Oracle® Application Integration Architecture

Oracle Driver Management Integration Pack for Oracle Transportation Management and Oracle E-Business Suite Implementation Guide

Release 3.1

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The Oracle Driver Management Integration Pack for Oracle Transportation Management (OTM) and Oracle E-Business Suite (EBS) implementation guide is a valuable resource for administrators and developers involved in the implementation, administration and deployment of Oracle Transportation Driver Management process provided by Oracle Application Integration Architecture (AIA) Pre-Built Integrations Release 11.2.

The first part of this guide focuses on understanding the pre-built integration between Oracle Driver Management and participating application such as OTM and EBS. It also lists the various assumptions and constrains, process flows, process integration, interfaces and integration services used by Oracle Driver Management Pre-Built integrations.

The second part of this guide discusses the customer data requirements, prerequisites, configuration steps and cross-references required for integrating Oracle Driver Management with OTM and EBS.

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Oracle Application Integration Architecture Oracle Driver Management Integration Pack for Oracle Transportation Management and Oracle E-Business Suite Implementation Guide, Release 3.1

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Preface

Welcome to Oracle Driver Management Integration Pack for Oracle Transportation Management and Oracle E-Business Suite 3.1 - Implementation Guide.

What's New in this Guide

- The Oracle Application Integration Architecture Installation and Upgrade Guide for Pre-Built Integrations is restructured into a general installation chapter with an individual configuration and deployment chapter for each pre-built integration.
- The term *process integration pack* is replaced with the term *pre-built integrations*.
- The implementation guides are restructured into two parts: design and set up.

  Part I - Design: This part provides functional overviews, activity diagrams, assumptions and constraints, and technical sequence diagrams and steps.

  Part II - Set up: This part provides prerequisites, data requirements, and configuration steps.
- Starting with this release, these integrations are no longer available:
  - Oracle CRM On Demand Integration Pack for JD Edwards EnterpriseOne: Lead to Order
  - Oracle Workforce Administration Integration Pack for PeopleSoft Human Resources

Common Oracle AIA Pre-Built Integration Guides

Oracle Application Integration Architecture Pre-Built Integrations 11.1 includes the following guides shared by all products delivered with this release:

- Oracle Application Integration Architecture Installation and Upgrade Guide for Pre-Built Integrations Release 11.1

  This guide provides an overview of the installation process, including how to install, configure, and deploy your pre-built integrations. The steps required to upgrade your pre-built integrations to the latest release are also provided.
- Oracle Application Integration Architecture Pre-Built Integrations 11.1: Utilities Guide

  This guide describes:
  - How to work with and configure Session Pool Manager (SPM), which is a service in the Oracle SOA Suite web server whose primary function is to manage a pool of web server session tokens that can be reused by BPEL flows.

  - How to deploy and configure the AIACompositeScheduler. This is a utility component that is used by pre-built integrations to schedule a service-oriented architecture (SOA) composite to be invoked at the specified time interval.

- Oracle Application Integration Architecture Pre-Built Integrations 11.1: Product-to-Guide Index

  The Product-to-Guide index lists the guides that provide information for each product delivered in this release.

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.

Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

Additional Resources

The following resources are also available:

- **Oracle Application Integration Architecture Foundation Pack:**

  Oracle AIA Pre-Built integrations require Foundation Pack 11.1.1.5.0 to be installed. Refer to the Foundation Pack documentation library on OTN to download the Foundation Pack guides at http://download.oracle.com/docs/cd/E21764_01/aia.htm.

- **Oracle Application Integration Architecture: Product-to-Guide Index:**

  Oracle Technology Network:
  http://www.oracle.com/technetwork/index.html

- **Known Issues and Workarounds:**

  My Oracle Support: https://support.oracle.com/

- **Release Notes:**

  Oracle Technology Network:
  http://www.oracle.com/technetwork/index.html

- **Documentation updates:**

  Oracle Technology Network:
  http://www.oracle.com/technetwork/index.html

Part I

Understanding the Delivered Process Integrations

Part 1 of this guide provides conceptual information about the various process flows that automates the Oracle Transportation Driver Management process between Oracle Transportation Management (OTM) and Oracle E-Business Suite.

Part I contains the following chapters:

1

Oracle Driver Management for OTM and Oracle E-Business Suite

This chapter provides an overview of the Oracle Transportation Driver Management integration pack and covers:

- Participating applications
- Business process flows
- Assumption and Constraints

1.1 Overview

The Oracle Transportation Driver Management process integration pack provides a best-of-breed solution that enables an organization to manage the driver profiles and settle the payments.

The process integration pack (PIP) automates the Oracle Transportation Driver Management process between Oracle Transportation Management (OTM) and Oracle E-Business Suite. It includes the automatic driver and independent contractor synchronization, the driver absence synchronization, the driver trainings/training history synchronization, the driver certifications/certification history synchronization, and the driver/contractor payment process.

1.1.1 Key Benefits

These are the key benefits for this integration pack:

- End-to-end management of drivers and independent contractors
- Improved driver management
- Increased driver satisfaction
- Enhanced visibility and accuracy for driver availability and payment
- Reduced integration time and costs

1.1.2 Security

Oracle Driver Management Integration Pack has been enhanced with Oracle Web Services Manager (OWSM), which enables attaching OWSM policies to services and passing the OTM password information through csf-keys.

For more information about security validation and csf-key, see Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture

Foundation Pack, "Working with Security" and Oracle Fusion Middleware Installation Guide for Oracle Application Integration Architecture Foundation Pack.

1.2 Participating Applications

This provides an overview of the applications participating in the process integration:

- Oracle Transportation Management
- Oracle E-Business Suite

1.2.1 Oracle Transportation Management

Oracle Transportation Management delivers robust transportation planning and execution capabilities to shippers and third-party logistics providers. It integrates and streamlines transportation planning, execution, freight payment, and business process automation on a single application across all modes of transportation, from full truckload to complex multi-leg air, ocean, and rail shipments.

Regardless of the size or the volume of the business, Oracle Transportation Management delivers the capabilities needed in an open-standards-based architecture that enables you to start with a single component or any mix of components and also provides the flexibility to grow easily, without installing or reinstalling added functionality.

about Oracle Transportation Management, see Oracle Transportation Management User Guide.

1.2.2 Oracle E-Business Suite

These applications of the Oracle E-Business Suite participate in the process integration:

- Oracle Human Resources Management System (HRMS)
- Oracle Human Resources (HR)
- Oracle Learning Management
- Oracle Incentive Compensation (OIC)

1.2.2.1 Oracle HRMS

Oracle HRMS is flexible enough to meet your needs now and adaptable enough to change with your business. Oracle HRMS is a suite of applications, comprising Oracle HR, Oracle Payroll, Oracle HR: Self-service, Oracle Time and Labor, Oracle iRecruitment, Oracle HR Intelligence, Oracle iLearning, Oracle Advanced Benefits, and Oracle Labor Distribution.

1.2.2.2 Oracle Human Resources

Oracle Human Resources (HR) is a powerful tool for optimizing the use of the human assets of your business, whether you operate in the private or the public sector. It enables you to adopt structured approaches to attracting, retaining, developing, and using the critical skills and knowledge needed to improve the capability of your business to meet new challenges. Oracle HR is part of the Oracle E-Business Suite—an integrated set of applications that are engineered to work together seamlessly. Oracle HR is a key component of the fully integrated Oracle HRMS suite of applications.

1.2.2.3 Oracle Learning Management

Oracle Learning Management is designed to support all education models by providing a single, unified, learning delivery system to employees, customers, and partners. Because this single system is native to the Oracle E-Business Suite, it can also relate learning activities and results to business needs, including compliance-related initiatives. Oracle Learning Management addresses your compliance needs by providing:

- Complete management of learning-related workforce competencies.
- Structured learning paths that enable the monitoring of compliance-related learning events and notification of progress towards path completion.
- Management of a unified catalog of compliance-related courses in one central location—combining self-paced and classroom-based training into one catalog.
- Creation of tests to assess learner experience and curriculum effectiveness—providing valuable feedback on whether compliance goals and awareness objectives are being served.

1.2.2.4 Oracle Incentive Compensation

Oracle Incentive Compensation (OIC) is a global, variable compensation application that automates the design, administration, and analysis of incentive-based compensation programs for employees and partners to drive corporate goals successfully. OIC is a key component of the Oracle E-Business Suite.

Accurately predicting, administering, and tracking variable payouts is key to your corporate performance strategy. The majority of companies struggle to maintain legacy, in-house systems that lack the flexibility required to model today's complex financial-focused, service-focused, and customer-focused strategies. At the same time, the increased focus on financial control—especially on sales commission payments—necessitates complete accountability and accuracy in incentive payouts, placing increasing pressure on point and legacy solutions.

With OIC, you can achieve:

- Financial control
- Operational effectiveness
- Corporate alignment

  For more information about Oracle E-Business Suite, see Oracle E-Business Suite User Guide.

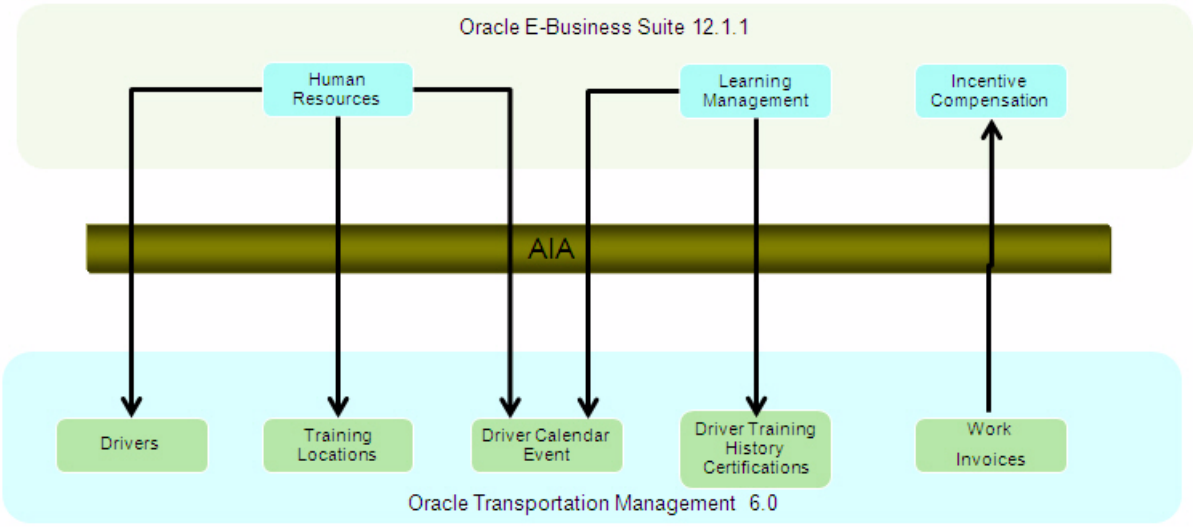
1.3 Business Process Flows

Oracle Driver Management process integration pack consists of these integration flows:

- Driver Profile
- Location
- Training/Certification and Absence Calendar
- Work Invoice

  Figure 1–1 shows the Driver Management business processes:

Figure 1–1 Driver Management Process Flow



Drivers are an important part of a company's fleet. Driver satisfaction and retention is critical to the successful and profitable operation of the fleet. Drivers are engaged in a variety of ways, such as full-time or part-time employees. Others may be independent contractors. Driver management entails multiple aspects, including:

- Driver Human Resources (HR) – recruiting, on-boarding, training, license and certification management, vacations, promotions, termination, and so forth.
- Workforce scheduling – designing and assigning driver shifts, at-home profiles, and so forth.
- Driver utilization – part of fleet execution.
- Driver tracking – monitoring driver status; hours to ensure appropriate utilization and compliance.
- Logs
- Regulatory compliance monitoring.
- Driver pay – pay structures can vary by the individual driver and consist of many different sources of pay—activity-driven, hourly, salary, bonus, and so forth.

