	oblm-structure-services	Used for account structures
OBLM	oblm-sweep-services	Used for sweep executions
OBLM	oblm-component-server	OBLM UI
OBLM	obic-bod-batch-services	Used for Interest and Charges
OBLM	obic-charge-calc-services	Used for Interest and Charges
OBLM	obic-external-adapter-services	Used for Interest and Charges
OBLM	obic-intchg-accting-services	Used for Interest and Charges
OBLM	obic-interest-accrual-services	Used for Interest and Charges
OBLM	obic-interest-allocate-services	Used for Interest and Charges
OBLM	obic-interest-batch-services	Used for Interest and Charges
OBLM	obic-interest-calc-services	Used for Interest and Charges
OBLM	obic-interest-input-services	Used for Interest and Charges
OBLM	obic-interest-liquidation-services	Used for Interest and Charges
OBLM	obic-interest-maintqueue-services	Used for Interest and Charges
OBLM	obic-interest-resolve-services	Used for Interest and Charges
OBLM	obic-maintenance-services	Used for Interest and Charges
OBLM	obic-online-liquidation-services	Used for Interest and Charges
PLATO	plato-config-service	Required for PLATO framework
PLATO	plato-api-gateway	Required for PLATO framework
PLATO	plato-ui-config-services	Required for PLATO framework
PLATO	plato-discovery-service	Required for PLATO framework
PLATO	plato-batch-server	Required for PLATO framework
PLATO	plato-orch-service	Required for PLATO framework
PLATO	plato-o	Required for PLATO framework
SMS	sms-core-services	SMS services
SMS	sms-component-server	SMS UI
CMC	cmc-obrh-service	Used for routing via OBRH
CMC	cmc-report-service	Common Core Services
CMC	cmc-settlements-services	Common Core Services
CMC	cmc-txn-code-services	Common Core Services

CMC	cmc-account-services	Common Core Services
CMC	cmc-base-services	Common Core Services
CMC	cmc-branch-services	Common Core Services
CMC	cmc-currency-services	Common Core Services
CMC	cmc-customer-services	Common Core Services
CMC	cmc-external-chart-account	Common Core Services
CMC	cmc-external-system-services	Common Core Services
CMC	cmc-external-virtual-account-services	VAM services
CMC	cmc-component-server-5.8.0.war	CMC UI
CMC	app-shell-5.8.0.war	UI

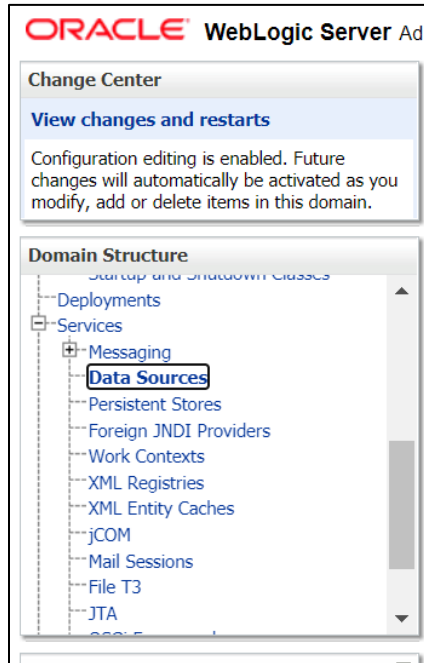
3.3 Database

3.3.1 Configure Data Sources in WebLogic

To add the Data Sources, follow the below steps:

1. Go to **Services**, select **Data Sources** option.

Figure 30: Data Sources



2. Click on **New** button and add the data source providing the required details.

Figure 31: Summary of JDBC Data Sources

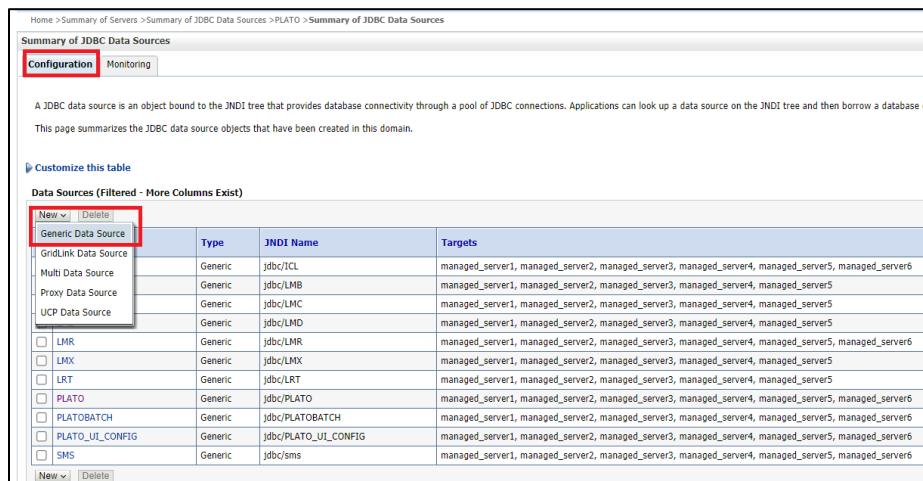


Figure 32: Create a New JDBC Data Source

Create a New JDBC Data Source

Back Next Finish Cancel

JDBC Data Source Properties

The following properties will be used to identify your new JDBC data source.
* Indicates required fields

What would you like to name your new JDBC data source?

*** Name:** PLATO

What scope do you want to create your data source in ?

Scope: Global

What JNDI name would you like to assign to your new JDBC Data Source?

JNDI Name: jdbc/PLATO

What database type would you like to select?

Database Type: Oracle

Create a New JDBC Data Source

Back Next Finish Cancel

Connection Properties

Define Connection Properties.

What is the name of the database you would like to connect to?

Database Name: OBLMDB

What is the name or IP address of the database server?

Host Name: whf00bqa.in.oracle.com

What is the port on the database server used to connect to the database?

Port: 1521

What database account user name do you want to use to create database connections?

Database User Name: OBLM144DEVPLATO

What is the database account password to use to create database connections?

Password:

Confirm Password:

Additional Connection Properties:

oracle.jdbc.DRCPConnectionClass:

Back Next Finish Cancel

3.3.2 Day0 Scripts

Make sure that all the Day0 scripts available in the product package are run successfully.

4 Troubleshooting Application Workflows

This topic describes the troubleshooting functional workflows applicable to Oracle Banking Liquidity Management. It contains the following sections:

- [4.1 Micro Frontend Architecture](#)
- [4.2 Payment Service Integration Troubleshooting](#)

4.1 Micro Frontend Architecture

The Micro Frontend Architectures of Oracle Banking Liquidity Management are shown below:

Figure 33: UI – Micro Frontend Architecture

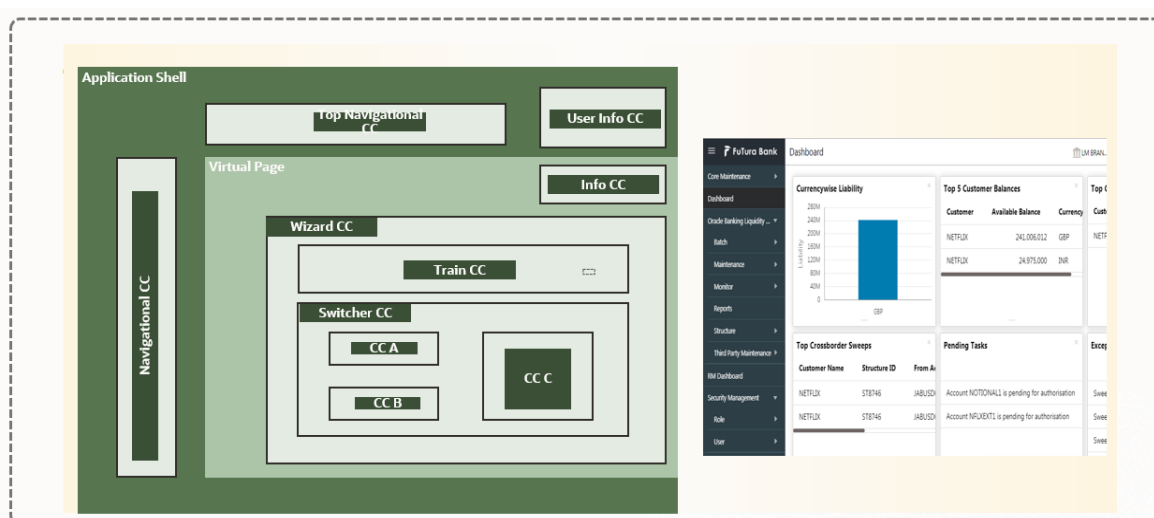
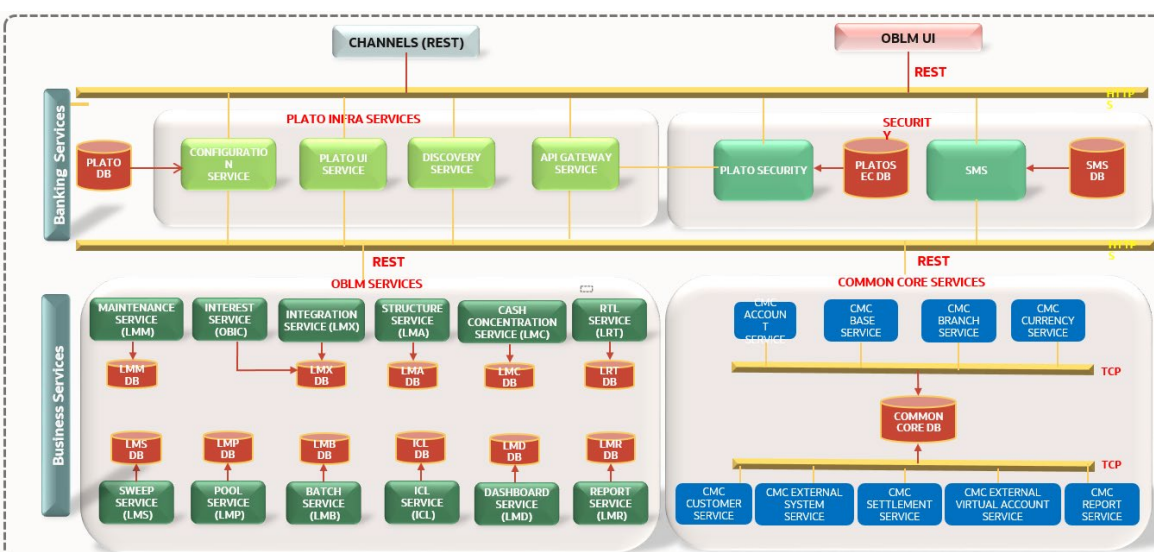
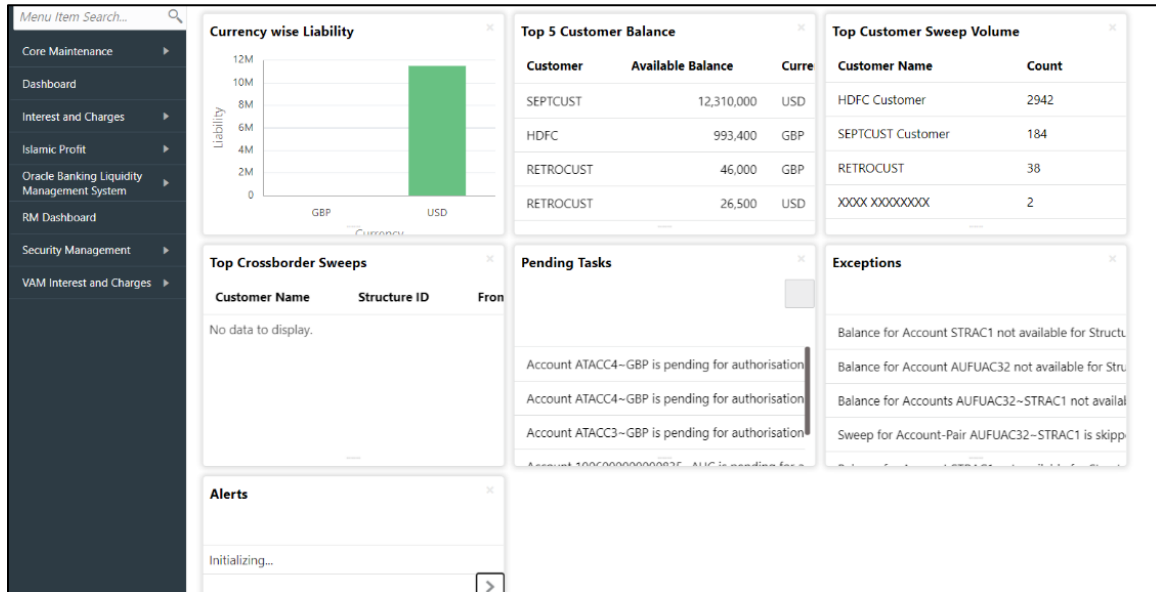


