Plato Infrastructure Services Installation Guide
Oracle Banking Supply Chain Finance
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1. Preface

1.1 Introduction

This guide would help you to install the Plato infrastructure services on designated environment. It is assumed that all the prior setup is already done related with WebLogic 12c installation, WebLogic managed server creation and Oracle DB installation.

It is recommended to use dedicated managed server for each of the Plato infrastructure services.

1.2 Audience

This document is intended for WebLogic admin or ops-web team who are responsible for installing the OFSS banking products.

1.3 Documentation 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 Organization

This installation user guide would allow you to install following services in same order.

- WebLogic system environment settings
- Plato Discovery Service
- Plato Config Service
- Plato API Gateway Service
- Security configuration and tool installation

1.5 Related Documents

- Common Core Services Installation Guide
- Day 0 Setup Guide
- LDAP Setup Guide
- Oracle Banking Supply Chain Finance Annexure
- Oracle Banking Supply Chain Finance Pre-Installation Guide
- Oracle Banking Supply Chain Finance Services Installation Guide
- Oracle Banking Supply Chain Finance User Interface Installation Guide
- Security Management System Services Installation Guide
- SSL Setup Guide

2. Database Setup

2.1 <u>Introduction</u>

In this section you are going to setup database related configuration for PLATO Installation. Before you proceed ensure pre-installation setup is done.

2.2 <u>Prerequisite</u>

- Plato schema is created and all the required grants are given. It is recommended to have different schema for **Plato** and **Plato Security**.

Note: To know server's port no refer ANNEXURE-1. "**How to check port no"** section.

2.3 <u>Database Setup</u>

There are two alternate ways to create the database setup, viz.

1. Collect scripts from both the path mentioned in From-Path section in the table and compile into respective PLATO schema

DDL:

Service Name	From-Path	Compile To
plato-config-service	\PLATO\plato-config-service\DB\DOMAIN\DDL	Plato Schema
plato-ui-config-service	\PLATO\plato-ui-config-service\DB\DOMAIN\DDL	Plato UI Config Schema
plato-api-gateway	PLATO\plato-api-gateway\DB\DOMAIN\DDL	Plato Security Schema

SEQ:

Service Name	From-Path	Compile To
plato-ui-config-service	\PLATO\plato-ui-config-service\DB\DOMAIN\SEQ	Plato UI Config Schema
plato-api-gateway	PLATO\plato-api-gateway\DB\DOMAIN\SEQ	Plato Security Schema

INC:

Service Name	From-Path	Compile To
plato-api-gateway	PLATO\plato-api-gateway\DB\DOMAIN\INC	Plato Security Schema
	\PLATO\plato-ui-config-service\DB\DOMAIN\INC	Plato UI Config Schema
plato-ui-config-service	\PLATO\plato-ui-config-service\DB\PLATO\INC	Plato UI Config Schema

To setup DB for PLATO SECURITY refer Security Configuration Chapter.

3. Domain & Cluster Configuration

3.1 Plato Infrastructure Domain Configuration

3.1.1 Prerequisite

- Database setup for all the modules viz. Plato, SMS, Common Core, OBSCF Services and all Day-0 setups must be completed. **(Required)**
- Machine should have Java JDK 1.8 Update 202 has installed.
- Oracle Fusion Middleware Infrastructure 12.2.1.3.0 has to be installed on the machine.

3.1.2 Domain Creation and Configuration

It is recommended to create the domain structure as given below and also to maintain the same nomenclature. For Creating Domain and Configuration please refer to ANNEXURE-1 "**How to create and Cluster Configuration**".

Domain name: plato

- plato_discovery_cluster
  - managed_server1

- plato_config_cluster
  - managed_server2

- plato_api_gateway_cluster
  - managed_server3

- plato_ui_config_cluster
  - managed_server4

4. Data Sources Creation

4.1 <u>Prerequisite</u>

- Database schema for Plato is created and all the required grants are given.
- Plato domain and clusters are created.

4.2 <u>Data sources List</u>

The table below lists the data sources to be created on each managed server prior to deployment of applications onto managed servers.

Data Source Name	Data Source JNDI	Target
PLATO	jdbc/PLATO	managed_server1
PLATOSEC	jdbc/PLATO_SECURITY	managed_server2
PLATO_UI_CONFIG	jdbc/PLATO_UI_CONFIG	managed_server3 managed_server4

For creating data source in please refer ANNEXURE-1 "**How to create Data sources section".**

5. Deployments

5.1 Prerequisite

Before you proceed with below, please make sure previous steps are completed.