The integration pack for Oracle Transportation Driver Management enables an organization to synchronize their driver profiles between Oracle E-Business Suite and Oracle Transportation Management (OTM). It also integrates the learning/certification and absence calendars for the drivers between OTM and Oracle E-Business Suite, integrates the work invoices created in OTM, and sends them to the Oracle E-Business Suite Oracle Incentive Compensation (OIC) system so that they can be accounted and settled in the Financial System.

1.3.1 Assumptions and Constraints

Oracle Transportation Management and Oracle E-Business Suite applications are implemented prior to the implementation of this process integration pack (PIP).

Note: Assumptions and constraints as applicable to each integration flow are documented in their respective integration flow chapter.

2

Process Integration for Driver Profile

This chapter provides an overview of the process integration for driver profile and covers:

- Business process flows
- Driver profile integration details
- Assumptions and constraints
- Oracle E-Business Suite interfaces
- Oracle Transportation Management (OTM) interfaces
- Core application integration architecture (AIA) components
- Integration services

2.1 Overview

Drivers are an important part of a company's fleet. Driver satisfaction and retention are critical to the successful and profitable operation of the fleet. Drivers are engaged in a variety of ways, such as full-time or part-time employees. Others may be independent contractors. Driver profile information entails driver personal data such as name, address, phone, and so forth.

2.2 Business Process Flows

The process integration for driver profile between Oracle Human Resources (HR) and Order Transportation Management (OTM) supports these integration flows:

- Initial Loading of Driver Profile Information: Extracts and loads the initial driver profiles from Oracle E-Business Suite Human Resources (HR) into Oracle Transportation Management (OTM).
- Updating Driver Profile Information: Enables the synchronization of incremental creation and updates of the driver profile from Oracle E-Business HR into OTM.

2.3 Driver Profile Integration Details

This integration flow uses these services:

- SyncWorkerListEbizInitialLoad
- SyncWorkerListEbizGroupEventAdapter
- SyncWorkerListEbizEventAggregator

- SyncWorkerListBPELAggregator
- SyncWorkerListEbizJMSProducer
- SyncWorkerListEbizJMSConsumer
- SyncWorkerListEbizReqABCSImpl
- WorkerEBS
- SyncWorkerListLogisticsProvABCSImpl
- OTMWebService

2.3.1 Initial Load of Driver Information

When you initiate the process, these events occur:

1. The SyncWorkerListEbizInitialLoad is a business process execution language (BPEL) process that you initiate manually by providing the range of the person IDs that need to be synced to OTM as part of the initial load. For every person ID, this service invokes the SyncWorkerListBPELAggregator.
2. The SyncWorkerListEbizBPELAggregator invokes the get_details API, which then returns the complete driver profile details. This service then checks for the completeness of the payload and invokes the get_training_details API and the get_certification_details API. All the messages generated by the API calls are then merged into one message into a payload.
3. The SyncWorkerListEbizJMSProducer service reads the complete payload from the SyncWorkerListEbizBPELAggregator and drops the messages into AIA_EbizWorkerJMSQueue individually.
4. The SyncWorkerListEbizJMSConsumer service listens to the AIA_EbizWorkerJMSQueue, dequeues the messages, and invokes the SyncWorkerListEbizReqABCSImpl with the WorkerListEBizABM.
5. The SyncWorkerListEbizReqABCSImpl service transforms the WorkerListEBizABM into the SyncWorkerListEBM and populates the enterprise business message (EBM) header. The transformation does cross-referencing for system-specific values and invokes the WorkerEBS with the SyncWorkerList operation. The WorkerEBS is a routing mediator service with several operations on the WorkerEBO.
6. The WorkerEBS service with the SyncWorkerList operation routes the messages based on the Composite Application Validation System (CAVS) flag to either the SyncWorkerListLogisticsProvABCSImpl service or the CAVS simulator.
7. The SyncWorkerListLogisticsProvABCSImpl transforms the SyncWorkerListEBM into the WorkerListLogisticsABM, and invokes the OTMWebService, which connects to the OTM application.

2.3.2 Updating Driver Profile Information

The purpose of this flow is to load into Oracle Transportation Management (OTM) the driver profile information that was updated in Oracle E-Business Suite.

When you initiate the process, these events occur:

1. The SyncWorkerListEbizGroupEventAdapter service listens to the oracle.apps.per.person.profile Business Event. This business event is raised when a person is created in Oracle E-Business Suite or any data related to a person is

updated. The event information is then passed to the SyncWorkerListEbizEventAggregator.

2. The SyncWorkerListEbizEventAggregator enqueues the events in an EBIZ_OBJECTS_EVENTS table through the DBAdapter. The procedure REGISTEREBIZEVENT.EVENTDETAILS, which fires for a period specified in the configuration, then reads the data from the table and invokes the SyncWorkerListEbizBPEL Aggregator.
3. The SyncWorkerListEbizBPELAggregator invokes the get_details API, which then returns the complete driver profile details. This service then checks for the completeness of the payload and invokes the get_training_details API and the get_certification_details API. All the messages generated by the API calls are then merged into one message into a payload.
4. The SyncWorkerListEbizJMSProducer service reads the complete payload from the SyncWorkerListEbizBPELAggregator and drops the messages into AIA_EbizWorkerJMSQueue individually.
5. The SyncWorkerListEbizJMSConsumer service listens to the AIA_EbizWorkerJMSQueue, dequeues the messages, and invokes the SyncWorkerListEbizReqABCSImpl with the WorkerListEBizABM.
6. The SyncWorkerListEbizReqABCSImpl service transforms the WorkerListEBizABM into the SyncWorkerListEBM and populates the EBM Header. The transformation does cross-referencing for system-specific values and invokes the WorkerEBS with the SyncWorkerList operation. The WorkerEBS is a routing mediator service with several operations on the WorkerEBO.
7. The WorkerEBS service with the SyncWorkerList operation routes the messages based on the Composite Application Validation System (CAVS) flag to either the SyncWorkerListLogisticsProvABCSImpl service or the CAVS simulator.
8. The SyncWorkerListLogisticsProvABCSImpl transforms the SyncWorkerListEBM into the WorkerListLogisticsABM and invokes the OTMWebService, which connects to the Oracle Transportation Management (OTM) application.

2.4 Assumptions and Constraints

These are the assumptions and constraints:

1. This integration supports only the person type ID of an employee and a contingent worker.
2. The default location role is SHIPFROM/SHIPTO.
3. The country codes, qualification types, and delivery methods are manually maintained in Oracle Transportation Management (OTM) and Oracle E-Business Suite. These values are mapped using domain value maps (DVM).
4. License state and country flexfields need to be configured at implementation time for human resources (HR).

2.5 Oracle E-Business Suite Interfaces

The Oracle E-Business Suite interfaces are:

- SyncWorkerListEbizInitialLoad
- SyncWorkerListEbizGroupEventAdapter
- SyncWorkerListEbizEventAggregator

- SyncWorkerListBPELAggregator
- SyncWorkerListEbizJMSProducer
- SyncWorkerListEBizJMSConsumer

For more information about Oracle E-Business Suite web services, see Oracle E-Business Suite references: Oracle E-Business Suite Electronic Technical Reference Manual (eTRM) located on My Oracle Support and Oracle Applications Online Documentation Library, located on the Oracle Technology Network (http://www.oracle.com/technology/documentation/applications.html)

2.5.1 SyncWorkerListEbizInitialLoad

The SyncWorkerListEbizInitialLoad is a business process execution language (BPEL) process that you invoke manually by providing the range of the person IDs that need to be synced to Oracle Transportation Management (OTM) as part of the initial load. For every person ID, this invokes the SyncWorkerListBPELAggregator service.

2.5.2 SyncWorkerListEbizGroupEventAdapter

The SyncWorkerListEbizGroupEventAdapter is a mediator process with a database adapter and routing services. This service listens to the business events and then invokes SyncWorkerListEbizEventAggregator.

2.5.3 SyncWorkerListEbizEventAggregator

The SyncWorkerListEbizEventAggregator is a BPEL process that is triggered when any OAAdapter raises an Oracle E-Business Suite Event and enqueues the events in an EBIZ_OBJECTS_EVENTS table through the DBAdapter. The procedure named REGISTEREBIZEVENT.EVENTDETAILS reads the data from the table and invokes the SyncWorkerListBPELAggregator service.

2.5.4 SyncWorkerListBPELAggregator

The SyncWorkerListBPELAggregator is a business process execution language (BPEL) process that the SyncWorkerListEventAggregator triggers upon listening to an Oracle E-Business Suite business event. This service invokes the get_person_details API, which returns the complete driver profile details. This service then checks for the completeness of the payload and then triggers the get_training_details application programming interface (API) and the get_certification_details API. All the messages generated by the API calls are then merged into one message.

2.5.5 SyncWorkerListEbizJMSProducer

The SyncWorkerListEbizJMSProducer service is a BPEL process used for both initial and incremental loads. The Oracle E-Business Suite application invokes this service when:

- A new driver is created.
- An existing driver is updated

This service reads the complete payload from the SyncWorkerListBPELAggregator and drops the messages into the AIA_EbizWorkerJMSQueue individually.

2.5.6 SyncWorkerListEbizJMSConsumer

The SyncWorkerListEbizJMSConsumer is a mediator service that picks up the messages from the AIA_EbizWorkerJMSQueue and invokes the SyncWorkerListEbizReqABCSImpl service.

2.6 Oracle Transportation Management Interfaces

Oracle Transportation Management (OTM) provides an interface through a web service to connect to its application. This connectivity is established as a partner link in the provider service. Once invoked, the Logistics web service immediately returns an acknowledgement with a transmission number. Once the processing is complete, it then sends a transmission report back indicating the success or the failure. The application business message (ABM) details can be seen in the GLOG xsd with the driver element.

For more information about the Logistics Service, see Oracle Transportation Management Integration Guide.

2.7 Core Application Integration Architecture Components

The integration flow uses these components:

- WorkerEBO
- WorkerListEBM
- WorkerEBS

The core enterprise business object (EBO) and enterprise business message (EBM) XSD files can be located by EBO within the $AIA_HOME/AIAMetaData/AIAComponents/EnterpriseObjectLibrary/Core/EBO/ parent folder.

The core enterprise business services (EBS) web services definition language (WSDL) files can be located by EBO within the $AIA_HOME/AIAMetaData/AIAComponents/EnterpriseBusinessServiceLibrary/Core/EBO/parent folder.

For detailed documentation of individual EBOs and EBMs, click AIA Reference Doc link on EBO and EBM detail pages in the Oracle Enterprise Repository.

For more information about using the Oracle Enterprise Repository and configuring it to provide the AIA Reference Doc link, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack*, "Configuring and Using Oracle Enterprise Repository as the Oracle AIA SOA Repository.

EBOs can be extended, for instance, to add new data elements. These extensions are protected and remain intact after a patch or an upgrade.

2.8 Integration Services

These are the services delivered with this integration:

- SyncWorkerListEbizReqABCSImpl
- WorkerEBS
- SyncWorkerListLogisticsProvABCSImpl

2.8.1 SyncWorkerListEbizReqABCSImpl

SyncWorkerListEbizReqABCSImpl is a business process execution language (BPEL) process and a single operation service. It has WorkerEBS as a partner service. This service receives the WorkerListEbizABM message as a request and does not return a response to the calling service.

These actions are performed by this service:

- Accepts WorkerListEbizABM message from Oracle E-Business Suite. This message contains a cross-reference for drivers, addresses, contacts, and driver information.
- Transforms WorkerListEbizABM into WorkerListEBM. While transforming from application business message (ABM) to enterprise business message (EBM), it looks up these cross-references:
  - WORKER_ID
  - WORKER_CONTACTID
  - WORKER_DELIVERYMETHODID
  - WORKER_PHONEID
  - WORKER_QUALIFICATIONID
  - WORKER_BOOKINGID
  - WORKER_CERTIFICATIONENROLLID
  - WORKER_ADDRESS_ID
  - WORKER_ASSIGNMENTID
- Sends WorkerListEBM message as input to SyncWorkerList operation in WorkerEBS service.