Figure 34: Services – Micro Frontend Architecture



On successful login, the Oracle Banking Liquidity Management dashboard screen appears depending on the user privileges.

Figure 35: Oracle Banking Liquidity Management Dashboard



- **User Role Issues**

Role Profile includes access rights to the functional activities that are common to a group of users. A user can be linked to a Role Profile by which you give the user access rights to all the functional activities in the Role Profile.

Go to: **Security Management > Role** screen.

Figure 36: Role Maintenance

Functional Activity Code	Functional Activity Description
CMC_FA_BRANCH_EOD_PROCESS	Branch EOD process
SMS_FA_USER_NEW	User Create
SMS_FA_ROLE_AMEND	Role Amend
SMS_FA_ROLE_CLOSE	Role Close
SMS_FA_ROLE_REOPEN	Role ReOpen

Only authorized users can access the system with the help of a unique User Login ID and password. The user profile of a user contains the details of the user in four sections - User details, Status, Other details and User role branches.

Go to: **Security Management > User screen.**

Figure 37: Users Maintenance

The screenshot displays the 'Users Maintenance' interface. It includes sections for 'User Details' (Username, Login ID, Home Branch), 'Status' (User Status, Status Changed On, In Suspension, Manager ID), 'Other Details' (Access to Pi, Telephone Number, Theme, Staff Customer Restriction Required, Home Phone Number, Mobile Number, Customer ID, Email ID, Language Code), 'User Role Branches' (a table with columns Branch Code, Role Code, Role Description), and 'User Applications' (a table with columns Application Name, Application Description). Red boxes highlight the 'User Role Branches' and 'User Applications' sections. A 'Select All Applications' button is also highlighted in the 'User Applications' section.

NOTE: Make sure that the required Role and User Applications are mapped to the user.

4.1.1 First level issues

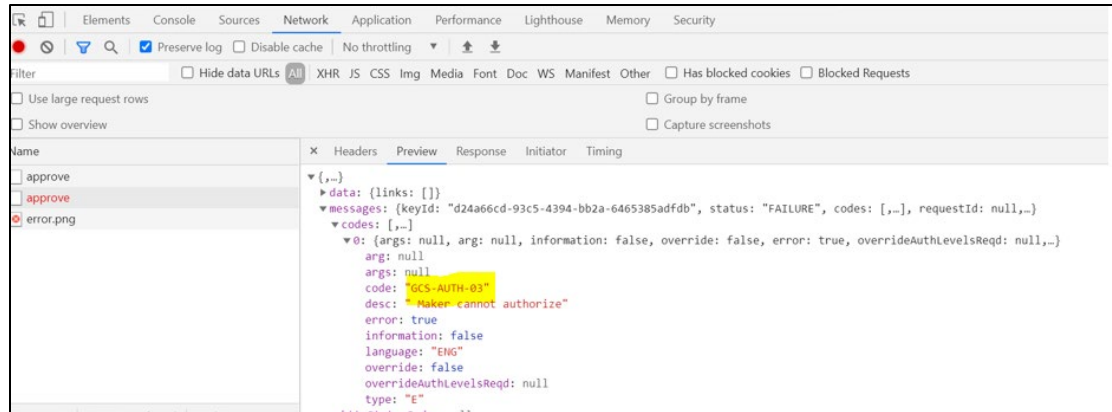
This subsection describes the possible issues that may occur during the basic investigation.

4.1.1.1 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'

Figure 38: Error Message not shown



4.1.1.2 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;
```

Figure 39: Setting Log file path

The screenshot shows the SQL Developer interface with the query `select * from plato_logger_param_config` executed. The results are displayed in a table with 4 columns: ID, MODIFY_FIELD, PARAM_NAME, and PARAM_VAL. The data is as follows:

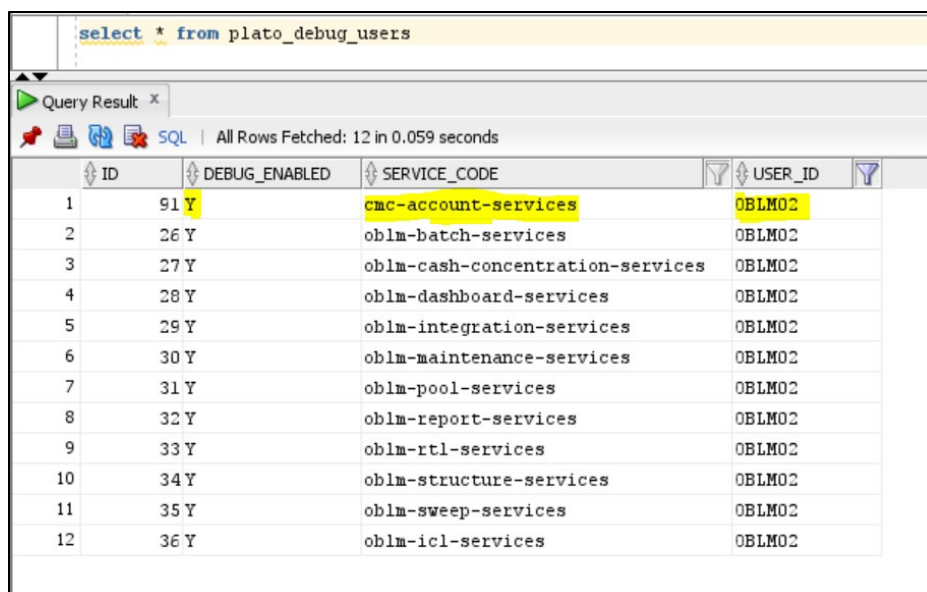
ID	MODIFY_FIELD	PARAM_NAME	PARAM_VAL
1	1 N	LOG_PATH	/scratch/oblm/request-logs
2	2 N	LOG_LEVEL	INFO
3	3 N	LOG_MSG_WITH_TIME	Y

4.1.1.3 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;
```

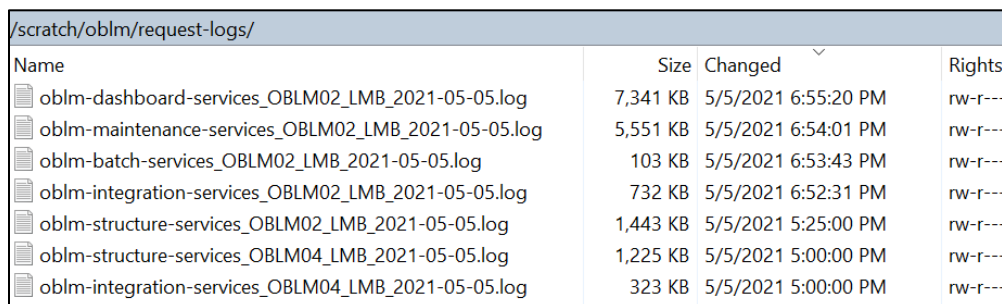
Figure 40: Dynamic log generation issues



ID	DEBUG_ENABLED	SERVICE_CODE	USER_ID
1	91 Y	cmc-account-services	OBLM02
2	26 Y	oblm-batch-services	OBLM02
3	27 Y	oblm-cash-concentration-services	OBLM02
4	28 Y	oblm-dashboard-services	OBLM02
5	29 Y	oblm-integration-services	OBLM02
6	30 Y	oblm-maintenance-services	OBLM02
7	31 Y	oblm-pool-services	OBLM02
8	32 Y	oblm-report-services	OBLM02
9	33 Y	oblm-rtl-services	OBLM02
10	34 Y	oblm-structure-services	OBLM02
11	35 Y	oblm-sweep-services	OBLM02
12	36 Y	oblm-icl-services	OBLM02

NOTE: Login to WINSOCP and check server logs. Log files for each service will be generated based on the user_id, branch_code and date at the path provided in the plato_logger_param_config table.