5.2 Deployment List

Below table give details of the deployments required on each Server for the Plato application to run. Deploy one after other in the same given order.

Application	Archive Name	OSDC Path	Target
plato- discovery- service	plato-discovery-service-1.0.3.war	\PLATO\plato-discovery-service\APP	managed_server1
plato-config- service	plato-config-service-1.0.3.war	\PLATO\plato-config-service\APP	managed_server2
Plato-api- gateway	plato-api-gateway-1.0.3.war	\PLATO\plato-api-gateway\APP	managed_server3
Plato-ui-config- service	plato-ui-config-services-1.0.3.war	\PLATO\plato-ui-config-services \APP	managed_server4

5.3 Steps to Deploy as Application

To deploy application please refer ANNEXURE-1. "**How to deploy section**".

[Note: After deploying "plato-discovery-service" it is recommended not to restart and refresh the server.]

6. Restarts and Refresh

Once everything is deployed, the managed servers. And for each application call path "/refresh" for refreshing the configuration properties.

6.1 <u>Restarting Servers</u>

To restart the server please refer to ANNEXURE-1."**How to restart**" section.

7. Security Configuration and Tools Installation

7.1 Prerequisite

Before you proceed with below, please make sure LDAP server details is provided to you-Like LDAP_URL, USER_STORE, LDAP_SERVER_CREDENTIAL_SALT, LDAP_SERVER_USER, LDAP_SERVER_BASE, LDAP_SERVER_CREDENTIAL, LDAP_USER_SEARCH_BASE, LDAP_USER_PREFIX, CORS_ALLOWED_ORGINS, LDAP_SERVER_CREDENTIAL_SALT etc.

7.2 Plato Security JWT

Plato security module enables securing API micro services with JWT (JSON Web Tokens). JSON Web Tokens are an open, industry standard RFC 7519 method for representing claims securely between two parties. JSON Web Token (JWT) is a compact, URL-safe means of representing claims to be transferred between two parties. The claims in a JWT are encoded as a JSON object that is used as the payload of a JSON Web Signature (JWS) structure or as the plaintext of a JSON Web Encryption (JWE) structure, enabling the claims to be digitally signed.

7.3 Plato Security Configuration

Plato recommends creating new schema for security to keep the security related database objects at one place. If the environment is configured for multi-tenant, we require a security schema per tenant.

All the Plato security configurations are maintained at SECURITY_CONFIG table.

7.3.1 Steps to configure

There are two alternate ways to do the database setup, viz.

1. Collect scripts from both the path mentioned in From-Path section in the table and compile into respective PLATO schema.

DDL:

Service Name	From-Path	Compile To
plato-api-gateway	\PLATO\plato-api-gateway\DB\DOMAIN\DDL	Plato Security Schema

SEQ:

Service Name	From-Path	Compile To
plato-api-gateway	\PLATO\plato-api-gateway\DB\DOMAIN\SEQ	Plato Security Schema

INC:

Open the **INC** mentioned in **From-Path** section and **Change the below KEY with provided LDAP details.**

LDAP_SERVER_CREDENTIAL_SALT	Enter LDAP server Credential salt e.g. 0.9482628451234567
CORS_ALLOWED_ORGINS	valid host names (comma delimited)
LDAP_URL	Enter LDAP Server URL Example: ldap://localhost:12345
LDAP_SERVER_USER	Enter LDAP Server USERID Example: uid=admin
LDAP_SERVER_BASE	Enter LDAP server BASE Example: dc=oracle,dc=com
LDAP_SERVER_CREDENTIAL	Enter LDAP server encrypted password using provided jwr algorithm Example: m0o/F3UvlwvBSv5C/TSckA== (use plato encryption utlity to generate encrypted password)
LDAP_USER_SEARCH_BASE	Enter LDAP User search Base Example: ou=people
LDAP_USER_PREFIX	Enter LDAP User Prefix Example: uid

Service Name	From-Path	Compile To
plato-api-gateway	\PLATO\plato-api-gateway\DB\DOMAIN\INC	Plato Security Schema

7.3.2 <u>User Store</u>

Plato supports following user stores for authentication Users Maintained at table.