  These domain value map (DVM) lookups are used:
- ADDRESS_COUNTRYID – Domain value mapping for country codes.
- STATE – Domain value mapping for state codes.
- QUALIFICATIONTYPE_ID – Domain value mapping for the qualification type.
- COMMUNICATION_METHOD – Domain value mapping for the communication method.
- PHONE_TYPE – Domain value mapping for phone types.
- WORKER_PERSON_TYPE_ID – Domain value mapping for person type ID.
- BLOOD_TYPE – Domain value mapping for blood type.
- WORKER_ASSIGNMENT_STATUS – Domain value mapping for assignment status.
- BUSINESSGROUP_DOMAIN – Domain value mapping for business group.
- CONTACT_GENDERCODE – Domain value mapping for gender.
- WORKER_ADDRESSTYPE – Domain value mapping for address type.
- WORKER_CERTIFICATIONID – Domain value mapping for certification ID.
- WORKER_PERIOD_STATUS_CODE – Domain value mapping for status.
- WORKER_COMPETENCE_ID – Domain value mapping for competence ID.

2.8.2 WorkerEBS

The WorkerEBS is the Enterprise Business Service (EBS) that exposes all the enterprise operations related to the worker like create WorkerList, update WorkerList, synchronize WorkerList, and so on. This integration uses only the SyncWorkerList operation. This Enterprise Business Service routes the request to the appropriate provider like the SyncWorkerListLogisticsProvABCSImpl or the Composite Application Validation System (CAVS) based on the filter condition and operations. The EBS does updates and creates using the synchronization. This service does not do transformations. Oracle Transportation Management (OTM) determines whether this synchronize worker message is for a create or an update action.

For more information about this EBS, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack*, Designing and Developing Enterprise Business Services and *Oracle Fusion Middleware Concepts and Technologies Guide for Oracle Application Integration Architecture Foundation Pack*, Understanding Enterprise Business Services.

2.8.3 SyncWorkerListLogisticsProvABCSImpl

This SyncWorkerListLogisticsProvABCSImpl is a business process execution language (BPEL) process that receives the SyncWorkerListEBM, transforms the message into the WorkerLogisticsABM, invokes the Logistics web service with the SyncWorkerListEBM, and waits for the transmission report from the Logistics web service. If the transmission report specifies that the transaction is successful, it creates/updates the cross-reference values; otherwise, it invokes the AIAAsyncErrorHandlingBPEL process to generate the error messages.

These domain value map (DVM) lookups are used by this service:

- ADDRESS_COUNTRYID - Domain value mapping for country codes.
- STATE – Domain value mapping for state codes.
- COMMUNICATION_METHOD – Domain value mapping for the communication method.
- BUSINESSGROUP_DOMAIN – Domain value mapping for business group.
- WORKER_CERTIFICATIONID – Domain value mapping for certification ID.

3

Process Integration for Locations

This chapter provides an overview of the process integration for locations and covers:

- Business process flows
- Location integration details
- Assumptions and constraints
- Oracle E-Business Suite interfaces
- Oracle Transportation Management (OTM) interfaces
- Core application integration architecture (AIA) components
- Integration services

3.1 Business Process Flows

Drivers subscribe to training that requires a common location between OTM and Oracle E-Business Suite. Oracle E-Business Suite Human Resources (HR) is the master record for all trainings and hosts the master record for all training locations. The process integration for locations supports these integration flows:

- Initial Load of Training Location Information: Extracts and loads initial training locations from Oracle E-Business Suite HR to OTM.
- Updating Training Location Information: Enables the synchronization of incremental creation and updates of the newly created or modified location information from Oracle E-Business Suite to OTM.

3.2 Locations Integration Details

This integration flow uses these integration services:

- SyncLocationListInitialLoadDBAdapter
- CreateLocationListEbizAdapter
- UpdateLocationListEbizAdapter
- SyncLocationListEbizGetABM
- SyncLocationListEbizJMSProducer
- SyncLocationListEbizJMSConsumer
- SyncLocationListEbizReqABCSImpl
- LocationEBS

- SyncLocationListLogisticsProvABCSImpl

3.2.1 Initial Load of Location Information

This flow loads the location information created in Oracle E-Business Suite into Oracle Transportation Management (OTM).

These events occur when you initiate the process:

1. Initiate the SyncLocationListInitialLoadDBAdapter service manually by providing the range of the Start_ID and End_ID that need to be synced to Oracle Transportation Management (OTM) as part of the initial load. For every Location_ ID, this service invokes the SyncLocationListEbizGetABM.
2. The SyncLocationListEbizGetABM invokes the get_location_details application programming interface (API), which then returns the complete location details. This service then checks for the completeness of the payload and drops the messages into AIA_EbizLocationJMSQueue.
3. The SyncLocationListEbizJMSProducer service reads the complete payload from the SyncLocationListEbizGetABM and drops the messages into AIA_ EbizLocationJMSQueue.
4. The SyncLocationListEbizJMSConsumer service listens to the AIA_ EbizLocationJMSQueue, dequeues the messages, and invokes the SyncLocationListEbizReqABCSImpl with the LocationEBizABM.
5. The SyncLocationListEbizReqABCSImpl service transforms the LocationEBizABM into the SyncLocationListEBM and populates the enterprise business message (EBM) Header. The transformation does cross-referencing for system-specific values and invokes the LocationEBS with the SyncLocationList operation. The LocationEBS is a routing mediator service with several operations on the LocationEBO.
6. The LocationEBS service with the SyncLocationList operation routes the messages based on the Composite Application Validation System (CAVS) flag to either the SyncLocationListLogisticsProvABCSImpl service or the CAVS simulator.
7. The SyncLocationListLogisticsProvABCSImpl transforms the SyncLocationListEBM into the LogisticsABM and invokes the OTM web service, which connects to the OTM application.

3.2.2 Updating Location Information

The locations created or updated in the Oracle E-Business Suite must be updated in the OTM.

These events occur when you initiate the process:

1. In the case of new locations, the CreateLocationListEbizAdapter service listens to the oracle.apps.per.api.location.create_location business event. This business event is raised when a location is created in Oracle E-Business Suite. The event information is then passed to the SyncLocationListEbizGetABM.
2. In the case of updates to existing locations, the UpdateLocationListEbizAdapter service listens to the oracle.apps.per.api.location.update_location business event. This business event is raised when a location is updated in Oracle E-Business Suite. The event information is then passed to the SyncLocationListEbizGetABM.
3. The SyncLocationListEbizGetABM invokes the get_location_details application programming interface (API), which then returns the complete location details.

This service then checks for the completeness of the payload and drops the messages into AIA_EbizLocationJMSQueue.

4. The SyncLocationListEbizJMSProducer service reads the complete payload from the SyncLocationListEbizGetABM and drops the messages into AIA_EbizLocationJMSQueue.
5. The SyncLocationListEbizJMSConsumer service listens to the AIA_EbizLocationJMSQueue, dequeues the messages, and invokes the SyncLocationListEbizReqABCSImpl with the LocationEBizABM.
6. The SyncLocationListEbizReqABCSImpl service transforms the LocationEBizABM into the SyncLocationListEBM and populates the enterprise business message (EBM) header. The transformation does cross-referencing for system-specific values and invokes the LocationEBS with the SyncLocationList operation. The LocationEBS is a routing mediator service with several operations on the LocationEBO.
7. The LocationEBS service with the SyncLocationList operation routes the messages based on the composite application validation system (CAVS) flag to either the SyncLocationListLogisticsProvABCSImpl service or the CAVS simulator.
8. The SyncLocationListLogisticsProvABCSImpl transforms the SyncLocationListEBM into the LogisticsABM and invokes the Oracle Transportation Management (OTM) web service, which connects to the OTM application.

3.3 Assumptions and Constraints

These are the assumptions and constraints:

1. Default location role in Oracle Transportation Management (OTM) is SHIPFROM/SHIPTO. Do not change these default values in OTM. If you change the default value (for example, from SHIPFROM/SHIPTO to WAREHOUSE) the integration flow is not immediately affected; however, if a subsequent update occurs for that location in Oracle E-Business Suite, a new record with the default value (SHIPFROM/SHIPTO) is created in OTM. Thus, multiple location role records exist for the same location in OTM.
2. Location is a stand-alone flow in this integration. Though the driver profile and training calendar flows have a foreign key of location ID, they do not synchronize the locations automatically. This is based on the assumption that the particular location concerned is already being interfaced with the OTM.

3.4 Oracle E-Business Suite Interfaces

These are the Oracle E-Business Suite interfaces for the Location integration flow:

- SyncLocationListInitialLoadDBAdapter
- CreateLocationListEbizAdapter
- UpdateLocationListEbizAdapter
- SyncLocationListEbizGetABM
- SyncLocationListEbizJMSProducer
- SyncLocationListEbizJMSConsumer

For more information about Oracle E-Business Suite web services, see Oracle E-Business Suite references: Oracle E-Business Suite Electronic Technical Reference

Manual (eTRM) located on My Oracle Support and Oracle Applications Online Documentation Library, located on the Oracle Technology Network http://www.oracle.com/technology/documentation/applications.htm

3.4.1 SyncLocationListInitialLoadDBAdapter

The SyncLocationListInitialLoadDBAdapter service is used for initial loads and is triggered manually. This service reads all the Location IDs from Oracle E-Business Suite database within the range specified by the input values. These Location IDs are passed to the SyncLocationListEbizGetABM for further processing.

3.4.2 CreateLocationListEbizAdapter

The CreateLocationListEbizAdapter service is used for incremental changes. This service listens to the oracle.apps.per.api.location.create_location business event and then calls the SyncLocationListEbizGetABM for further processing of the event message.

3.4.3 UpdateLocationListEbizAdapter

The UpdateLocationListEbizAdapter service is used for incremental changes. This service listens to the oracle.apps.per.api.location.update_location business event and calls the SyncLocationListEbizGetABM business process execution language (BPEL) process for further processing of the event message.

3.4.4 SyncLocationListEbizGetABM

The SyncLocationListEbizGetABM service is called by the SyncLocationListInitialLoadDBAdapter for initial loads and is called from the Oracle E-Business Suite adapters for incremental changes. This service reads the full Location information from the Oracle E-Business Suite database using the get_location_details API and drops the messages into the AIA_EbizLocationJMSQueue.

3.4.5 SyncLocationListEbizJMSProducer

The SyncLocatoinListEbizJMSProducer service is used for enqueuing Oracle E-Business Suite payloads in the AIA layer. This service pushes the messages to the AIA_EbizLocationJMSQueue that is picked up by the SyncLocationListEbizJMSConsumer service.

3.4.6 SyncLocationListEbizJMSConsumer

The SyncLocationListEbizJMSConsumer service is used for picking up the Oracle E-Business Suite payload from the AIA queue. This service picks up the messages from the AIA_EbizLocationJMSQueue and invokes the SyncLocationListEbizReqABCSImpl service.

3.5 Oracle Transportation Management Interfaces

Oracle Transportation Management (OTM) provides an interface through a web service to connect to its application. This connectivity is established as a partner link in the Provider Service. Once invoked, the Logistics web service immediately returns an acknowledgement with a transmission number. Once the processing is complete, it then sends a transmission report back indicating the success or the failure. The application business message can be seen in the GLOG xsd.

For more information about the Logistics Service, see *Oracle Transportation Management Integration Guide*.

3.6 Core Application Integration Architecture Components

The integration flow uses these components:

- LocationEBO
- SyncLocationListEBM
- LocationEBS

  The core enterprise business object (EBO) and enterprise business message (EBM) XSD files can be located by EBO within the $AIA_HOME/AIAMetaData/AIAComponents/EnterpriseObjectLibrary/Core/EBO/ parent folder.

  The core enterprise business services (EBS) web services definition language (WSDL) files can be located by EBO within the $AIA_HOME/AIAMetaData/AIAComponents/EnterpriseBusinessServiceLibrary/Core/EBO/ parent folder.

  For detailed documentation of individual EBOs and EBMs, click AIA Reference Doc link on EBO and EBM detail pages in the Oracle Enterprise Repository.