Figure 41: Server logs

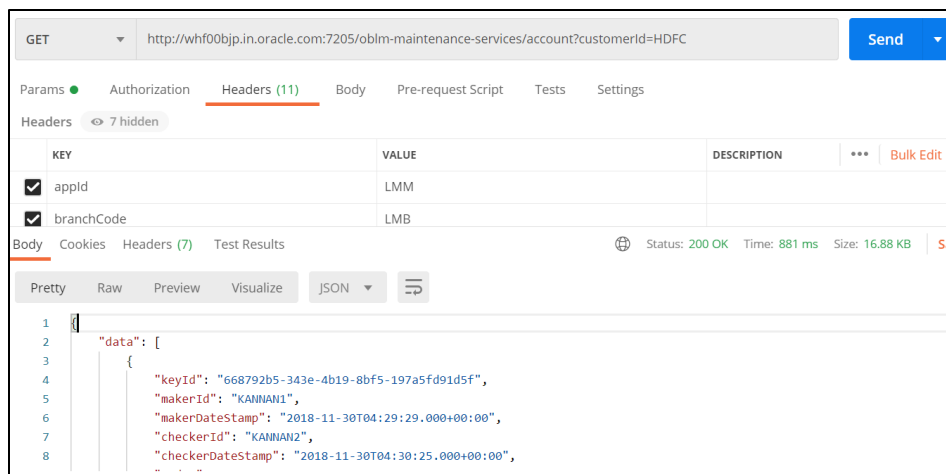


Name	Size	Changed	Rights
oblm-dashboard-services_OBLM02_LMB_2021-05-05.log	7,341 KB	5/5/2021 6:55:20 PM	rw-r--
oblm-maintenance-services_OBLM02_LMB_2021-05-05.log	5,551 KB	5/5/2021 6:54:01 PM	rw-r--
oblm-batch-services_OBLM02_LMB_2021-05-05.log	103 KB	5/5/2021 6:53:43 PM	rw-r--
oblm-integration-services_OBLM02_LMB_2021-05-05.log	732 KB	5/5/2021 6:52:31 PM	rw-r--
oblm-structure-services_OBLM02_LMB_2021-05-05.log	1,443 KB	5/5/2021 5:25:00 PM	rw-r--
oblm-structure-services_OBLM04_LMB_2021-05-05.log	1,225 KB	5/5/2021 5:00:00 PM	rw-r--
oblm-integration-services_OBLM04_LMB_2021-05-05.log	323 KB	5/5/2021 5:00:00 PM	rw-r--

4.1.1.4 Call is failing in Gateway

If any API call is failing in Gateway, hit the same API endpoint without passing through api-gateway via postman.

Figure 42: Call is failing in Gateway



NOTE: Restart the specific services if required.

4.1.1.5 Code error in GCS side

If there is any error in GCS side codes, use java de-compiler to debug the error.

4.1.1.6 404 error

The possible causes for 404 error are as follows:

- Check service is not running on Eureka
- Check if service is deployed in Weblogic

4.1.1.7 500 internal error

The possible causes for 500 internal error are as follows:

- Issue with Plato entries
- Issue with Eureka
- Service may not be up
- Issue with any peace of code

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

4.1.2 Transaction data verification

Follow the best practices mentioned below to avoid getting any errors:

- In the **IN** request and **OUT** response, verify that all the field data is going to service side.
- If there is any error related to SMS, check for the availability of SMS entries.
- Validate the endpoints and data.
- Validate the request headers passed during the API call.
- Verify that the data entered in the screen is accurate. For example, **Account Number** should be valid.

Figure 43: Account Number

Account Number

Account Number

Account Description

Branch Code

RETROACC2

Currency Code

IBAN

Fetch

Account Number	Account Description	Branch Code	Currency Code	Virtual Account	Account Type	IBAN	No Credit	No Debit	Blocked
RETROACC2	RETROACC2	RET	USD	N	Internal		N	N	N

Page

1

of 1

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4.2 Payment Service Integration Troubleshooting

The section describes the possible issues that may occur in payment service integration. The possible issues and causes are described in the following subsections:

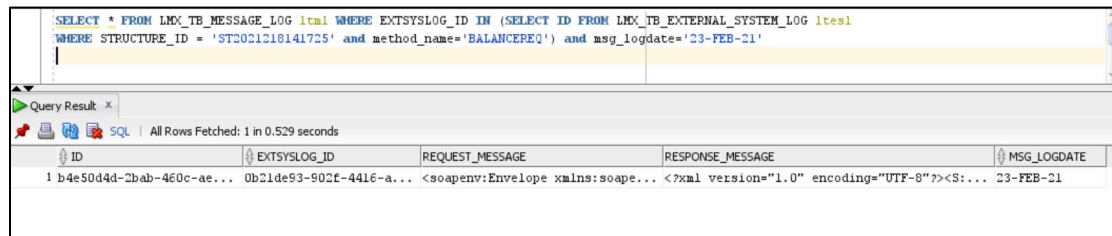
- [4.2.1 Balance Fetch \(FCUBS\) is failing](#)
- [4.2.2 Accounting call \(FCUBS\) is failing](#)
- [4.2.3 OBPM call is failing](#)

4.2.1 Balance Fetch (FCUBS) is failing

If Balance Fetch call (FCUBS) is failing, check the LMX_TB_MESSAGE_table for the request and response xml. Execute the following query to verify results:

```
SELECT * FROM LMX_TB_MESSAGE_LOG ltm1 WHERE EXTSYSLOG_ID IN (SELECT ID FROM LMX_TB_EXTERNAL_SYSTEM_LOG ltes1
WHERE STRUCTURE_ID = 'ST2021218141725' and method_name='BALANCEREQ') and msg_logdate='23-FEB-21'
```

Figure 44: Balance Fetch (FCUBS) is failing



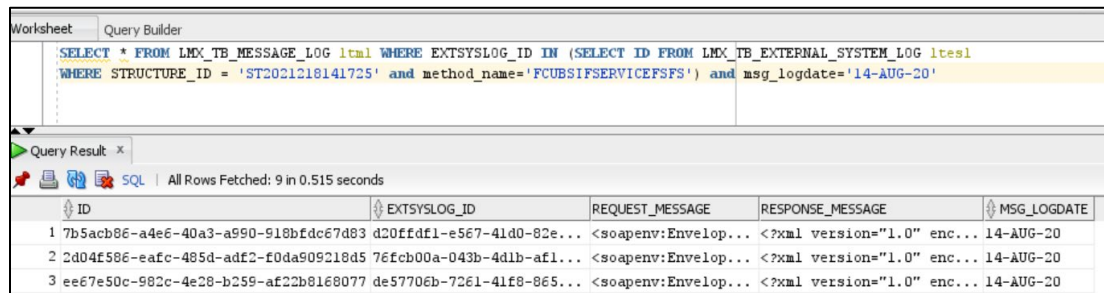
ID	EXTSYSLOG_ID	REQUEST_MESSAGE	RESPONSE_MESSAGE	MSG_LOGDATE
1 b4e50d4d-2bab-460c-ae...	0b21de93-902f-4416-a...	<soapenv:Envelope xmlns:soape...	<?xml version="1.0" encoding="UTF-8"?><S:...	23-FEB-21

4.2.2 Accounting call (FCUBS) is failing

If accounting call (FCUBS) is failing, check the LMX_TB_MESSAGE_LOG table for the request and response xml. Execute the following query to verify results:

```
SELECT * FROM LMX_TB_MESSAGE_LOG WHERE EXTSYSLOG_ID IN (SELECT ID  
FROM LMX_TB_EXTERNAL_SYSTEM_LOG WHERE STRUCTURE_ID =  
'ST2021218141725' and METHOD_NAME=' FCUBSIFSERVICEFSFS') AND  
MSG_LOGDATE='23-FEB-21'
```

Figure 45: Account calling (FCUBS) is failing



ID	EXTSYSLOG_ID	REQUEST_MESSAGE	RESPONSE_MESSAGE	MSG_LOGDATE
1 7b5acb86-a4e6-40a3-a990-918bfdc67d83	d20ffdf1-e567-41d0-82e...	<soapenv:Envelop...	<?xml version="1.0" enc...	14-AUG-20
2 2d04f586-eafc-485d-adf2-f0da909218d5	76fcb00a-043b-4dlb-af1...	<soapenv:Envelop...	<?xml version="1.0" enc...	14-AUG-20
3 ee67e50c-982c-4e28-b259-af22b8168077	de57706b-7261-41f8-865...	<soapenv:Envelop...	<?xml version="1.0" enc...	14-AUG-20

4.2.3 OBPM call is failing

If OBPM call is failing, check the LMX_TB_MESSAGE_LOG table for the request and response xml. Execute the following query to verify results:

```
SELECT * FROM LMX_TB_MESSAGE_LOG WHERE EXTSYSLOG_ID IN (SELECT ID  
FROM LMX_TB_EXTERNAL_SYSTEM_LOG WHERE STRUCTURE_ID =  
'ST2021218141725' AND MET
```


5 Business Error Codes

This section list the possible error codes that you might receive and possible solutions.

Table 3: Error codes and Descriptions

Error code	Description	Type [E-Error, W-Warning, I-Information]
GCS-AUTH-01	Record Successfully Authorized	I
GCS-AUTH-02	Valid modifications for approval were not sent. Failed to match	E
GCS-AUTH-03	Maker cannot authorize	E
GCS-AUTH-04	No valid unauthorized modifications found for approval.	E
GCS-CLOS-002	Record Successfully Closed	I
GCS-CLOS-01	Record Already Closed	E
GCS-CLOS-02	Record Successfully Closed	I
GCS-CLOS-03	Unauthorized record cannot be closed, it can be deleted before first authorization	E
GCS-COM-001	Record does not exist	E
GCS-COM-002	Invalid version sent, operation can be performed only on latest version	E
GCS-COM-003	Please Send Proper ModNo	E
GCS-COM-004	Please send makerId in the request	E
GCS-COM-005	Request is Null. Please Resend with Proper Values	E
GCS-COM-006	Unable to parse JSON	E
GCS-COM-007	Request Successfully Processed	I
GCS-COM-008	Modifications should be consecutive.	E
GCS-COM-009	Resource ID cannot be blank or "null".	E
GCS-COM-010	You have successfully cancelled \$1.	I
GCS-COM-011	Argghhh, \$1 failed to update.	E
GCS-DEL-001	Record deleted successfully	I