1. Plato security can authenticate the users maintained at table (APP_USER) in the security schema. However we do not recommend using this option.
2. LDAP user store.
3. Plato security can integrate with LDAP server to authenticate the users.
4. For production deployment, the LDAP server should be an industry standard production grade server.

8. Zipkin Server Setup

8.1 Introduction

In this section you are going to install recommended Zipkin server for tracing and monitoring the micro services calls.

8.1.1 Download the Artifact

Before proceeding with the below steps ensure Plato database setup section completed.
Zipkin Server should be downloaded and store in local file system to execute on host machine.

Zipkin Server JAR location: https://zipkin.io/pages/quickstart

8.1.2 Running the Zipkin Server
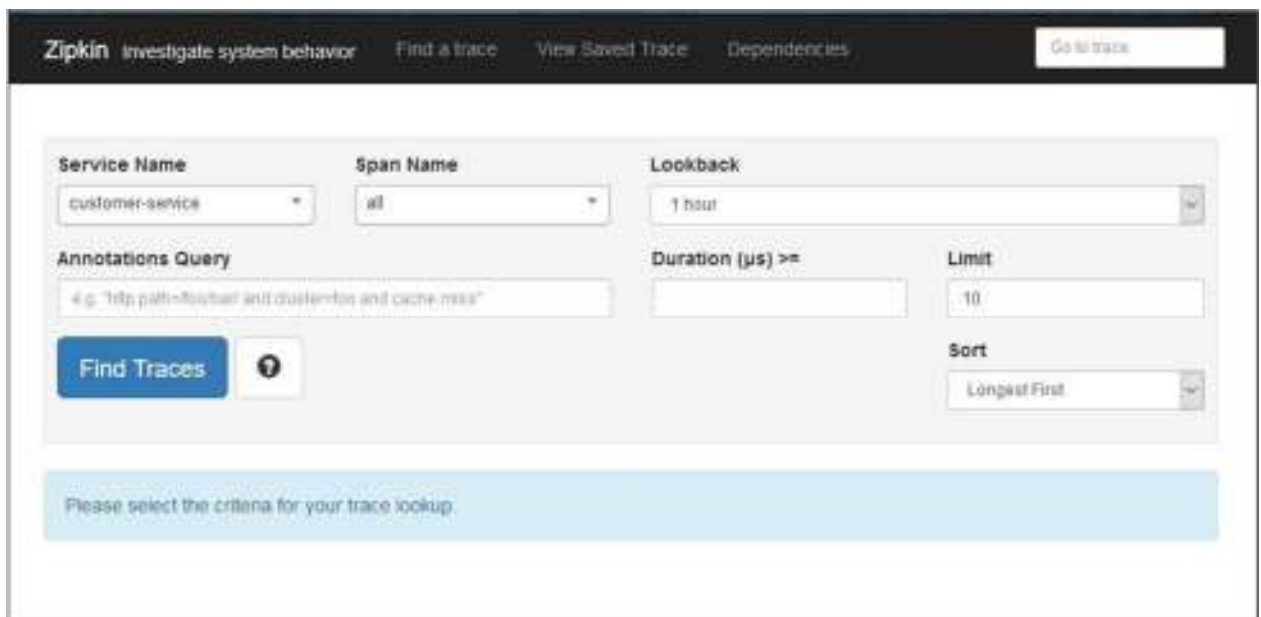
Zipkin server could be run by using the following syntax. java -jar <location of zipkin-server-2.6.0-exec.jar> &

Here, & is added to execute it in background mode. On Windows, you can ignore it. Zipkin runs on default port 9411.

8.1.3 Accessing the Zipkin Server

You can access the zipkin server by hitting the following URL.

http://<HOSTNAME_OR_IP>:<PORT>/zipkin/

9. Logging Area

9.1 Introduction

This part of the document will talk about the logs area where after deployment of Plato Applications in WebLogic server.

Logging Area

Plato Application writes logs in the below area of the server-<WEBLOGIC_DOMAIN_CONFIG_AREA>/ logs/plato-api-gateway.log

Let's assume a domain has been created **plato_domain** in the following area of the server "/scratch/oracle/middleware/user_projects/domains/plato_domain". Logging area for Plato would be **/scratch/oracle/middleware/user_projects/domains/plato_domain/logs.**

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

Worldwide Inquiries:
Phone: +91 22 6718 3000
Fax:+91 22 6718 3001
www.oracle.com/financialservices/