For more information about using the Oracle Enterprise Repository and configuring it to provide the AIA Reference Doc link, see *for Oracle Application Integration Architecture Foundation PackOracle Fusion Middleware Developer's Guide*, "Configuring and Using Oracle Enterprise Repository as the Oracle AIA SOA Repository".

EBOs can be extended, for instance, to add new data elements. These extensions are protected and remain intact after a patch or an upgrade.

For more information, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack*, "Extensibility for AIA Artifacts".

3.7 Integration Services

These are the services delivered with this integration:

- SyncLocationListEbizReqABCSImpl
- LocationEBS
- SyncLocationListLogisticsProvABCSImpl

3.7.1 SyncLocationListEBizReqABCSImpl

SyncLocationListEbizReqABCSImpl is a business process execution language (BPEL) process and a single operation service. It has LocationEBS as a partner service. This service receives the LocationEbizABM message as a request and does not return a response to the calling service. This service performs these actions:

- Accepts LocationEbizABM message from Oracle E-Business Suite. This message contains a cross-reference for location ID.
- Transforms LocationEbizABM into SyncLocationListEBM. While transforming from the application business message (ABM) to the enterprise business message (EBM), cross-references are looked up for the location ID.

- Sends the LocationListEBM message as an input to the SyncLocationList operation in the LocationEBS service.

These domain value map (DVM) lookups are used by this service:

- ADDRESS_COUNTRYID - Domain value mapping for country codes.
- STATE – Domain value mapping for the state codes.

3.7.2 LocationEBS

The LocationEBS is the Enterprise Business Service that exposes all the enterprise operations related to the location, such as create location, update location, synchronize location, and so forth. This integration uses only the SyncLocationList operation. This Enterprise Business Service routes the request to the appropriate provider like the SyncLocationListLogisticsProvABCSImpl or the Composite Application Validation System (CAVS) based on the filter condition and operations. The service does updates and creates using the synchronization. It does no transformations in this service. Oracle Transportation Management (OTM) determines whether this synchronize location message is for a create or an update action.

For more information about this EBS, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack* and *Designing and Developing Enterprise Business Services and Oracle Fusion Middleware Concepts and Technologies Guide*, "Understanding Enterprise Business Services".

3.7.3 SyncLocationListLogisticsProvABCSImpl

This SyncLocationListLogisticsProvABCSImpl is a business process execution language (BPEL) process, which receives the SyncLocationListEBM, transforms the message into the LogisticsABM, invokes the Logistics web service with the SyncLocationListEBM, and waits for the transmission report from the Logistics web service. If the transmission report specifies that the transaction is successful, it supplies the cross-reference values; otherwise, it invokes the AIAAsyncErrorHandlingBPEL process to generate the error messages.

These Domain Value Map (DVM) lookups are used by this service:

- ADDRESS_COUNTRYID - Domain value mapping for country codes.
- STATE – Domain value mapping for the state codes.

4

Process Integration for Training and Absence Calendar

This chapter provides an overview of the process integration for training and absence calendar and covers:

- Business process flows
- Training and absence calendar integration details
- Assumptions and constraints
- Oracle E-Business Suite interfaces
- Oracle Transportation Management (OTM) interfaces
- Core Application Integration Architecture (AIA) components
- Integration services

4.1 Overview

While the driver details exist in the HRMS system as an employee or contractor with appropriate data, OTM also needs to hold driver data because logistics-specific attributes that exist need to be maintained; therefore, you must send driver profile data such as skills, competencies, licenses, and certifications along with other data to OTM. Training and Absence Calendar enables you to use Oracle E-Business Suite HRMS in addition to Oracle Transportation Management. Training and Absence Calendar reference data should be published from Oracle E-Business Suite HR and Learning Management to Oracle Transportation Management.

4.2 Business Process Flows

The process integration for training and absence calendar supports these integration flows:

- **Initial Loading of Training and Absence Calendar Information**: Training and Absence Calendar information is published and sent from Oracle E-Business Suite HR and Learning Management to the Oracle Transportation Management (OTM) at implementation time.
- **Updating Training and Absence Calendar Information**: Enables the synchronization of incremental creation and updates of the newly created or modified training and Absence Calendar information from Oracle E-Business Suite HR and Learning Management into OTM. Irrespective of whether the absence date is planned, approved, confirmed, or actual the date is synchronized from Oracle E-Business Suite to OTM.

4.3 Training and Absence Calendar Integration Details

This integration flow uses these integration services:

- SyncTrainingCalendarListInitialLoadDBAdapter
- SyncAbsenceCalendarListInitialLoadDBAdapter
- CreateDelegateBookingEbizAdapter
- CreateAbsenceAttendanceEbizAdapter
- UpdateDelegateBookingEbizAdapter
- UpdateAbsenceAttendanceEbizAdapter
- UpdateClassScheduleEbizAdapter
- UpdateLocationEbizAdapter
- UpdateTrainingCenterandLocationEbizAdapter
- DeleteDelegateBookingEbizAdapter
- DeleteAbsenceAttendanceEbizAdapter
- SyncTrainingCalendarListProcess
- SyncAbsenceCalendarListProcess
- SyncTrainingCalendarListEbizJMSProducer
- SyncTrainingCalendarListEbizJMSConsumer
- SyncAbsenceCalendarListEbizJMSProducer
- SyncAbsenceCalendarListEbizJMSConsumer
- SyncTrainingCalendarListEbizReqABCSImpl
- SyncAbsenceCalendarListEbizReqABCSImpl
- ResourceCalendarEntryEBS
- SyncResourceCalendarEntryListLogisticsProvABCSImpl

4.3.1 Initial Load of Training Calendar

The purpose of this flow is to load into Oracle Transportation Management (OTM) the training calendar created in Oracle E-Business Suite Learning Management.

When you initiate the process, these events occur:

1. The SyncTrainingCalendarListInitialLoadDBAdapter service is initiated manually by providing the range of the Start_ID and End_ID that need to be synced to Oracle Transportation Management (OTM), as part of the initial load. For every Booking_ID this service invokes the SyncTrainingCalendarListProcess.
2. The SyncTrainingCalendarListProcess reads all the training delegate bookings information from the Oracle E-Business database based on the input values provided for the get_training_details API and drops the output messages from these APIs into AIA_EbizTrainingCalendarJMSQueue through the SyncTrainingCalendarListEbizJMSProducer.
3. The SyncTrainingCalendarListEbizJMSProducer service reads the complete payload from the SyncTrainingCalendarListProcess and drops the messages into AIA_EbizTrainingCalendarJMSQueue.

4. The SyncTrainingCalendarListEbizJMSConsumer service listens to the AIA_EbizTrainingCalendarJMSQueue, dequeues the messages, and invokes the SyncTrainingCalendarListEbizReqABCSImpl with the TrainingCalendarListEbizABM.
5. The SyncTrainingCalendarListEbizReqABCSImpl service transforms the TrainingCalendarListEbizABM into the SyncResourceCalendarEntryListEBM and populates the enterprise business message (EBM) header. The transformation does cross-referencing for system-specific values and invokes the ResourceCalendarEntryEBS with the SyncResourceCalendarEntryList operation. The ResourceCalendarEntryEBS is a routing mediator service with several operations on the ResourceCalendarEntryEBO.
6. The ResourceCalendarEntryEBS service with the SyncResourceCalendarEntryList operation routes the messages based on the CAVS flag to either the SyncResourceCalendarEntryListLogisticsProvABCSImpl service or the CAVS simulator.
7. The SyncResourceCalendarEntryListLogisticsProvABCSImpl transforms the SyncResourceCalendarEntryListEBM into the LogisticsABM and invokes the OTM web service, which connects to the OTM application.

4.3.2 Updating the Training Calendar

The purpose of this flow is to load into Oracle Transportation Management (OTM) the training calendar that was updated in Oracle E-Business Suite learning management.

When you initiate the process, these events occur:

1. In the case of new enrollments, the CreateDelegateBookingEbizAdapter service listens to the oracle.apps.per.api.location.delegate_booking.create_delegate_booking business event. This business event is raised when a new training enrollment is created in Oracle E-Business Suite. The event information is then passed to the SyncTrainingCalendarListProcess.
2. In the case of updates to existing training enrollments, the UpdateDelegateBookingEbizAdapter service listens to the oracle.apps.ota.api.delegate_booking.update_delegate_booking business event. This business event is raised when a training enrollment is updated in Oracle E-Business Suite. The event information is then passed to the SyncTrainingCalendarListProcess.
3. In the case of updates to existing training class schedules, the UpdateClassScheduleEbizAdapter service listens to the oracle.apps.ota.api.event_api.update_class_schedule business event. This business event is raised when a training class schedule is updated in Oracle E-Business. The event information is then passed to the SyncTrainingCalendarListProcess.
4. In the case of updates to a location for a class within a training enrollment, the UpdateLocationEbizAdapter service listens to the oracle.apps.ota.api.event_api.update_location business event. This business event is raised when a location for a class within a training enrollment is updated in Oracle E-Business Suite. The event information is then passed to the SyncTrainingCalendarListProcess.
5. In the case of updates to a training center and a location for a training enrollment, the UpdateTrainingCenterandLocationEbizAdapter service listens to the oracle.apps.ota.api.event_api.update_trng_cntr_and_location business event. This business event is raised when a training center and a location for a training enrollment is updated in Oracle E-Business Suite. The event information is then passed to the SyncTrainingCalendarListProcess.

6. In the case that a training enrollment is deleted, the DeleteDelegateBookingEbizAdapter service listens to the oracle.apps.ota.api.delegate_booking.delete_delegate_booking business event. This business event is raised when a training enrollment is deleted in Oracle E-Business Suite. The event information is then passed to the SyncTrainingCalendarListProcess.
7. The SyncTrainingCalendarListProcess reads all the training delegate bookings and training updates information from the Oracle E-Business database based on the input values provided for the get_training_details API and drops the output messages from these APIs into AIA_EbizTrainingCalendarJMSQueue through the SyncTrainingCalendarListEbizJMSProducer.
8. The SyncTrainingCalendarListEbizJMSProducer service reads the complete payload from the SyncTrainingCalendarListProcess and drops the messages into AIA_EbizTrainingCalendarJMSQueue.
9. The SyncTrainingCalendarListEbizJMSConsumer service listens to the AIA_ EbizTrainingCalendarJMSQueue, dequeues the messages, and invokes the SyncTrainingCalendarListEbizReqABCSImpl with the TrainingCalendarListEbizABM.
10. The SyncTrainingCalendarListEbizReqABCSImpl service transforms the TrainingCalendarListEbizABM into the SyncResourceCalendarEntryListEBM and populates the enterprise business message (EBM) header. The transformation does cross-referencing for system -specific values and invokes the ResourceCalendarEntryEBS with the SyncResourceCalendarEntryList operation. The ResourceCalendarEntryEBS is a routing mediator service with several operations on the ResourceCalendarEntryEBO.
11. The ResourceCalendarEntryEBS service with the SyncResourceCalendarEntryList operation routes the messages based on the CAVS flag to either the SyncResourceCalendarEntryListLogisticsProvABCSImpl service or the Composite Application Validation System (CAVS) simulator.
12. The SyncResourceCalendarEntryListLogisticsProvABCSImpl transforms the SyncResourceCalendarEntryListEBM into the LogisticsABM and invokes the OTM web service, which connects to the OTM application.

4.3.3 Initial Load of Absence Calendar

The purpose of this flow is to load into Oracle Transportation Management (OTM) the absence calendar that was created in Oracle E-Business Suite.

When you initiate the process, these events occur:

1. The SyncAbsenceCalendarListInitialLoadDBAdapter service is initiated manually by providing the range of the Start_ID and End_ID that need to be synced to Oracle Transportation Management (OTM), as part of the initial load. For every Absence Attendance IDs this service invokes the SyncAbsenceCalendarListProcess.
2. The SyncAbsenceCalendarListProcess reads the absence information, using Absence Attendance from the Oracle E-Business database based on the input values provided for the get_absence_details API and drops the output messages from these APIs into AIA_EbizAbsenceCalendarJMSQueue through the SyncAbsenceCalendarListEbizJMSProducer.