GCS-DEL-002	Record(s) deleted successfully	I
GCS-DEL-003	Modifications didnt match valid unauthorized modifications that can be deleted for this record	E
GCS-DEL-004	Send all unauthorized modifications to be deleted for record that is not authorized even once.	E
GCS-DEL-005	Only Maker of first version of record can delete modifications of record that is not once authorized.	E
GCS-DEL-006	No valid unauthorized modifications found for deleting	E
GCS-DEL-007	Failed to delete. Only maker of the modification(s) can delete.	E
GCS-MOD-001	Closed Record cannot be modified	E
GCS-MOD-002	Record Successfully Modified	I
GCS-MOD-003	Record marked for close, cannot modify.	E
GCS-MOD-004	Only maker of the record can modify before once auth	E
GCS-MOD-005	Not amendable field, cannot modify	E
GCS-MOD-006	Natural Key cannot be modified	E
GCS-MOD-007	Psssttt, only the maker can modify the pending records.	E
GCS-OPEN-01	Teller Batch Record Already Opened	E
GCS-OPEN-01	Record Already Opened	E
GCS-REOP-003	Successfully Reopened	I
GCS-REOP-004	Unauthorized record cannot be reopened, record should be closed and authorized	E
GCS-REOP-01	Unauthorized Record cannot be Reopened	E
GCS-REOP-02	Failed to Reopen the Record, cannot reopen Open records	E
GCS-REOP-03	Successfully Reopened	I
GCS-SAV-001	Record already exists	E
GCS-SAV-002	Record Saved Successfully.	I

GCS-SAV-003	Congratulations!! The record is saved and validated successfully.	I
GCS-SAV-004	Currency Code should be unique	E
GCS-SAV-005	Min cash holding should be lesser than Max cash holding	E
GCS-VAL-001	Congratulations!! Your record is successfully validated.	I
ST-SAVE-027	Request Successfully Processed	I
CC-HST-001	Active \$1 exist for the Host Code	E
CC-MOD-001	\$1 cannot be modified	E
CC-MOD-INV	\$1 is invalid	E
CMC-LOV-007	Invalid Limit Currency	E
CMC-LOV-011	Invalid Version	E
CC-ACC-002	Currency should be null for Multi-Currency Account	E
CC-ACC-102	Record already exist for Source Branch and Source Account No combination	E
CC-ACC-169	Reopen not allowed for a closed Customer No	E
CC-EC-002	Record already exist for Account IBAN	E
CC-NUL-001	\$1 cannot be null	E
CMC-ACC-FOR01	Cannot reopen forgotten account	E
CMC-ACC-PII01	User doesnt have access to PII data, cannot perform create or modify operations	E
CC-01015	Default BIC Is Checked For More Than One BIC	E
CC-01016	Swift Address is Mandatory	E
CC-01017	Default BIC Is Not Checked For any BIC	E
CC-01018	Same Swift Address is present more than once	E
CC-01019	Mismatch in bank code	E
CC-BNK-001	Branch code is in Open status. Close not allowed.	E
CC-BNK-002	Reopen not allowed for a closed Branch Code	E
CC-BNK-003	Only one Bank Code is allowed.	E

CC-BRN-101	Active account/accounts exist for the branch code. Close not allowed.	E
CC-BRN-102	This is HO branch. Close not allowed.	E
CC-CUS-17	Kindly Enter a Valid Walkin Customer	E
CMC-BRN-100	Branch Status retrieved Successfully	I
CMC-BRN-101	Branch doesnot exist	E
CMC-BRN-CD01	Date changed successfully	I
CMC-BRN-CD02	Failed to change date, holiday list not maintained properly	E
CMC-BRN-EOD01	Branch Status not in TI, cannot initiate EOD	E
CMC-BRN-EOD02	EOD invoked for the branch	I
CMC-BRN-EOD03	Invalid Branch Code	E
CMC-BRN-EOD04	Eod Requested on Date is not Branch's Today	E
CMC-BRN-EOD05	EOD cannot be invoked on a holiday	E
CMC-BRN-EOD06	Date changed successfully	I
CMC-BRN-EOD07	EOD not invoked, cannot initiate change date	E
CMC-BRN-EOD08	EOFI job not completed, cannot initiate change date	E
CMC-BRN-EOD09	EOD not invoked, cannot initiate mark TI	E
CMC-BRN-EOD10	Date Change job not completed, cannot initiate TI for next day	E
CMC-BRN-EOD11	Mark TI successful	I
CMC-BRN-EOD12	Branch status not in TI, cannot initiate MarkeOFI	E
CMC-BRN-EOD13	Branch status not in EOFI, cannot change Date	E
CMC-BRN-EOD14	Branch status for next working date update to BOD	I
CMC-BRN-EOD15	Branch status not in BOD, cannot mark TI	E
CMC-BRN-EOD16	Branch status for next working date update to TI	I
CMC-BRN-EOD17	Branch Status Changed to EOFI	I
CMC-BRN-EOD18	Invoke Mark TI failed	E
CMC-BRN-EOD19	Date change completed cannot retrigger	E

CMC-BRN-EOD20	Mark TI completed cannot retrigger	E
CMC-BRN-EOD21	Date changed failed	E
CMC-BRN-EOD30	Invalid requested date, failed to parse	E
CMC-BRN-EOD31	Mark Eoti retry initiated	I
CMC-BRN-EOD32	Cannot retry Mark EOFI which has not failed	E
CMC-BRN-EOD33	Date Changed successfully. \$1	E
CMC-BRN-EOD34	BOD Batches completed successfully.	I
CMC-BRN-EOD35	BOD Batches retriggered successfully. \$1	E
CMC-BRN-EOD36	\$1. Hence EOFI Failed.	E
CC-CUS-167	Record already exist for customer no and source_system_cust_no combination	E
CC-CUS-169	Active account/accounts exist for the customer no	E
CMC-CUS-FOR01	Record successfully deleted	I
CMC-CUS-PII01	User doesnt have access to PII data, cannot perform create or modify operations	E
CMC-FORC-001	Request is null, not valid.	E
CMC-FORC-002	Forget customers request created successfully.	I
CMC-FORC-003	Failed to create forget entities request.	E
CMC-FORC-004	Invalid id sent, id null	E
CMC-FORC-005	Already authorized	E
CMC-FORC-006	Authorized successfully	I
CMC-FORC-007	Record not found, invalid id.	E
CMC-FORC-008	Cannot delete authorized record	E
CMC-FORC-009	Record successfully deleted	I
CMC-FORC-010	Invalid Customer \$1 added, customer should be valid and in closed and authorized state without pending maintenance	E
CMC-FORC-011	Invalid request. Duplicate requests for customer number \$1	E
ST-CUS-167	Record already exist for customer no and source_system_cust_no combination	E

CMC-CCY-001	Duplicate records exists in Amount word currency Mapping	E
CMC-CCY-002	Duplicate records exists in Amount Text Mapping	E
CMC-CCY-003	Cannot change Currency Decimal for once authorized currencies	E
CMC-CCY-004	Cannot Change round unit if the round rule is Truncate (T)	E
CMC-CCY-005	Mandatory field Interest Method is not entered	E
CMC-CCY-006	Mandatory field Spot Days is not entered	E
CMC-CCY-007	Mandatory field Settlement Days is not entered	E
CMC-CCY-008	Mandatory field Country is not entered	E
CMC-CCY-009	Mandatory field Rule is not entered	E
CMC-CCY-010	Value should be in range of 0 and 999 for Settlement Days	E
CMC-CCY-011	Mandatory field Unit is not entered	E
CMC-CCY-012	Decimals/ Rounding Unit Mismatch	E
CMC-CCY-013	Numerator of Interest Method is not Actual	E
CMC-CCY-014	Duplicate Alternate Currency Code	E
CMC-CCY-015	Duplicate ISO Numeric Currency Code	E
CMC-CCY-016	Duplicate Euro currency	E
CMC-CCY-017	Euro Conversion required cannot be changed for the currency types out, Euro and Euro closed	E
CMC-CCY-018	Spot days is less than fx netting days	E
CMC-CCY-019	Currency Cut Off days cannot be greater than spot days for currency	E
CMC-CCY-020	Spot Days for currency cannot be lesser than cut off days for currency	E
CMC-CCY-021	Value should be in range of 1 and 99 for Cut Off Days	E
CMC-CCY-022	Value should be in range of 1 and 23 for Cut Off Hour	E
CMC-CCY-023	Value should be in range of 1 and 59 for Cut Off Min	E

CMC-CCY-024	Value cannot be less than .00000 for Currency Total limit	E
CMC-CCY-025	Value should be in range of 0 and 3 for Currency Decimal	E
CMC-CCY-026	Country Code is Mandatory	E
CMC-CCY-027	Duplicate records exists in Currency Country Mapping	E
CMC-CCY-028	Mandatory field Country is not entered in Currency Country Mapping	E
CMC-CCY-029	Currency Code is NULL	E
CMC-CCY-030	Date is NULL	E
CMC-CCY-031	Date is Invalid (should be in yyyy-mm-dd format)	E
CMC-CCY-032	No record found	E
CMC-CCY-033	Next/Previous indicator is NULL (should be either N or P)	E
CMC-CCY-034	Next/Previous indicator is Invalid (should be either N or P)	E
CMC-CCY-035	Lower Limit Date is Invalid (should be in yyyy-mm-dd format)	E
CMC-CCY-036	Upper Limit Date is Invalid (should be in yyyy-mm-dd format)	E
CMC-CCY-037	Offset is NULL	E
CMC-CCY-038	Offset is Invalid (should be > 0)	E
CMC-CCY-039	Input date should be between Upper limit date and Lower limit date	E
CMC-CCY-040	Duplicate records exists in CurrencyHolidays	E
CMC-CCY-041	Mandatory Through Currency Code is not entered	E
CMC-CCY-042	Cannot change spread definition option for through currency pair	E
CMC-CCY-043	Through currency should be blank if the through currency is unchecked	E
CMC-CCY-044	Through currency has to be of type Euro	E
CMC-CCY-045	Through Currency is not allowed for Euro In Currency Pair	E