3. The SyncAbsenceCalendarListEbizJMSProducer service reads the complete payload from the SyncAbsenceCalendarListProcess and drops the messages into AIA_EbizAbsenceCalendarJMSQueue.
4. The SyncAbsenceCalendarListEbizJMSConsumer service listens to the AIA_EbizAbsenceCalendarJMSQueue, dequeues the messages, and invokes the SyncAbsenceCalendarListEbizReqABCSImpl with the AbsenceCalendarListEbizABM.
5. The SyncAbsenceCalendarListEbizReqABCSImpl service transforms the AbsenceCalendarListEbizABM into the SyncResourceCalendarEntryListEBM and populates the enterprise business message (EBM) header. The transformation does cross-referencing for system -specific values and invokes the ResourceCalendarEntryEBS with the SyncResourceCalendarEntryList operation. The ResourceCalendarEntryEBS is a routing mediator service with several operations on the ResourceCalendarEntryEBO.
6. The ResourceCalendarEntryEBS service with the SyncResourceCalendarEntryList operation routes the messages based on the CAVS flag to either the SyncResourceCalendarEntryListLogisticsProvABCSImpl service or the CAVS simulator.
7. The SyncResourceCalendarEntryListLogisticsProvABCSImpl transforms the SyncResourceCalendarEntryListEBM into the LogisticsABM and invokes the OTM web service, which connects to the OTM application.

4.3.4 Updating the Absence Calendar

The purpose of this flow is to load into Oracle Transportation Management (OTM) the absence calendar that was updated in Oracle E-Business Suite.

When you initiate the process, these events occur:

1. In the case of new absences, the CreateAbsenceAttendanceEbizAdapter service listens to the oracle.apps.per.api.person_absence.create_person_absence business Event. This business event is raised when a new absence is created in Oracle E-Business Suite. The event information is then passed to the SyncAbsenceCalendarListProcess.
2. In the case of updates to existing absences, the UpdateAbsenceAttendanceEbizAdapter service listens to the oracle.apps.per.api.person_absence.update_person_absence business event. This business event is raised when an absence is updated in Oracle E-Business Suite. The event information is then passed to the SyncAbsenceCalendarListProcess.
3. In the case that an absence is deleted, the DeleteAbsenceAttendanceEbizAdapter service listens to the oracle.apps.per.api.person_absence.delete_person_absence business event. This business event is raised when an absence is deleted in Oracle E-Business Suite. The event information is then passed to the SyncAbsenceCalendarListProcess.
4. The SyncAbsenceCalendarListProcess reads all the absences and updates to the absences from the Oracle E-Business database based on the input values provided for the get_absence_details API and drops the output messages from these APIs into AIA_EbizAbsenceCalendarJMSQueue through the SyncAbsenceCalendarListEbizJMSProducer.
5. The SyncAbsenceCalendarListEbizJMSProducer service reads the complete payload from the SyncAbsenceCalendarListProcess and drops the messages into AIA_EbizAbsenceCalendarJMSQueue.

6. The SyncAbsenceCalendarListEbizJMSConsumer service listens to the AIA_EbizAbsenceCalendarJMSQueue, dequeues the messages, and invokes the SyncAbsenceCalendarListEbizReqABCSImpl with the AbsenceCalendarListEbizABM.
7. The SyncAbsenceCalendarListEbizReqABCSImpl service transforms the AbsenceCalendarListEbizABM into the SyncResourceCalendarEntryListEBM and populates the enterprise business message (EBM) header. The transformation does cross-referencing for system-specific values and invokes the ResourceCalendarEntryEBS with the SyncResourceCalendarEntryList operation. The ResourceCalendarEntryEBS is a routing mediator service with several operations on the ResourceCalendarEntryEBO.
8. The ResourceCalendarEntryEBS service with the SyncResourceCalendarEntryList operation routes the messages based on the CAVS flag to either the SyncResourceCalendarEntryListLogisticsProvABCSImpl service or the CAVS simulator.
9. The SyncResourceCalendarEntryListLogisticsProvABCSImpl transforms the SyncResourceCalendarEntryListEBM into the LogisticsABM and invokes the Oracle Transportation Management (OTM) web service, which connects to the OTM application.

4.3.5 Assumptions and Constraints

These are the assumptions and constraints:

1. A business group can have only one unique name for Domain.
2. The Calendar Event Type is manually maintained in both Oracle E-Business Suite and Oracle Transportation Management (OTM) and mapped using DVM.

4.3.6 Oracle E-Business Suite Interfaces

For the training and absence calendar integration flow, these are the Oracle E-Business Suite interfaces:

- SyncTrainingCalendarListInitialLoadDBAdapter
- SyncAbsenceCalendarListInitialLoadDBAdapter
- CreateDelegateBookingEbizAdapter
- CreateAbsenceAttendanceEbizAdapter
- UpdateDelegateBookingEbizAdapter
- UpdateAbsenceAttendanceEbizAdapter
- UpdateClassScheduleEbizAdapter
- UpdateLocationEbizAdapter
- UpdateTrainingCenterandLocationEbizAdapter
- DeleteDelegateBookingEbizAdapter
- DeleteAbsenceAttendanceEbizAdapter
- SyncTrainingCalendarListProcess
- SyncAbsenceCalendarListProcess
- SyncTrainingCalendarListEbizJMSProducer

- SyncTrainingCalendarListEbizJMSConsumer
- SyncAbsenceCalendarListEbizJMSProducer
- SyncAbsenceCalendarListEbizJMSConsumer
- SyncTrainingCalendarListEbizReqABCSImpl
- SyncAbsenceCalendarListEbizReqABCSImpl

For more information about Oracle E-Business Suite web services, see Oracle E-Business Suite references: Oracle E-Business Suite Electronic Technical Reference Manual (eTRM) located on My Oracle Support and Oracle Applications Online Documentation Library, located on the Oracle Technology Network (http://www.oracle.com/technology/documentation/applications.html)

4.3.7 SyncTrainingCalendarListInitialLoadDBAdapter

The SyncTrainingCalendarListInitialLoadDBAdapter service is used for initial loads and is triggered manually. The input to this process should be the Start_ID and the End_ID. This service reads all the Booking ID information from the Oracle E-Business Suite database based on the input values and passes this information to the SyncTrainingCalendarListProcess for further processing.

4.3.8 SyncAbsenceCalendarListInitialLoadDBAdapter

The SyncAbsenceCalendarListInitialLoadDBAdapter service is triggered manually for initial loads. The input to this process is Start_ID and the End_ID. This service reads all the Absence Attendance ID information from the Oracle E-Business Suite database based on the input values and passes this information to the SyncAbsenceCalendarListProcess for further processing.

4.3.9 CreateDelegateBookingEbizAdapter

The CreateDelegateBookingEbizAdapter service is used for incremental changes. When any Training Enrollment is created, the oracle.apps.ota.api.delegate_booking.create_delegate_booking business event queries the Oracle E-Business Suite database for Delegate Booking with the Booking_ID and invokes the SyncTrainingCalendarListProcess.

4.3.10 CreateAbsenceAttendanceEBizAdapter

The CreateAbsenceAttendanceEBizAdapter service is used for incremental changes. Whenever an absence is created, this service calls the oracle.apps.per.api.person_absence.create_person_absence business event to query the Oracle E-Business Suite database for attendance ID and invokes the SyncAbsenceCalendarListProcess service.

4.3.11 UpdateDelegateBookingEbizAdapter

The UpdateDelegateBookingEbizAdapter service is used for incremental changes. When any training enrollment is created, the oracle.apps.ota.api.delegate_booking.update_delegate_booking business event queries the Oracle E-Business Suite database for Delegate Booking with the Booking_ID and invokes SyncTrainingCalendarListProcess.

4.3.12 UpdateClassScheduleEbizAdapter

This service is used for incremental changes. This service raises the oracle.apps.ota.api.event_api.update_class_schedule business event when a class schedule of a training enrollment is updated and invokes the SyncTrainingCalendarListProcess.

4.3.13 UpdateLocationListEbizAdapter

The UpdateLocationListEbizAdapter is used for incremental changes. When a location for the class in a training enrollment is updated, this service calls the oracle.apps.ota.api.event_api.update_location business event to query the Oracle E-Business Suite database for delegate booking and invokes the SyncTrainingCalendarListProcess.

4.3.14 UpdateTrainingCenterandLocationEBizAdapter

The UpdateTrainingCenterandLocationEBizAdapter raises the oracle.apps.ota.api.event_api.update_trng_cntr_and_location business event when a training center and location for the training enrollment is updated; this event queries the Oracle E-Business Suite database for delegate booking and invokes the SyncTrainingCalendarListProcess.

4.3.15 UpdateAbsenceAttendanceEBizAdapter

The UpdateAbsenceAttendanceEbizAdapter service is used for incremental changes. This service listens to oracle.apps.per.api.person_absence.update_person_absence business event. Whenever an absence is updated, this business event is triggered, which contains absence_attendance_ID. This service invokes the SyncAbsenceCalendarListProcess service.

4.3.16 DeleteDelegateBookingEBizAdapter

When any location for the training enrollment is deleted, the DeleteDelegateBookingEBizAdapter service raises the oracle.apps.ota.api.delegate_booking.delete_delegate_booking business event and invokes the SyncTrainingCalendarListProcess service.

4.3.17 DeleteAbsenceAttendanceEBizAdapter

The DeleteAbsenceAttendanceEbizAdapter service is used for incremental changes. This service listens to the oracle.apps.per.api.person_absence.delete_person_absence business event. Whenever an absence is deleted, this business event is triggered, which contains the absence_attendance_ID. This service invokes the SyncAbsenceCalendarListProcess service.

4.3.18 SyncTrainingCalendarListProcess

This service is used for initial loads through the SyncTrainingCalendarListInitialLoadDBAdapter and is called from the Oracle E-business Suite adapters. This service reads all the training information from the Oracle E-Business Suite database using the get_training_details API and drops the output messages into the AIA_EbizTrainingCalendarJMSQueue through the SyncTrainingCalendarListEbizJMSProducer service.

4.3.19 SyncAbsenceCalendarListProcess

This service is used for initial loads through the SyncAbsenceCalendarListInitialLoadDBAdapter and is called from the Oracle E-business Suite adapters for incremental changes. This Service reads all the absence information from the Oracle E-Business Suite database using the get_absence_details API and drops the output messages into the AIA_EbizAbsenceCalendarJMSQueue through the SyncAbsenceCalendarListEbizJMSProducer service.

4.3.20 SyncTrainingCalendarListEbizJMSProducer

The SyncTrainingCalendarListEbizJMSProducer is a mediator service used for both initial and the incremental loads. This service pushes the messages to AIA_ EbizTrainingCalendarJMSQueue and is picked up by the SyncTrainingCalendarListEbizReqABCSImp service.

4.3.21 SyncTrainingCalendarListEbizJMSConsumer

The SyncTrainingCalendarListEbizJMSConsumer service is used for initial and incremental loads. This service picks up the messages from AIA_ EbizTrainingCalendarJMSQueue and invokes the SyncTrainingCalendarListEbizReqABCSImpl service.

4.3.22 SyncAbsenceCalendarListEbizJMSProducer

The SyncAbsenceCalendarListEbizJMSProducer is a mediator service. This service is used for both initial and incremental loads. This service pushes the messages from the AIA_EbizAbsenceCalendarJMSQueue and invokes the SyncAbsenceCalendarListEbizReqABCSImpl service.

4.3.23 SyncAbsenceCalendarListEbizJMSConsumer

This service is used for initial and incremental loads. This service picks up the messages from the AIA_EbizAbsenceCalendarJMSQueue and invokes the SyncAbsenceCalendarListEbizReqABCSImpl service.

4.4 Oracle Transportation Management Interfaces

Oracle Transportation Management (OTM) provides an interface through a web service to connect to its application. This connectivity is established as a partner link in the provider service. Once invoked, the logistics web service immediately returns an acknowledgement with a transmission number. Once the processing is complete, it then sends a transmission report back indicating the success or the failure.

The application business message (ABM) details can be seen in the GLOG xsd with specific element as DriverCalendarEvent.

For more information about the Logistics Service, see Oracle Transportation Management Integration Guide.

4.5 Core Application Integration Architecture Components

The integration flow uses these components:

- ResourceCalendarEntryEBO
- SyncResourceCalendarEntryListEBM

- ResourceCalendarEntryEBS

The core enterprise business object (EBO) and enterprise business message (EBM) XSD files can be located by EBO within the $AIA_HOME/AIAMetaData/AIAComponents/EnterpriseObjectLibrary/Core/EBO/ parent folder.

The core enterprise business services (EBS) web services definition language (WSDL) files can be located by EBO within the $AIA_HOME/AIAMetaData/AIAComponents/EnterpriseBusinessServiceLibrary/Core/EBO/ parent folder.

For detailed documentation of individual EBOs and EBMs, click AIA Reference Doc link on EBO and EBM detail pages in the Oracle Enterprise Repository.

For more information about using the Oracle Enterprise Repository and configuring it to provide the AIA Reference Doc link, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack*, Configuring and Using Oracle Enterprise Repository as the Oracle AIA SOA Repository.

EBOs can be extended, for instance, to add new data elements. These extensions are protected, and remain intact after a patch or an upgrade.

For more information, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack*, Extensibility for AIA Artifacts.

4.6 Integration Services

These are the services delivered with this integration:

- SyncTrainingCalendarListEbizReqABCSImpl
- SyncAbsenceCalendarListEbizReqABCSImpl
- ResourceCalendarEntryEBS
- SyncResourceCalendarEntryListLogisticsProvABCSImpl

4.6.1 SyncTrainingCalendarListEbizReqABCSImpl

The SyncTrainingCalendarListEbizReqABCSImpl is a business process execution language (BPEL) process that has the ResourceCalendarEntryEBS as a partner service. This service receives the TrainingCalendarListEbizABM message as a request and does not return a response to the calling service.

This service performs these actions:

- Accepts the TrainingCalendarListEbizABM message from Oracle E-Business Suite. This message contains a cross-reference for Resource Calendar Entry ID.
- Transforms the TrainingCalendarListEbizABM into the SyncResourceCalendarEntryListEBM. While it is transforming from the application business message (ABM) to the EBM, cross-references are looked up for RESOURCECALENDARENTRY_ID.
- Sends the SyncResourceCalendarEntryListEBM message as an input to the SyncResourceCalendarEntryList operation in the ResourceCalendarEntryEBS service.

4.6.2 SyncAbsenceCalendarListEbizReqABCSImpl

The SyncAbsenceCalendarListEbizReqABCSImpl is a business process execution language (BPEL) process that has the ResourceCalendarEntryEBS as a partner service. This service receives the ResourceCalendarListEbizABM message as a request and does not return a response to the calling service.

This service performs these actions:

- Accepts the ResourceCalendarListEbizABM message from Oracle E-Business Suite. This message contains a cross-reference for resource calendar entry ID.
- Transforms the ResourceCalendarListEbizABM into the SyncResourceCalendarEntryListEBM. While it is transforming from the application business message (ABM) to the enterprise business message (EBM), cross-references are looked up for RESOURCECALENDARENTRY_ID.
- Sends the SyncResourceCalendarEntryListEBM message as an input to the SyncResourceCalendarEntryList operation in the ResourceCalendarEntryEBS service.
- The DVM lookup used by this service is CALENDAR_EVENT_TYPE. It is the domain value mapping for Absence Category/Calendar Event types.

4.6.3 ResourceCalendarEntryEBS

The ResourceCalendarEntryEBS is the Enterprise Business Service that exposes all the enterprise operations related to the resource calendar, such as create resource calendar, update resource calendar, synchronize resource calendar, and so on. This integration uses only the SyncResourceCalendarEntryList operation. This Enterprise Business Service routes the request to the appropriate provider like the SyncResourceCalendarEntryListLogisticsProvABCSImpl or the Composite Application Validation System (CAVS) based on the filter condition and operations. No transformations are done in this service. Oracle Transportation Management (OTM) determines whether this synchronize location message is for a create or an update action.

For more information about this EBS, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack*, Designing and Developing Enterprise Business Services and *Oracle Fusion Middleware Concepts and Technologies Guide for Oracle Application Integration Architecture Foundation Pack*, Understanding Enterprise Business Services.

4.6.4 SyncResourceCalendarEntryListLogisticsProvABCSImpl

The SyncResourceCalendarEntryListLogisticsProvABCSImpl receives the SyncResourceCalendarEntryListEBM as an input from the ResourceCalendarEntryEBS, transforms it into the LogisticsABM, and invokes the Logistics web service. This service waits for the transmission report from the OTM. If the transaction is successful, the cross-reference is populated; otherwise, the AIAAsyncErrorHandling process is invoked with the error message. This SyncResourceCalendarEntryListLogisticsProvABCSImpl is a business process execution language (BPEL) process, which receives the SyncResourceCalendarEntryListEBM, transforms the message into the LogisticsABM, invokes the Logistics web service with the SyncResourceCalendarEntryListEBM, and waits for the transmission report from the Logistics web service. If the transmission report specifies that the transaction is successful, it supplies the cross-reference values; otherwise, it invokes the AIAAsyncErrorHandlingBPEL process to generate the error messages.

The DVM lookup used by this service is CALENDAR_EVENT_TYPE. It is the domain value mapping for Absence Category/Calendar Event types.

5

Process Integration for Work Invoice

This chapter provides an overview of the process integration for initial loading and incremental synchronization of accounts receivable and covers:

- Business process flows
- Work invoice integration details
- Assumptions and constraints
- Oracle E-Business Suite interfaces
- Oracle Transportation Management (OTM) interfaces
- Core application integration architecture (AIA) components
- Integration services

5.1 Overview

In this integration, Oracle E-Business Suite acts as a payable and accounting engine, and OTM creates the invoices. Therefore, work invoices are created in OTM for driver pay and sent over to Oracle E-Business Suite Incentive Compensation for payment.

5.2 Updating Work Invoices

For updating work invoices, Oracle Transportation Management (OTM) creates a new work invoice GID and once the updated invoice is sent to Oracle Incentive Compensation (OIC), OIC creates a new invoice with a reference to the original invoice number. Each time there is a change to the work invoice, the GID changes but the work invoice number remains the same. This work invoice number serves as a reference to the original invoice in OIC; therefore, anytime an update is sent from OTM to OIC, OIC is able to match the updated invoice with the original invoice and it updates the original invoice.

5.3 Work Invoice Integration Details

This integration flow uses these integration services:

- CalculateDriverIncentiveCompensationListLogisticsAQConsumer
- CalculateDriverIncentiveCompensationListLogisticsReqABCSImpl
- PayableInvoiceEBS
- PayableInvoiceResponseEBS
- CalculateDriverIncentiveCompensationListEBIZProvABCSImpl

- CalculateDriverIncentiveCompensationListEBIZAdapter

5.3.1 Work Invoice Transaction Flow

The work invoices integration flow creates the work invoice in Oracle E-Business Oracle Incentive Compensation (OIC) based on the work invoice sent from Oracle Transportation Management (OTM).

When you initiate the process, these events occur:

1. OTM enqueues the messages and the CalculateDriverIncentiveCompensationListLogisticsAQConsumer service dequeues the messages and invokes the CalculateDriverIncentiveCompensationListLogisticsReqABCSImpl service.
2. The CalculateDriverIncentiveCompensationListLogisticsReqABCSImpl service transforms the OTM CalculateDriverIncentiveCompensationListLogisticsABM into the CalculateDriverIncentiveCompensationListEBM, populates the EBM header, updates the cross-reference data, and invokes the PayableInvoiceEBS with the CalculateDriverIncentiveCompensationList operation.
3. The PayableInvoiceEBS service with the CalculateDriverIncentiveCompensationList operation routes the messages based on the CAVS flag to either the CreatePayableInvoiceListEbizProvABCSImpl service or the CAVS simulator.
4. The status of the errored work invoices returned by Oracle Incentive Compensation (OIC), as mentioned in assumptions and constraints is updated in Oracle Transportation Management (OTM) through PayableInvoiceResponseEBS. CalculateDriverIncentiveCompensationListLogisticsReqABCSImpl, OTM web service.
5. The CalculateDriverIncentiveCompensationListEBIZProvABCSImpl transforms the CalculateDriverIncentiveCompensationListEBM into the Oracle E-Business Suite CalculateDriverIncentiveCompensationListEBIZABM and invokes the CalculateDriverIncentiveCompensationListEBIZAdapter.
6. The CalculateDriverIncentiveCompensationListEBIZAdapter service receives the CalculateDriverIncentiveCompensationListEBIZABM and makes insert calls to the Oracle E-Business Suite OIC interface table.

5.3.2 Assumptions and Constraints

These are the assumptions or constraints:

1. Each transaction has one exchange rate and one currency code.
2. Special services are created manually in both Oracle Transportation Management (OTM) and OIC.
3. In OTM, a status has to be created for work invoices and the same value should be specified for the following AIA Configuration property:

Table 5–1 Status Type and Status Value Mapping

Status Type	Status Value
WORKINVOICE.STATUS.VALUE.SUCCESS	WORK_INVOICE_SENT_RECEIVED
WORKINVOICE.STATUS.VALUE.FAILED	WORK_INVOICE_SENT_FAILED

OIC reports errors related to the integration.

In cases of failed invoices, rectify the error, change the status of the work invoice, and resubmit.

If the integration passes a batch of invoices, Oracle Incentive Compensation (OIC) returns the record set of all the errored work invoices and AIA updates the status of the errored records as mentioned in these tables.

The query to send the work invoice through process manager must carry the two statuses, which include WORK_INVOICE_SENT_NOT_SENT.

4. This integration does not perform validations and does not raise errors for business validation failure in OTM.

5.4 Oracle E-Business Suite Interfaces

For the work invoice integration flow, CalculateDriverIncentiveCompensationListEBIZAdapter is the Oracle E-Business Suite interface.

For more information about Oracle E-Business Suite web services, see Oracle E-Business Suite references: Oracle E-Business Suite Electronic Technical Reference Manual (eTRM) located on My Oracle Support and Oracle Applications Online Documentation Library, located on the Oracle Technology Network (http://www.oracle.com/technology/documentation/applications.html)

5.4.1 CalculateDriverIncentiveCompensationListEBIZAdapter

The CalculateDriverIncentiveCompensationListEBIZAdapter triggers the Oracle Incentive Compensation (OIC) API. When the CalculateDriverIncentiveCompensationListEBIZABM is received, the API inserts the payload into the Oracle E-Business Suite OIC interface table - CN_COLLECTION_AIA.

5.5 Oracle Transportation Management Interfaces

For the Work Invoice integration flow, CalculateDriverIncentiveCompensationListLogisticsAQConsumer is the OTM interface.

5.5.1 CalculateDriverIncentiveCompensationListLogisticsAQConsumer

The CalculateDriverIncentiveCompensationListLogisticsAQConsumer service is used to listen/dequeue the OTM advanced queue setup in OTM to pass the generated work invoice to the AIA layer.

5.6 Core Application Integration Architecture Components

The integration flow uses these components:

- PayableInvoiceEBO
- CalculateDriverIncentiveCompensationListEBM
- PayableInvoiceEBS
- PayableInvoiceResponseEBS

The core enterprise business object (EBO) and enterprise business message (EBM) XSD files can be located by EBO within the $AIA_HOME/AIAMetaData/AIAComponents/EnterpriseObjectLibrary/Core/EBO/ parent folder.

The core enterprise business services (EBS) web services definition language (WSDL) files can be located by EBO within the $AIA_HOME/AIAMetaData/AIAComponents/EnterpriseBusinessServiceLibrary/Core/EBO/ parent folder.

For detailed documentation of individual EBOs and EBMs, click AIA Reference Doc link on EBO and EBM detail pages in the Oracle Enterprise Repository.

For more information about using the Oracle Enterprise Repository and configuring it to provide the AIA Reference Doc link, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack*, Configuring and Using Oracle Enterprise Repository as the Oracle AIA SOA Repository.