CMC-CCY-046	Points multiplier should be in the range 0 - 1	E
CMC-CCY-047	MidRate is invalid	E
CMC-CCY-048	BuySpread is invalid	E
CMC-CCY-049	SaleSpread is invalid	E
CMC-CCY-050	Atleast one Currency Rate Should be Maintained	E
CMC-CCY-051	Duplicate records exists in Rate	E
CMC-CCY-052	Currency Code is NULL	E
CMC-CCY-053	Currency Code is Empty	E
CMC-CCY-054	Amount is NULL	E
CMC-CCY-055	Option is NULL	E
CMC-CCY-056	Option is Empty	E
CMC-CCY-057	Method is NULL	E
CMC-CCY-058	Method is Empty	E
CMC-CCY-059	Decimal is NULL	E
CMC-CCY-060	Units is NULL	E
CMC-CCY-061	Maintenance Country is NULL	E
CMC-CCY-062	Maintenance Country is Empty	E
CMC-CCY-063	Currency1/Currency2/branch Code is NULL	E
CMC-CCY-065	Error in conversion	E
CMC-CCY-066	Rate is not handled for currency1 and currency2	E
CMC-CCY-067	Rate is not handled for currency2 and currency1	E
CMC-CCY-068	Error in Amount rounding	E
CMC-CCY-069	Currency definition is not maintained for given currency and maintenance country	E
CMC-CCY-070	Error in getting branch currency and country	E
CMC-CCY-071	Error in getting currency pair for currency1 and currency2	E
CMC-CCY-072	Error in getting Premium points for currency1 and currency2	E
CMC-CCY-073	Error in getting rate with through currency	E

CMC-CCY-074	Error in getting Rate	E
CMC-CCY-075	Rate History is not handled for currency1 and currency2	E
CMC-CCY-076	Rate History is not handled for currency2 and currency1	E
CMC-CCY-077	Currency Pair is not maintained	E
CMC-CCY-078	Error in purging	E
CMC-CCY-079	Data inadequate in currency Pair Definition	E
CMC-LOV-002	Invalid Currency	E
CMC-LOV-003	Cannot Close the record for which rates are maintained	E
CMC-LOV-004	Invalid Language Code	E
CMC-LOV-005	Invalid Country	E
CMC-LOV-006	Invalid GLCode	E
CMC-LOV-008	Invalid Year	E
CMC-LOV-009	Invalid Month	E
CMC-LOV-010	Amount Limit Exceeds	E
CMC-LOV-012	Rate Type \$1 is invalid	E
CC-ECA-001	Active \$1 exist for the Source System	E
CMC-LOV-001	Invalid Source Code	E
CC-BIC-010	Bic code is being used in branch maintenance. Close not allowed.	E
CC-BIC02	The BIC code does not conform to SWIFT standards	E
CC-BIC05	Record already maintained for the customer no	E
CC-C00100	Relationship cannot be No for a Customer Linked BIC Code	E
SW-ERR-001	Sweep not allowed at System level	I
SW-ERR-002	Structure is not active or paused	I
SW-ERR-003	Header account is not active	I
SW-ERR-004	Sweep already pending for structure	I

SMS-LOV-001	Invalid Home Branch	E
CMC-VAM-001	Rolled Back Due to Exception	E
ACCPROD-ERR-01	Unhandled Exception occurred	E
ACCPROD-ERR-02	Invalid Product Accounting entry setup	E
IC-ACCERR-01	Branch Dates could not be resolved	E
IC-ACCERR-02	Failed while fetching user globals	E
IC-ACCERR-03	Could not get account	E
IC-ACCERR-04	Failed during Lookup	E
IC-ACCERR-05	Unhandled exception occurred during Lookup	E
IC-ACCERR-06	Bombed while converting the amount	E
IC-ACCERR-11	Unhandled Exception occurred	E
IC-CHGERR-01	Failed while fetching user globals	E
IC-CHGERR-02	Branch Dates could not be resolved	E
IC-CHGERR-03	Could not get account	E
IC-CHGERR-04	Could not get account	E
IC-CHGERR-05	Error Occurred during Initialization	E
IC-CHGERR-06	Bombed while converting the amount	E
IC-CHGERR-07	Failed while deriving charge amount	E
IC-CHGERR-08	Failed while deriving min/max amount	E
IC-CHGERR-09	Failed during LCY Conversion	E
IC-CHGERR-10	Failed While Caching Details for Charge Slab	E
IC-CHGERR-11	Problem as both discount amt and discount percentage maintained	E
IC-CHGERR-12	Failed while fetching Slab Details	E
IC-CHGERR-13	Failed while fetching Tier Details	E
IC-CHGERR-14	Failed during amount round	E
IC-CHGERR-17	Failed while fetching product details	E
IC-CHGERR-19	Failed during currency conversion	E
IC-CHGERR-23	Failed while fetching Charge Entries	E

IC-CHGERR-24	Failed while Processing Charge	E
IC-CHGERR-25	Failed while updating liqd dates	E
IC-CHGERR-28	Could not get the book type	E
CS-PRD002	Product code cannot be null	E
MM-10051	Product Code should be 4 characters	E
BC-00234	Product End Date cannot be less than today	E
IC-PRD061	Frequency is blank in product preferences	E
IC-PRD054	Value of Accrual Day should be less than or equal to 31	E
IC-PRCBT002	To Period should be greater than From Period	E
IC-PRD201	Interest liquidation frequency has to be monthly and Liquidation at Month End flag has to be checked if the Split Interest Adj for Prev Year is required	E
IC-PRD062	IC Branch Date not available for the current branch	E
IC-BRNC-01	Invalid Branch Parameter	E
IC-RLM069	Length of Rule Id should be equal to 4 characters	E
IC-RL0007	Rule Id has invalid characters	E
IC-RL0008	Blank characters are not allowed in Rule Id	E
IC-RL0009	Rule Id - First character should be an alphabet or underscore	E
IC-RLM061	Accruals Required should be Unchecked when Book FFlag is "Non-Booked" and periodicity is "Daily/Periodic"	E
IC-RLM060	Rounding Required should be checked when Book FFlag is "Booked" and periodicity is "Daily/Periodic"	E
IC-RL0056	Required atleast one booked formula to save the rule	E
IC-RL0048	Requires atleast one formula with a valid expression for a rule	E
IC-RLM044	Result cannot have logical operator	E

IC-RLM016	SDE Id and UDE Id should be different	E
CMC-ACC-SUBAC01	No SubAccounts available for Multi-Currency Account	E
CMC-ACC-SUBAC02	Exactly one account should be primary account	E
CMC-ACC-SUBAC03	Sub Accounts should have unique currency code	E
ACC_PRD-01	Unhandled Exception occurred	E
ACC_PRD-02	Invalid Product Accounting entry setup	E
ACC_PRD-03	Product code cannot be null	E
ACC_PRD-04	IC Branch Date not available for the current branch	E
GC-CLS-02	Record Successfully Closed	I
GC-REOP-03	Successfully Reopened	I
IC-ACC-01	Branch Dates could not be resolved	E
IC-ACC-02	Failed while fetching user globals	E
IC-ACC-03	Could not get account	E
IC-ACC-04	Failed during Lookup	E
IC-ACC-05	Unhandled exception occurred during Lookup	E
IC-ACC-06	Bombed while converting the amount	E
IC-ACC-07	Unhandled Exception occurred	E
IC-CHGERR01	Failed while fetching user globals	E
IC-CHGERR02	Branch Dates could not be resolved	E
IC-CHGERR03	Could not get account	E
IC-CHGERR04	Could not get account	E
IC-CHGERR05	Error Occurred during Initialization	E
IC-CHGERR06	Bombed while converting the amount	E
IC-CHGERR07	Failed while deriving charge amount	E
IC-CHGERR08	Failed while deriving min/max amount	E
IC-CHGERR09	Failed during LCY Conversion	E
IC-CHGERR10	Failed While Caching Details for Charge Slab	E

IC-CHGERR11	Problem as both discount amt and discount percentage maintained	E
IC-CHGERR12	Failed while fetching Slab Details	E
IC-CHGERR13	Failed while fetching Tier Details	E
IC-CHGERR14	Failed during amount round	E
IC-CHGERR17	Failed while fetching product details	E
IC-CHGERR19	Failed during currency conversion	E
IC-CHGERR23	Failed while fetching Charge Entries	E
IC-CHGERR24	Failed while Processing Charge	E
IC-CHGERR25	Failed while updating liqd dates	E
IC-CHGERR28	Could not get the book type	E
IC-RULE-01	SDE Id and UDE Id should be different	E
IC-RULE-02	Result cannot have logical operator	E
LMB-ACC-001	Account \$1 uploaded successfully.	I
LMB-ACC-002	Error while authorizing Core Account	E
LMB-ACC-003	Error while saving core Account	E
LMB-ACC-004	Uploaded File \$1 moved successfully to Archival directory	I
LMB-ACC-005	Account Name is null	E
LMB-ACC-006	Account authorized and uploaded successfully	I
LMB-ACC-007	Error while authorizing LM Account	E
LMB-ACC-008	Error while saving LM Account	E
LMB-ACC-009	Account Number is null	E
LMB-ACC-010	Balance saved successfully for \$1 ~ \$2 ~ \$3	I
LMB-ACC-011	Host Code is null	E
LMB-BAT-001	Failed to update status of batch.	E
LMB-BAT-002	No content in the uploaded file.	E
LMB-BAT-003	Batch Data Next Run date failed.	E
LMB-BAT-004	No file present in the given path.	E

LMB-BAT-005	Uploaded File \$1 moved successfully to Archival directory.	I
LMB-BAT-006	Error while moving file \$1 to Archival directory.	E
LMB-BAT-007	File Not found in the folder.	E
LMB-BAT-008	ValueDate is null.	E
LMB-BAT-009	ValueDate should be in yyyy-MM-dd format.	E
LMB-BAT-010	File Upload failed.	I
LMB-BAT-011	File Uploaded successfully.	I
LMB-BAT-012	Batch Data Next Run date updated.	I
LMB-BIC-001	Bank Record Authorized successfully in Core bank and Oracle Banking Liquidity Management for \$1.	I
LMB-BIC-002	Error in Bank record saving.	E
LMB-BIC-003	Bic Code \$1 uploaded successfully	I
LMB-BIC-004	Error while authorizing BicDirectory.	E
LMB-BIC-005	Error while saving BicDirectory.	E
LMB-BIC-006	Bic Code \$1 Modified successfully.	E
LMB-BIC-007	Error while modify, authorizing BicDirectory.	E
LMB-BIC-008	Error while modifying BicDirectory	E
LMB-BIC-009	Bic Code \$1 Closed successfully.	E
LMB-BIC-010	Error while close authorizing BicDirectory \$1	E
LMB-BIC-011	Error while Closing BicDirectory.	E
LMB-BIC-012	Bic Code \$1 Unchanged successfully	E
LMB-BOD-001	BOD initiated for branch:- \$1	I
LMB-BOD-002	Failed to initiated BOD - BOD for branch is already in progress.	E
LMB-BOD-003	Failed to initiated BOD - BOD for branch is already executed for day.	I
LMB-BOD-004	Failed to initiated BOD - DATEFLIP for branch is not executed.	E
LMB-BOD-005	Failed to initiated BOD - EOD for branch is in progress.	E

LMB-BOD-006	Failed to initiated BOD - Not a valid Branch.	E
LMB-BOD-007	Failed to initiated BOD	E
LMB-BRAN-001	Branch Record Authorized successfully in Core Branch and Oracle Banking Liquidity Management for \$1	E
LMB-BRAN-002	Error in Branch core record saving	E
LMB-BRAN-003	Please mention date in the format - MM/dd/yyyy	I
LMB-BRAN-004	Error in Branch record saving	E
LMB-BRAN-005	Branch Holiday uploaded successfully	E
LMB-BRAN-006	Error while authorizing Branch Holiday.	E
LMB-BRAN-007	Error while saving Branch Holiday	E
LMB-BRAN-008	Year is null	E
LMB-BRAN-009	Holidays is nul1	E
LMB-BRAN-010	Branch Code does not exist.	E
LMB-BRAN-011	Branch Code is null	E
LMB-CTRY-001	Country uploaded successfully.	I
LMB-CTRY-002	Error while authorizing LM Country	E
LMB-CTRY-003	Error while saving LM Country	E
LMB-CTRY-004	Error while authorizing Core Country.	E
LMB-CTRY-005	Error while saving Core Country	E
LMB-CTRY-006	Country Code is null	E
LMB-CTRY-007	Description is null	E
LMB-CTRY-008	IBAN Check is null	E
LMB-CUR-001	Currency CutOff record authorized Successfully in Oracle Banking Liquidity Management	I
LMB-CUR-002	Error in Currency cutoff saving	E
LMB-CUR-003	Currency record authorized Successfully in Oracle Banking Liquidity Management and Common Core for \$1	I
LMB-CUR-004	Error in Currency Definition saving	E

LMB-CUR-005	Error in Currency Core record saving.	E
LMB-CUR-006	Error in Currency saving	E
LMB-CUR-007	Currency Holiday uploaded successfully	I
LMB-CUR-008	Error while authorizing Currency Holiday	E
LMB-CUR-009	Error while saving Currency Holiday	E
LMB-CUR-010	Currency Exchange Rate uploaded successfully	E
LMB-CUR-011	Error while authorizing Currency Exchange Rate	E
LMB-CUR-012	Error while saving Currency Exchange Rate	E
LMB-CUR-0013	Currency 1 is null	E
LMB-CUR-014	Currency 2 is null	E
LMB-CUR-015	Currency Code is null	E
LMB-CUST-001	Customer uploaded successfully	I
LMB-CUST-002	Error while authorizing LM Customer	E
LMB-CUST-003	Error while saving LM Customer	E
LMB-CUST-004	Error while authorizing Core Customer	E
LMB-CUST-005	Error while saving Core Customer	E
LMB-CUST-006	Customer Number is null	E
LMB-CUST-007	Customer Name is null	E
LMB-CUST-008	Source System is null	E
LMB-CUST-009	Customer Id does not exist	E
LMB-CUST-010	Parent Customer \$1 does not exist	E
LMB-CUST-011	Customer authorized and uploaded successfully	I
LMB-EOD-001	Failed to initiated EOD - There are Pending Maintenances for Authorization.	E
LMB-EOD-002	Failed to initiated EOD - Branch Contains Sweeps with Pending status.	E
LMB-EOD-003	Failed to initiated EOD - EOD for branch is already completed.	E
LMB-EOD-004	Failed to initiated EOD - EOD for branch is already in progress.	E

LMB-EOD-005	Failed to initiated EOD - Not a valid Branch.	E
LMB-EOD-006	User does not have necessary role.	E
LMB-EOD-007	Failed to initiated EOD.	E
LMB-EOD-008	EOD Post IC initiated for branch:- \$1.	I
LMB-EOD-009	Failed to initiated EOD Post IC - EOD Post IC for branch is already completed.	E
LMB-EOD-010	Failed to initiated EOD Post IC - EOD Post IC for branch is already in progress.	E
LMB-EOD-011	Failed to initiated EOD Post IC - EOD Pre IC for branch is not completed.	E
LMB-EOD-012	Failed to initiated EOD Post IC.	E
LMB-EOD-013	Date Flip for branch completed:- \$1	I
LMB-EOD-014	Failed to initiated Date Flip.	E
LMB-EOD-015	Failed to initiated Date Flip - EOD Post IC for branch is not completed.	E
LMB-EOD-016	Failed to initiated Date Flip - Not a valid Branch.	E
LMB-INT-001	Interface record Authorized Successfully for \$1.	I
LMB-INT-002	Exteranl System Id not found for \$1	E
LMB-INT-003	Error in Interface saving.	E
LMB-SWP-001	Sweep Instruction saved and uploaded successfully.	E
LMB-SWP-002	Sweep Instruction Record authorized successfully.	E
LMB-EOD-017	EOD initiated for branch :- \$1.	I
LMB-EOD-018	Failed to initiated EOD - BOD for branch not completed.	E
LMX-INGT-001	Account Pair Record Already Exists.	E
LMX-INGT-002	Message already procesed for external reference \$1.	E
LMX-INGT-003	Account Updated Successfully.	E
LMM-ACC-001	Account Status is Mandatory!!!	E
LMM-ACC-002	Account Category is Mandatory!!!	E

LMM-ACC-003	Account Record Created in IC and Authorized successfully	I
LMM-ACC-004	Account Record Authorized successfully but failed to create in IC	E
LMM-ACC-005	Account Record Authorized successfully	I
LMM-ACC-006	Account Category validation Failed	E
LMM-ACC-007	Account Status validation Failed	E
LMM-ACC-008	Branch Validation Failed	E
LMM-ACC-009	Account Group Code Not available	E
LMM-ACC-010	Account Number already exists	E
LMM-ACC-011	Customer Id not mapped with User	E
LMM-ACC-012	Customer Id not available	E
LMM-ACC-013	Account authorized in LM but Failure creating account in IC	E
LMM-ACC-014	Record Successfully Modified and Authorized	I
LMM-ACC-015	Failure Authorizing account	E
LMM-ACC-016	Account Updated Successfully	I
LMM-ACC-017	Account Balances Updated Successfully	I
RMLINK-COM-001	User cannot create/modify own records.	E
LMP-POOL-001	Pool not allowed at System level	I
LMP-POOL-002	No Structure exists with given Structure Id	E
LMP-POOL-003	Pool Initiated for structure	I
LMP-POOL-004	Pool Initiated for Branch	I
LMP-POOL-005	Reallocation Initiated for structure	I
LMP-POOL-006	Reallocation executed for Structures	I
RTL-ERR-001	RTL Structure for account does not exist.	E
LMA-STR-001	Structure Validation Successful!!!	I
LMA-STR-002	Error in Structure Validation!!!	E
LMA-STR-003	Record Successfully Submitted and Authorized	I
LMA-STR-004	Failed to Auto Authorize Record	E

LMA-STR-005	Record Successfully Submitted	I
LMA-STR-006	Failed to Submit Record	E
LMA-STR-007	Empty input data	E
LMA-STR-008	Account Category is mandatory \$1	E
LMA-STR-009	No Header account exists for the structure	E
LMA-STR-010	No Child account exists for the structure	E
LMA-STR-011	Pool Structure Type cannot have Account Type as Sweep	E
LMA-STR-012	Sweep Structure Type cannot have Account Type as Pool	E
LMA-STR-013	Hybrid Structure Type should have both Account Type Pool and Sweep	E
LMA-STR-014	All Selected Accounts must be used in Structure!!!	E
LMA-STR-015	No Linked Account data	E
LMA-STR-016	Structure Status is Incomplete	E
LMA-STR-017	No account exists for the structure	E
LMA-STR-018	Interest Method should be I for sweep and hybrid structure	E
LMA-STR-019	Effective Date should be before than end date	E
LMA-STR-020	Central Account Details should be specified for structure having reallocation method as Central Distribution	E
LMA-STR-021	Central Account is not active	E
LMA-STR-022	Central Account does not exist in Oracle Banking Liquidity Management \$1	E
LMA-STR-023	Structure Id or version no is null \$1	E
LMA-STR-024	Structure Type is null	E
LMA-STR-025	Structure Status is null	E
LMA-STR-026	Structure Description is null	E
LMA-STR-027	Structure Effective Date is null	E
LMA-STR-028	Structure End Date is null	E
LMA-STR-029	Structure Priority is null	E

LMA-STR-030	Structure Source is null	E
LMA-STR-031	Structure Post Sweep Balance is null	E
LMA-STR-032	Structure Interest Method is null	E
LMA-STR-033	Structure Balance Type is null	E
LMA-STR-034	Structure FX Rate Pick up is null	E
LMA-STR-035	Account is not active \$1	E
LMA-STR-036	Account is not active or does not exist in Oracle Banking Liquidity Management \$1	E
LMA-STR-037	Child Account \$1 customer \$2 is not child of Parent Customer	E
LMA-STR-038	Child account cannot be a Notional Account \$1	E
LMA-STR-039	Parent Account cannot be an External Account \$1	E
LMA-STR-040	Child of a Notional Account cannot be Sweep Type \$1	E
LMA-STR-041	Pool type account cannot have instruction attached	E
LMA-STR-042	Pool type account cannot have payment instruction attached \$1	E
LMA-STR-043	Sweep type account should have payment instruction attached \$1	E
LMA-STR-044	Sweep Priority should be defined for Account Ref \$1	E
LMA-STR-045	Reverse sweep Frequency should be assigned is reverse sweep is allowed \$1	E
LMA-STR-046	Child Branch not available	E
LMA-STR-047	Parent Branch not available	E
LMA-STR-048	Child Bank not available	E
LMA-STR-049	Parent Bank not available	E
LMA-STR-050	Cross Border sweep is not allowed for account pair	E
LMA-STR-051	Domestic not allowed for account pair	E
LMA-STR-052	Cross Currency not allowed for account pair	E
LMA-STR-053	Parent Account Currency is null: \$1	E