EBOs can be extended, for instance, to add new data elements. These extensions are protected and remain intact after a patch or an upgrade.

For more information, see Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack, Extensibility for AIA Artifacts..

5.7 Integration Services

These are the services delivered with this integration:

- CalculateDriverIncentiveCompensationListLogisticsReqABCSImpl
- CalculateDriverIncentiveCompensationListEBIZProvABCSImpl
- PayableInvoiceEBS
- PayableInvoiceResponseEBS

5.7.1 CalculateDriverIncentiveCompensationListLogisticsReqABCSImpl

CalculateDriverIncentiveCompensationListLogisticsReqABCSImpl is a business process execution language (BPEL) process and a single operation service. It has PayableInvoiceEBS as a partner service. This service receives the CalculateDriverIncentiveCompensationListLogisticsABM message as a request and does not return a response to the calling service.

This service performs these actions:

- Accepts the CalculateDriverIncentiveCompensationListLogisticsABM message from OTM.
- Transforms the CalculateDriverIncentiveCompensationListLogisticsABM into the CalculateDriverIncentiveCompensationListEBM. While it is transforming from the application business message (ABM) to the enterprise business message (EBM), cross-references are populated for PAYABLEINVOICE_PAYABLEINVOICEID.
- Sends the CalculateDriverIncentiveCompensationListEBM message as an input to the CalculateDriverIncentiveCompensationList operation in the PayableInvoiceEBS service.

  These DVM lookups are used by this service:

- PAYABLEINVOICE_REVENUE_CLASS – Domain value mapping for Revenue classes.

- UNIT_OF_MEASURE – Domain value mapping for UOM code.
- CURRENCY_CODE – Domain value mapping for currency code.

5.7.2 CalculateDriverIncentiveCompensationListEBIZProvABCSImpl

The CreatePayableInvoiceListEbizProvABCSImpl is a business process execution language (BPEL) process, which receives CalculateDriverIncentiveCompensationListEBM as a request from PayableInvoiceEBS, is transformed into CalculateDriverIncentiveCompensationListEBIZABM and invokes the CalculateDriverIncentiveCompensationListEbizOAdapter service. This service inserts the invoice record and waits for the transmission report. If the transaction is successful, the CalculateDriverIncentiveCompensationList is populated; otherwise, the AIAACreateErrorHandlingBPELProcess is invoked with the error message.

These DVM lookups are used by this service:

- PAYABLEINVOICE_REVENUE_CLASS – Domain value mapping for Revenue classes.
- UNIT_OF_MEASURE – Domain value mapping for UOM code.
- CURRENCY_CODE – Domain value mapping for currency code.
- PAYABLEINVOICE_PAYABLE_STATUS – Domain value mapping for Payable Status.

5.7.3 PayableInvoiceEBS

The PayableInvoiceEBS is an enterprise business service used for routing all the Payable Invoice related actions such as calculating the driver compensation to CalculateDriverIncentiveCompensationListEBizProvABCSImpl or CAVS based on the filter condition and operation.

For more information about this EBS, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack, Designing and Developing Enterprise Business Services and Oracle Fusion Middleware Concepts and Technologies Guide for Oracle Application Integration Architecture Foundation Pack*, Understanding Enterprise Business Services.

5.7.4 PayableInvoiceResponseEBS

The PayableInvoiceResponseEBS routes the response received from Oracle Incentive Compensation (OIC) to the CalculateDriverIncentiveCompensationListLogisticsReqABCSImpl or CAVS based on the filter condition and operation.

Part II

Configuring the Delivered Process Integrations

Part 2 of this guide provides setup information for the participating applications, data required to do the setup, cross-reference tables, domain value mappings, and configuration properties.

Part 2 contains the following chapters:

6

Setting up Participating Applications

This chapter describes the setup required for the Oracle Driver Management Integration Pack to work properly and covers:

- Setting up Oracle E-Business Suite
- Setting up Oracle Transportation Management

6.1 Setting Up Oracle E-Business Suite

For the Oracle Transportation Driver Management PIP, set these profile options:

1. Log in to Oracle E-Business Suite using the System Administrator responsibility.
2. Open the System Profile Values form.
3. Query these profile options, and set the indicated values at the site level:

   For Oracle E-Business Suite 11.5.10.2 and 12.1.1:

   a. HZ: Generate Party Number to Yes

   b. HZ: Generate Party Site Number to Yes

6.1.1 Obtaining Oracle E-Business Suite Operating Unit IDs

Users need to determine what organizations they want to support and then get the IDs for those organizations.

To get the Operating Unit details:

1. Log in to Oracle E-Business Suite database.
2. Identify the operating units that need to be synchronized or maintained in Oracle E-Business Suite.

   If you want to pick other operating units, use this query:

   ```
   select organization_ID, name from hr_operating_units
   ```

6.1.2 Obtaining Oracle Transportation Management Domains

Implementers need to determine what domains in Oracle Transportation Management (OTM) they have to support.

To get the domain details:

1. Log in to Oracle Transportation Management (OTM) application.
2. Navigate to Configuration and Administration.

3. Click **Domain Management**.
4. Select **Domain Settings**.
5. Click **Search**. This screen appears with domains setup.

6.2 Setting Up Oracle Transportation Management

This section covers:

- Creating Calendar Event Type in OTM
- Creating Driver Status Type in OTM
- Creating Remark Qualifier GID in OTM
- Creating Involved Party Qualifier ID in OTM
- Creating Special Service GID in OTM
- Creating Contacts in OTM
- Setting up External Systems for Queues

6.2.1 Creating a Calendar Event Type in Oracle Transportation Management

For the Oracle Transportation Driver Management PIP, set these profile options:

1. Log in to OTM.
2. Navigate to Fleet and Asset Management in the menu.
3. Click **Power Data**.
4. Click **General** in the Power Data screen.
5. Click **Calendar** Event Type in the list.

   The Calendar Event Type page appears.
6. Click **New** to create a new Calendar Event Type.
7. Enter the details for Calendar Event Type ID, Description, Is Working, and Domain Name fields.
8. Click Finished.

   The Results screen appears displaying the result of creation of the Calendar Event Type.
9. To view the created record, click **View** in the Results screen.
10. To find all the Calendar Event Types in the OTM Environment, click **Search** in the Calendar Event Type Finder screen.

Note : Calendar Event Type ID TRAINING should be available in OTM for Driver Training Calendar Event Integration. OTM_01 values given in CALENDAR_EVENT_TYPE DVM should be available in OTM as Calendar Event Type IDs for Driver Absence Calendar Event Integration.

6.2.2 Creating a Driver Status Type in Oracle Transportation Management

For the Oracle Transportation Driver Management PIP, set these profile options:

1. Log in to OTM.
2. Navigate through Configuration and Administration, Power Data, General, Status Types.
3. Click **New**.
4. Enter Status Type ID, Sequence, and Object Type.
5. Enter the domain to which the user is logged in.
6. Enter the Status values in the grid.

> **Note:** Ensure that the Initial Value is checked for all the values.

7. Click **Finished** to save the records.

6.2.3 Creating a Remark Qualifier GID in Oracle Transportation Management

To create a remark qualifier:

1. Log in to OTM.
2. Navigate through Configuration and Administration, Power Data, Qualifiers, Remark Qualifiers.
3. Click **New** to create a new Remark Qualifier and enter the details in the required fields.
4. Click **Finished** to save the record.

6.2.4 Creating an Involved Party Qualifier ID in Oracle Transportation Management

To create an involved party qualifier ID:

1. Log in to OTM.
2. Navigate through Business Process Automation, Power Data, Qualifiers, Involved Party Qualifiers.
3. Click **New** to create a new Involved Party Qualifier and enter the details in the required fields.
4. Click **Finished** to save the record.

6.2.5 Creating a Special Service GID in Oracle Transportation Management

To create special service GID in OTM:

1. Log in to OTM.
2. Navigate through Shipment Management , Power Data, Special Service Management , Special Service.
3. Click **New**.
4. Enter the required special service ID and the details in the required fields.
5. Click **Finished** to save the record.

6.2.6 Creating Contacts in Oracle Transportation Management

Create external systems for all inbound flows to Oracle Transportation Management (OTM). This table lists the processes involved:

Table 6–1 Process for Inbound Flows

Process Name	External System ID
SyncWorkerListLogisticsProvABCSImpl	WORKER_ESID
SyncResourceCalendarEntryListLogisticsProvABCSImpl	LOCATIONLIST_ESID
SyncLocationListLogisticsProvABCSImpl	RESOURCECALENDAR_ESID

> **Note:** External System IDs and their corresponding processes are in the AIAConfigurationProperties.xml file.

To create external systems:

1. Log in to EM console [http://<server host>:<server port>/em].
2. Click the desired process.
3. Click **Show WSDL** and **endpoint URI** icon.
4. Click **concrete WSDL URI** and add style="document" attribute to soap:binding element.
5. Save the source on your local system.
6. Log in to OTM.
7. Go to Business Process Automation, Communication Management, Web Services and click **New**.
8. Click **New** for WSDL Document.
9. Click **Document Detail**.
   - Enter name for ID.
   - Upload the saved concrete WSDL.
   - Ensure Storage is set to Text and Mime Type as text/xml.
10. Click **Finished**.
11. Click **Service Details**.
    - Enter Service ID, Service Endpoint ID.
    - X Enter Service Endpoint as Endpoint URI as depicted in the screen. See: Creating contacts in OTM.
    - X Enter username and password of your Weblogic server

    > **Note:** Note: For OTM versions earlier than 6.1.2 encrypt the password before entering using Base64 encoding.

12. Click **Finished**.

13. Go to Business Process Automation, Communication Management, External Systems.
14. Click **New**.
    - Enter value for External System ID. See Creating Contacts in OTM for these values.
    - Select webservice created previously.
    - Select Operation as TransmissionReport.
    - Select the Service Endpoint created earlier.
15. Click **Finished**.

    Doing these steps creates a Contact automatically in OTM with the same name as of External System ID.

    To verify, go to Business Process Automation, Communication Management, Contacts.

> **Note:** Update OTM_01.Contact_Domain Property in AIAConfigurationProperties.xml for each process with the domain in which External System is created for the corresponding process.

6.2.7 Setting Up External Systems for Queues

To setup external systems:

1. Login to OTM application.
2. Go to Business Process Automation, Communication Management, External Systems.
3. Click **New**.
4. Enter External System ID as AIA_WORKINVOICE_AQ and add a description.
5. Enter the Queue Name as AIA_WORKINVOICE_AQ under For Queue section.
6. In the Out XML Profiles section, click **n** for New XML profile.
7. Enter Out XML Profile ID as GLOG_AIA_WORKINVOICE.
8. Choose Default Mode as MIN.
9. Click **Finished**.
10. In the Out XML Profiles section, choose the XML Element ID as WorkInvoice.
11. Click **Save**.
12. Click **Finished**.

For more information about Oracle Transportation Management, refer *Oracle Transportation Management User Guide*.

6.3 Setting Up Cross-References for Oracle E-Business Suite Entities

This section covers:

- Identifying Oracle E-Business Suite Entities
- Populating cross-references

- Enabling Oracle E-Business Suite Business events
- Validating cross-references

6.3.1 Identifying Oracle E-Business Suite Entities

To get the operating unit details:

1. Log in to Oracle E-Business Suite database (Apps/Apps).
2. Identify the operating units that need to be synchronized or maintained in Oracle E-Business Suite.

   If you want to pick other operating units, use this query:

   ```
   Select organization_ID, name from hr_operating_units
   ```

6.3.2 Populating Cross-References

To populate cross-reference values for ORGANIZATION_ID table:

6.3.3 Populating Cross-References

To populate cross-reference values for ORGANIZATION_ID table:

1. Log in to the database.
2. Connect to schema <AIA_INSTANCE>_xref.
3. Enter values into cross-reference table using the insert command.