LMA-STR-054	Child Account Currency is null: \$1	E
LMA-STR-055	Multi Bank \$1 not allowed for account pair	E
LMA-STR-056	Multi Bank Pool is not allowed	E
LMA-STR-057	Frequency does not exist in system: \$1	E
LMA-STR-058	MBCC cut off getting failed for account pair \$1 for the frequency \$1	E
LMA-STR-059	Header Account of a Pool or Hybrid Structure should be Notional Account \$1	E
LMA-STR-060	Header Account of a Pool or Hybrid Structure should have reallocation method defined \$1	E
LMA-STR-061	Acc Level is not correct for account number \$1	E
LMA-STR-062	Account Sweep priority is same for account number \$1	E
LMA-STR-063	Multiple Instruction frequency should be different \$1	E
LMA-STR-064	System Branch does not exist in Oracle Banking Liquidity Management	E
LMA-STR-065	Error in Account Create/Auth	E
LMA-STR-066	Structure Created and Authorized Successfully \$1	I
LMA-STR-067	Failed to authorize Structure \$1	E
LMA-STR-068	Structure Created Successfully \$1	I
LMA-STR-069	Failed to Create Structure \$1	E
LMA-STR-070	Failed to Create Structure Id:- \$1	E
LMA-STR-071	Customer not mapped with the user	E
LMA-STR-072	No Customer is mapped with the user	E
LMA-STR-073	data[0] may not be null	E
LMA-STR-074	No User Customer Linkage is available	E
LMA-STR-075	Error in Structure creation	E
LMA-STR-076	Failed to validate Structure Id \$1 as customer mapping is not correct	E
LMA-STR-077	Structure Modified and Authorized Successfully - \$1	I

LMA-STR-078	Structure Modified Successfully: \$1	I
LMA-STR-079	Failed to Modify Structure: \$1	E
LMA-STR-080	Failed to Modify Structure Id \$1	E
LMA-STR-081	Failed to Modify Structure Id \$1 as Previous Version of Structure is not available	E
LMA-STR-082	Error in Structure modify	E
LMA-STR-083	Next Run Date Updated..	I
LMA-STR-084	Account Record Authorized successfully.	I
LMA-STR-085	Account Record Not Authorized.	E
SW-ERR-005	Structure \$1 does not exist or not active.	E
SW-ERR-006	No Structure selected.	E
SW-ERR-007	No Acc pair selected.	E
SW-ERR-008	Structure is not active:- \$1	E
SW-ERR-009	Sweep Failed for Structures:- \$1	E
SW-ERR-010	Sweep executed for Structures.	I
SW-ERR-011	Account Pair Record Already Exists.	E
SW-ERR-012	Structure Sweep Record Already Exists.	E
SW-ERR-013	User does not have necessary roles/activity assigned.	E
SW-ERR-014	Previous handoff is not completed for account pair \$1	E
IC-PRCBT003	Liquidation Start Date cannot be null	E
SW-ERR-015	Sweep Failed- Account(s) in Structure is on Hold	E
LMC-ERR-001	Fixed amount should be maintained between the range of defined minimum and maximum amount	E
LMC-ERR-002	Instruction is assigned to structure(s). Failed to close	E
LMM-ACC-018	Account Record Modified in IC and Authorized successfully	I
LMM-ACC-019	Account Record Authorized successfully but failed to modify in IC	E
IC-ACC-04	Failed during Lookup	E

IC-ACC-05	Unhandled exception occurred during Lookup	E
IC-ACC-06	Bombed while converting the amount	E
IC-ACC-07	Unhandled Exception occurred	E
IC-CHGERR01	Failed while fetching user globals	E
IC-CHGERR02	Branch Dates could not be resolved	E
IC-CHGERR03	Could not get account	E
IC-CHGERR04	Could not get account	E
IC-CHGERR05	Error Occurred during Initialization	E
IC-CHGERR06	Bombed while converting the amount	E
IC-CHGERR07	Failed while deriving charge amount	E
IC-CHGERR08	Failed while deriving min/max amount	E
IC-CHGERR09	Failed during LCY Conversion	E
IC-CHGERR10	Failed While Caching Details for Charge Slab	E
IC-CHGERR11	Problem as both discount amt and discount percentage maintained	E
IC-CHGERR12	Failed while fetching Slab Details	E
IC-CHGERR13	Failed while fetching Tier Details	E
IC-CHGERR14	Failed during amount round	E
IC-CHGERR17	Failed while fetching product details	E
IC-CHGERR19	Failed during currency conversion	E
IC-CHGERR23	Failed while fetching Charge Entries	E
IC-CHGERR24	Failed while Processing Charge	E
IC-CHGERR25	Failed while updating liqd dates	E
IC-CHGERR28	Could not get the book type	E
IC-RULE-01	SDE Id and UDE Id should be different	E
IC-RULE-02	Result cannot have logical operator	E
LMB-ACC-001	Account \$1 uploaded successfully.	I
LMB-ACC-002	Error while authorizing Core Account	E
LMB-ACC-003	Error while saving core Account	E

LMB-ACC-004	Uploaded File \$1 moved successfully to Archival directory	I
LMB-ACC-005	Account Name is null	E
LMB-ACC-006	Account authorized and uploaded successfully	I
LMB-ACC-007	Error while authorizing LM Account	E
LMB-ACC-008	Error while saving LM Account	E
LMB-ACC-009	Account Number is null	E
LMB-ACC-010	Balance saved successfully for \$1 ~ \$2 ~ \$3	I
LMB-ACC-011	Host Code is null	E
LMB-BAT-001	Failed to update status of batch.	E
LMB-BAT-002	No content in the uploaded file.	E
LMB-BAT-003	Batch Data Next Run date failed.	E
LMB-BAT-004	No file present in the given path.	E
LMB-BAT-005	Uploaded File \$1 moved successfully to Archival directory.	I
LMB-BAT-006	Error while moving file \$1 to Archival directory.	E
LMB-BAT-007	File Not found in the folder.	E
LMB-BAT-008	ValueDate is null.	E
LMB-BAT-009	ValueDate should be in yyyy-MM-dd format.	E
LMB-BAT-010	File Upload failed.	I
LMB-BAT-011	File Uploaded successfully.	I
LMB-BAT-012	Batch Data Next Run date updated.	I
LMB-BIC-001	Bank Record Authorized successfully in Core bank and Oracle Banking Liquidity Management for \$1.	I
LMB-BIC-002	Error in Bank record saving.	E
LMB-BIC-003	Bic Code \$1 uploaded successfully	I
LMB-BIC-004	Error while authorizing BicDirectory.	E
LMB-BIC-005	Error while saving BicDirectory.	E
LMB-BIC-006	Bic Code \$1 Modified successfully.	E

LMB-BIC-007	Error while modify, authorizing BicDirectory.	E
LMB-BIC-008	Error while modifying BicDirectory	E
LMB-BIC-009	Bic Code \$1 Closed successfully.	E
LMB-BIC-010	Error while close authorizing BicDirectory \$1	E
LMB-BIC-011	Error while Closing BicDirectory.	E
LMB-BIC-012	Bic Code \$1 Unchanged successfully	E
LMB-BOD-001	BOD initiated for branch:- \$1	I
LMB-BOD-002	Failed to initiated BOD - BOD for branch is already in progress.	E
LMB-BOD-003	Failed to initiated BOD - BOD for branch is already executed for day.	I
LMB-BOD-004	Failed to initiated BOD - DATEFLIP for branch is not executed.	E
LMB-BOD-005	Failed to initiated BOD - EOD for branch is in progress.	E
LMB-BOD-006	Failed to initiated BOD - Not a valid Branch.	E
LMB-BOD-007	Failed to initiated BOD	E
LMB-BRAN-001	Branch Record Authorized successfully in Core Branch and Oracle Banking Liquidity Management for \$1	E
LMB-BRAN-002	Error in Branch core record saving	E
LMB-BRAN-003	Please mention date in the format - MM/dd/yyyy	I
LMB-BRAN-004	Error in Branch record saving	E
LMB-BRAN-005	Branch Holiday uploaded successfully	E
LMB-BRAN-006	Error while authorizing Branch Holiday.	E
LMB-BRAN-007	Error while saving Branch Holiday	E
LMB-BRAN-008	Year is null	E
LMB-BRAN-009	Holidays is nul1	E
LMB-BRAN-010	Branch Code does not exist.	E
LMB-BRAN-011	Branch Code is null	E
LMB-CTRY-001	Country uploaded successfully.	I

LMB-CTRY-002	Error while authorizing LM Country	E
LMB-CTRY-003	Error while saving LM Country	E
LMB-CTRY-004	Error while authorizing Core Country.	E
LMB-CTRY-005	Error while saving Core Country	E
LMB-CTRY-006	Country Code is null	E
LMB-CTRY-007	Description is null	E
LMB-CTRY-008	IBAN Check is null	E
LMB-CUR-001	Currency CutOff record authorized Successfully in Oracle Banking Liquidity Management	I
LMB-CUR-002	Error in Currency cutoff saving	E
LMB-CUR-003	Currency record authorized Successfully in Oracle Banking Liquidity Management and Common Core for \$1	I
LMB-CUR-004	Error in Currency Definition saving	E
LMB-CUR-005	Error in Currency Core record saving.	E
LMB-CUR-006	Error in Currency saving	E
LMB-CUR-007	Currency Holiday uploaded successfully	I
LMB-CUR-008	Error while authorizing Currency Holiday	E
LMB-CUR-009	Error while saving Currency Holiday	E
LMB-CUR-010	Currency Exchange Rate uploaded successfully	E
LMB-CUR-011	Error while authorizing Currency Exchange Rate	E
LMB-CUR-012	Error while saving Currency Exchange Rate	E
LMB-CUR-0013	Currency 1 is null	E
LMB-CUR-014	Currency 2 is null	E
LMB-CUR-015	Currency Code is null	E
LMB-CUST-001	Customer uploaded successfully	I
LMB-CUST-002	Error while authorizing LM Customer	E
LMB-CUST-003	Error while saving LM Customer	E
LMB-CUST-004	Error while authorizing Core Customer	E
LMB-CUST-005	Error while saving Core Customer	E

LMB-CUST-006	Customer Number is null	E
LMB-CUST-007	Customer Name is null	E
LMB-CUST-008	Source System is null	E
LMB-CUST-009	Customer Id does not exist	E
LMB-CUST-010	Parent Customer \$1 does not exist	E
LMB-CUST-011	Customer authorized and uploaded successfully	I
LMB-EOD-001	Failed to initiated EOD - There are Pending Maintenances for Authorization.	E
LMB-EOD-002	Failed to initiated EOD - Branch Contains Sweeps with Pending status.	E
LMB-EOD-003	Failed to initiated EOD - EOD for branch is already completed.	E
LMB-EOD-004	Failed to initiated EOD - EOD for branch is already in progress.	E
LMB-EOD-005	Failed to initiated EOD - Not a valid Branch.	E
LMB-EOD-006	User does not have necessary role.	E
LMB-EOD-007	Failed to initiated EOD.	E
LMB-EOD-008	EOD Post IC initiated for branch:- \$1.	I
LMB-EOD-009	Failed to initiated EOD Post IC - EOD Post IC for branch is already completed.	E
LMB-EOD-010	Failed to initiated EOD Post IC - EOD Post IC for branch is already in progress.	E
LMB-EOD-011	Failed to initiated EOD Post IC - EOD Pre IC for branch is not completed.	E
LMB-EOD-012	Failed to initiated EOD Post IC.	E
LMB-EOD-013	Date Flip for branch completed:- \$1	I
LMB-EOD-014	Failed to initiated Date Flip.	E
LMB-EOD-015	Failed to initiated Date Flip - EOD Post IC for branch is not completed.	E
LMB-EOD-016	Failed to initiated Date Flip - Not a valid Branch.	E
LMB-INT-001	Interface record Authorized Successfully for \$1.	I
LMB-INT-002	Exteranl System Id not found for \$1	E

LMB-INT-003	Error in Interface saving.	E
LMB-SWP-001	Sweep Instruction saved and uploaded successfully.	E
LMB-SWP-002	Sweep Instruction Record authorized successfully.	E
LMB-EOD-017	EOD initiated for branch :- \$1.	I
LMB-EOD-018	Failed to initiated EOD - BOD for branch not completed.	E
LMX-INGT-001	Account Pair Record Already Exists.	E
LMX-INGT-002	Message already procesed for external reference \$1.	E
LMX-INGT-003	Account Updated Successfully.	E
LMM-ACC-001	Account Status is Mandatory!!!	E
LMM-ACC-002	Account Category is Mandatory!!!	E
LMM-ACC-003	Account Record Created in IC and Authorized successfully	I
LMM-ACC-004	Account Record Authorized successfully but failed to create in IC	E
LMM-ACC-005	Account Record Authorized successfully	I
LMM-ACC-006	Account Category validation Failed	E
LMM-ACC-007	Account Status validation Failed	E
LMM-ACC-008	Branch Validation Failed	E
LMM-ACC-009	Account Group Code Not available	E
LMM-ACC-010	Account Number already exists	E
LMM-ACC-011	Customer Id not mapped with User	E
LMM-ACC-012	Customer Id not available	E
LMM-ACC-013	Account authorized in LM but Failure creating account in IC	E
LMM-ACC-014	Record Successfully Modified and Authorized	I
LMM-ACC-015	Failure Authorizing account	E
LMM-ACC-016	Account Updated Successfully	I
LMM-ACC-017	Account Balances Updated Successfully	I

RMLINK-COM-001	User cannot create/modify own records.	E
LMP-POOL-001	Pool not allowed at System level	I
LMP-POOL-002	No Structure exists with given Structure Id	E
LMP-POOL-003	Pool Initiated for structure	I
LMP-POOL-004	Pool Initiated for Branch	I
LMP-POOL-005	Reallocation Initiated for structure	I
LMP-POOL-006	Reallocation executed for Structures	I
RTL-ERR-001	RTL Structure for account does not exist.	E
LMA-STR-001	Structure Validation Successful!!!	I
LMA-STR-002	Error in Structure Validation!!!	E
LMA-STR-003	Record Successfully Submitted and Authorized	I
LMA-STR-004	Failed to Auto Authorize Record	E
LMA-STR-005	Record Successfully Submitted	I
LMA-STR-006	Failed to Submit Record	E
LMA-STR-007	Empty input data	E
LMA-STR-008	Account Category is mandatory \$1	E
LMA-STR-009	No Header account exists for the structure	E
LMA-STR-010	No Child account exists for the structure	E
LMA-STR-011	Pool Structure Type cannot have Account Type as Sweep	E
LMA-STR-012	Sweep Structure Type cannot have Account Type as Pool	E
LMA-STR-013	Hybrid Structure Type should have both Account Type Pool and Sweep	E
LMA-STR-014	All Selected Accounts must be used in Structure!!!	E
LMA-STR-015	No Linked Account data	E
LMA-STR-016	Structure Status is Incomplete	E
LMA-STR-017	No account exists for the structure	E
LMA-STR-018	Interest Method should be I for sweep and hybrid structure	E

LMA-STR-019	Effective Date should be before than end date	E
LMA-STR-020	Central Account Details should be specified for structure having reallocation method as Central Distribution	E
LMA-STR-021	Central Account is not active	E
LMA-STR-022	Central Account does not exist in Oracle Banking Liquidity Management \$1	E
LMA-STR-023	Structure Id or version no is null \$1	E
LMA-STR-024	Structure Type is null	E
LMA-STR-025	Structure Status is null	E
LMA-STR-026	Structure Description is null	E
LMA-STR-027	Structure Effective Date is null	E
LMA-STR-028	Structure End Date is null	E
LMA-STR-029	Structure Priority is null	E
LMA-STR-030	Structure Source is null	E
LMA-STR-031	Structure Post Sweep Balance is null	E
LMA-STR-032	Structure Interest Method is null	E
LMA-STR-033	Structure Balance Type is null	E
LMA-STR-034	Structure FX Rate Pick up is null	E
LMA-STR-035	Account is not active \$1	E
LMA-STR-036	Account is not active or does not exist in Oracle Banking Liquidity Management \$1	E
LMA-STR-037	Child Account \$1 customer \$2 is not child of Parent Customer	E
LMA-STR-038	Child account cannot be a Notional Account \$1	E
LMA-STR-039	Parent Account cannot be an External Account \$1	E
LMA-STR-040	Child of a Notional Account cannot be Sweep Type \$1	E
LMA-STR-041	Pool type account cannot have instruction attached	E
LMA-STR-042	Pool type account cannot have payment instruction attached \$1	E

LMA-STR-043	Sweep type account should have payment instruction attached \$1	E
LMA-STR-044	Sweep Priority should be defined for Account Ref \$1	E
LMA-STR-045	Reverse sweep Frequency should be assigned is reverse sweep is allowed \$1	E
LMA-STR-046	Child Branch not available	E
LMA-STR-047	Parent Branch not available	E
LMA-STR-048	Child Bank not available	E
LMA-STR-049	Parent Bank not available	E
LMA-STR-050	Cross Border sweep is not allowed for account pair	E
LMA-STR-051	Domestic not allowed for account pair	E
LMA-STR-052	Cross Currency not allowed for account pair	E
LMA-STR-053	Parent Account Currency is null: \$1	E
LMA-STR-054	Child Account Currency is null: \$1	E
LMA-STR-055	Multi Bank \$1 not allowed for account pair	E
LMA-STR-056	Multi Bank Pool is not allowed	E
LMA-STR-057	Frequency does not exist in system: \$1	E
LMA-STR-058	MBCC cut off getting failed for account pair \$1 for the frequency \$1	E
LMA-STR-059	Header Account of a Pool or Hybrid Structure should be Notional Account \$1	E
LMA-STR-060	Header Account of a Pool or Hybrid Structure should have reallocation method defined \$1	E
LMA-STR-061	Acc Level is not correct for account number \$1	E
LMA-STR-062	Account Sweep priority is same for account number \$1	E
LMA-STR-063	Multiple Instruction frequency should be different \$1	E
LMA-STR-064	System Branch does not exist in Oracle Banking Liquidity Management	E
LMA-STR-065	Error in Account Create/Auth	E

LMA-STR-066	Structure Created and Authorized Successfully \$1	I
LMA-STR-067	Failed to authorize Structure \$1	E
LMA-STR-068	Structure Created Successfully \$1	I
LMA-STR-069	Failed to Create Structure \$1	E
LMA-STR-070	Failed to Create Structure Id:- \$1	E
LMA-STR-071	Customer not mapped with the user	E
LMA-STR-072	No Customer is mapped with the user	E
LMA-STR-073	data[0] may not be null	E
LMA-STR-074	No User Customer Linkage is available	E
LMA-STR-075	Error in Structure creation	E
LMA-STR-076	Failed to validate Structure Id \$1 as customer mapping is not correct	E
LMA-STR-077	Structure Modified and Authorized Successfully - \$1	I
LMA-STR-078	Structure Modified Successfully: \$1	I
LMA-STR-079	Failed to Modify Structure: \$1	E
LMA-STR-080	Failed to Modify Structure Id \$1	E
LMA-STR-081	Failed to Modify Structure Id \$1 as Previous Version of Structure is not available	E
LMA-STR-082	Error in Structure modify	E
LMA-STR-083	Next Run Date Updated..	I
LMA-STR-084	Account Record Authorized successfully.	I
LMA-STR-085	Account Record Not Authorized.	E
SW-ERR-005	Structure \$1 does not exist or not active.	E
SW-ERR-006	No Structure selected.	E
SW-ERR-007	No Acc pair selected.	E
SW-ERR-008	Structure is not active:- \$1	E
SW-ERR-009	Sweep Failed for Structures:- \$1	E
SW-ERR-010	Sweep executed for Structures.	I
SW-ERR-011	Account Pair Record Already Exists.	E

SW-ERR-012	Structure Sweep Record Already Exists.	E
SW-ERR-013	User does not have necessary roles/activity assigned.	E
SW-ERR-014	Previous handoff is not completed for account pair \$1	E
IC-PRCBT003	Liquidation Start Date cannot be null	E
SW-ERR-015	Sweep Failed- Account(s) in Structure is on Hold	E
LMC-ERR-001	Fixed amount should be maintained between the range of defined minimum and maximum amount	E
LMC-ERR-002	Instruction is assigned to structure(s). Failed to close	E
LMM-ACC-018	Account Record Modified in IC and Authorized successfully	I
LMM-ACC-019	Account Record Authorized successfully but failed to modify in IC	E

6 Appendix A: Acronyms, Abbreviations, and Definitions

The following acronyms/abbreviations are used in this guide:

Table 4: Acronyms and Abbreviations

Acronyms	Definition
SMS	Security Management System
CMC	Common Core
MOC	Mid office Common Core
ELK	Elasticsearch Logstash Kibana

7 Appendix B: Related Documentation

The related documents are as follows:

- Oracle Banking Common Core User Guide
- Getting Started User Guide
- Oracle Banking Security Management System User Guide
- Oracle Banking Liquidity Management User Guide
- Oracle Banking Liquidity Management EOD Configuration Guide
- Oracle Banking Liquidity Management File Upload User Guide