Example:

```
INSERT INTO XREF_DATA VALUES ('oramds:/apps/AIAMetaData/xref/ORGANIZATION_
ID.xref','EBIZ_01','27F4D6303B2511DFBFA11DB680CBD54F','204','N','25-AUG-10
02.26.11.000000000 AM')
INSERT INTO XREF_DATA VALUES ('oramds:/apps/AIAMetaData/xref/ORGANIZATION_
ID.xref','COMMON','27F4D6303B2511DFBFA11DB680CBD54F','COMMON_ORG_
ID','N','25-AUG-10 02.26.11.000000000 AM')

INSERT INTO XREF_DATA VALUES
('oramds:/apps/AIAMetaData/xref/ORGANIZATION_ID.xref','OTM_
01','27F4D6303B2511DFBFA11DB680CBD54F','OTM_ORG_VALUE','N','25-AUG-10
02.26.11.000000000 AM')
```

Note: Keep the row number (third column) same while inserting date for each pair of cross-reference value.

6.3.4 Enabling Oracle E-Business Suite Business Events

Enable the Business events in Oracle E-Business Suite and change the subscription of the same-the phase value (1-99) and Rule Data (to Message).

Events for Training Calendar:

Create Delegate Booking: oracle.apps.ota.api.delegate_booking.create_delegate_booking

Update Delegate Booking: oracle.apps.ota.api.delegate_booking.update_delegate_booking

Delete Delegate Booking: oracle.apps.ota.api.delegate_booking.delete_delegate_booking

Update Class Schedule: oracle.apps.ota.api.event_api.update_class_schedule

Update Location: oracle.apps.ota.api.event_api.update_location

Update Training Center and Location: oracle.apps.ota.api.event_api.update_trng_cntr_and_location

Events for Absence Calendar:

Create Absence oracle.apps.per.api.person_absence.create_person_absence

Update Absence oracle.apps.per.api.person_absence.update_person_absence

Delete Absence oracle.apps.per.api.person_absence.delete_person_absence

Events for Location:

Create Location oracle.apps.per.api.location.create_location

Update Location oracle.apps.per.api.location.update_location

Events for Driver Profile:

oracle.apps.per.person.profile

oracle.apps.per.person.groupevent

For more information about creating the cross-references, see *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*, "Working with Cross References".

6.3.5 Validating Cross-References

To validate cross-references:

1. Log in to the AIA XREF database.
2. Query the Table XREF_DATA to confirm that every organization used in the XML files has three records.
3. Use this query:

   select value||'::'||Xref_column_name from xref_Data where

   xref_table_name = 'oramds:/apps/AIAMetaData/xref/ORGANIZATION_ID.xref' and value in ('204'))

   Replace the value for the organizations you selected. (The number of operating units depends on your setup).

7

Data Requirements and Prerequisites

This chapter covers data requirements, perquisites, or both for Oracle Transportation Driver Management integrations.

7.1 Driver Profile Integration

These are the data requirements:

- Oracle E-Business Suite human resource (HR) should be configured with the appropriate minimum driver data.
- The driver must be actively engaged or employed.
- All the required Configuration properties should also be specified.

These are the prerequisites:

The first name is mandatory in Oracle Transportation Management (OTM). Though not mandatory for the interface to work and for synchronizing the records, the user must enter this value in the Oracle E-Business Suite.

The driver profile flow should subscribe to a group event in the Oracle E-Business Suite HRMS Workflow. The multiple events associated with the CRUD operations of the Driver Maintenance in HRMS are under one group event. This simplifies the processing of driver data from Oracle E-Business Suite to OTM. The AIA user should subscribe to the group event in the Oracle E-Business Suite workflow manually.

- The subscription to the Oracle E-Business Suite Events should be updated. The rule data for the subscription to the Oracle E-Business Suite HRMS events should be updated from the key to the message to get the required data from the Oracle E-Business Suite Database.
- All the business events listed here are mapped to the group event and should be enabled manually. If any new business event is mapped to this group, it should also be enabled.
  - · oracle.apps.per.api.person.update_person
  - · oracle.apps.per.api.phone.create_phone
  - · oracle.apps.per.api.phone.update_phone
  - · oracle.apps.per.api.phone.delete_phone
  - oracle.apps.per.api.qualifications.create_qualification
  - oracle.apps.per.api.qualifications.update_qualification
  - oracle.apps.per.api.qualifications.delete_qualification

  - oracle.apps.per.api.person.delete_person
  - oracle.apps.per.api.person_address.create_person_address
  - oracle.apps.per.api.person_address.update_person_address
  - oracle.apps.per.api.person_address.update_pers_addr_with_style
  - oracle.apps.per.api.assignment.update_cwk_asg
  - oracle.apps.per.api.assignment.update_cwk_asg
  - oracle.apps.per.api.assignment.update_cwk_asg
  - oracle.apps.per.api.assignment.update_cwk_asg
  - oracle.apps.per.api.assignment.update_cwk_asg
  - oracle.apps.per.api.assignment.update_cwk_asg
  - oracle.apps.per.api.assignment.update_cwk_asg
  - oracle.apps.per.api.assignment.update_emp_asg
  - oracle.apps.per.api.assignment.update_emp_asg_criteria
  - oracle.apps.per.api.ex_employee.actual_termination_emp
  - oracle.apps.per.api.assignment.suspend_emp_asg
  - oracle.apps.per.api.assignment.suspend_cwk_asg
  - oracle.apps.per.api.contingent_worker.terminate_placement
  - oracle.apps.per.api.contingent_worker.reverse_terminate_placement
  - oracle.apps.per.api.ex_employee.reverse_terminate_employee
  - oracle.apps.per.api.cancel_hire.cancel_hire
  - oracle.apps.per.api.delivery_methods.create_delivery_method
  - oracle.apps.per.api.delivery_methods.delete_delivery_method
  - oracle.apps.per.api.delivery_methods.update_delivery_method
  - oracle.apps.per.api.contingent_worker.create_cwk
  - oracle.apps.ota.api.cert_enrollment.create_cert_enrollment
  - oracle.apps.ota.api.cert_enrollment.delete_cert_enrollment
  - oracle.apps.ota.api.cert_enrollment.update_cert_enrollment
  - oracle.apps.ota.api.delegate_booking.create_delegate_booking
  - oracle.apps.ota.api.delegate_booking.update_delegate_booking
  - oracle.apps.ota.api.delegate_booking.delete_delegate_booking

- Details for creating a subscription for the oracle.apps.per.person.groupevent group event are:
  - Action Type: Custom
  - On Error: Skip To Next
  - PL/SQL Rule Function: per_person_profile.raise_person_profile_event
  - Owner Name: Human Resources
  - Owner Tag: PER

- Attribute1 and Attribute2 are the flexfields available in the qualification of the Oracle E-Business Suite. These columns should be configured to the CDL_Issuing_State and the CDL_Issuing_Country_GID.
- The Assignment category should be the driver for the record to be synchronized to OTM.

7.1.1 Location Integration

The location integration has no data requirements or prerequisites.

7.1.2 Training and Absence Calendar Integration

These are the data requirements:

- Drivers must be synchronized between Oracle E-Business Suite and Oracle Transportation Management (OTM).
- Training Locations must be synchronized to OTM for all training events.
- All the required configuration properties should also be specified.

7.1.3 Work Invoice Integration

The prerequisite is that the driver included in the work invoice needs to be synced into OTM.

8

Working with Cross-References

Cross-references map and connect the records within the application network, and enable these applications to communicate in the same language. The integration server stores the relationship in a persistent way so that others can refer to it.

For more information about cross-references, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack* and the *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*, Working with Cross References.

8.1 Cross-references for OTM Profiles

There are the cross-references mappings provided:

- Driver profile
- Location
- Training and Absence calendar
- Work invoice

8.1.1 Driver Profile Process Flow

These are the cross-references for Driver Profile process flow:

Table 8–1 Driver Profile Process Flow

Name	Column	Description
WORKER_ADDRESS_ID	EBIZ_01, COMMON, OTM_ 01	Common is a GUID generated by business process execution language (BPEL). Cross-reference value for Oracle E-Business Suite and OTM is concatenation of Source and Address ID.
WORKER_ ASSIGNMENTID	EBIZ_01, COMMON, OTM_ 01	Common is a GUID generated by BPEL. cross-reference value for Oracle E-Business Suite and OTM is concatenation of Source and ASSIGNMENT_ ID.

Table 8–1 (Cont.) Driver Profile Process Flow

Name	Column	Description
WORKER_BOOKINGID	EBIZ_01, COMMON, OTM_01	Common value is concatenation of contact ID, driver ID separated by ::
WORKER_CERTIFICATIONENROLLID	EBIZ_01, COMMON, OTM_01	Common value is concatenation of contact ID, driver ID separated by ::
WORKER_CONTACTID	EBIZ_01, COMMON, OTM_01	Common value is concatenation of contact ID, driver ID separated by ::
WORKER_DELIVERYMETHODID	EBIZ_01, COMMON, OTM_01	Common value is concatenation of contact ID, driver ID separated by ::
WORKER_ID	EBIZ_01, COMMON, OTM_01	Common is a GUID generated by BPEL. cross-reference value for Oracle E-Business Suite and Oracle Transportation Management (OTM) is concatenation of Employee Number and Person ID.
WORKER_PHONEID	EBIZ_01, COMMON, OTM_01	Common value is concatenation of contact ID, driver ID separated by ::
WORKER_QUALIFICATIONID	EBIZ_01, COMMON, OTM_01	Common value is concatenation of contact ID, driver ID separated by ::
WORKER_ADDRESS_ID	EBIZ_01, COMMON, OTM_01	Common is a GUID generated by business process execution language (BPEL). Cross-reference value for Oracle E-Business Suite and OTM is concatenation of Source and Address ID.

8.1.2 Location Process Flow

These are the cross-references for location process flow:

Table 8–2 Cross-references for Location Process Flow

Name	Columns	Descripton
LOCATION_ID	EBIZ_01, COMMON, OTM_01	Common is a GUID generated by BPEL. Location Code from Oracle E-Business Suite is post fixed with this GUID sent to OTM as LOCATION_XID.

8.1.3 Training and Absence Calendar Process Flow

There are the cross-references for Training and Absence Calendar process flow:

Table 8–3 Training and Absence Calendar Process Flow

Name	Columns	Description
LOCATION_ID	EBIZ_01, COMMON, OTM_01	The Location cross-reference is looked up to get the LOCATION_GID from Oracle E-Business Suite LOCATION_ID
RESOURCECALENDARENRTY_ID	TRAINING_EBIZ_01, ABSENCE_EBIZ_01 COMMON, OTM_01	Common is a GUID generated by business process execution language (BPEL) and Sequence number generated in AIA layer, is sent to OTM.
WORKER_ID	EBIZ_01, COMMON, OTM_01	The WORKER_ID cross-reference is looked up to get the PERSON_GID from Oracle E-Business Suite PERSON_ID

8.1.4 Work Invoice Process Flow

There are the cross-references for work invoice process flow

Table 8–4 Work Invoice Process Flow

Name	Columns	Description
ORGANIZATION_ID	OTM_01, COMMON, EBIZ_01,SIEBEL_01	This is used to look up the cross-reference values for the operating unit /business unit/domain information
PAYABLEINVOICE_WORKINVOICEID	OTM_01, COMMON, EBIZ_01	Common is a GUID generated by BPEL.

9

Working with Domain Value Maps

This chapter provides domain value mapping information for these process integration flows:

- Driver profiles
- Location
- Training and Absence Calendar process
- Work invoice process

9.1 Domain Value Maps

Domain value maps (DVMs) are a standard feature of the Oracle Service Oriented Architecture (SOA) suite. They are tables containing mapping between related information in the participating applications. They enable you to equate lookup codes and other static values across applications, for example, FOOT and FT or US and USA. These DVM tables are maintained in the AIA layer. The AIA layer uses these DVM tables in transforming the messages from one system in the expected format of the other system.

For more information about DVMs, see O*racle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack*, Working with Message Transformations. and *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*, Working with Domain Value Maps.

9.1.1 Driver Profiles Process Flow

These are the domain value mappings (DVMs) for the driver profiles process flow:

Table 9–1 DVM for Driver Profile Process Flow

Name	Columns	Description
ADDRESS_ COUNTRYID	EBIZ_01, COMMON, OTM_01	Mapping for country codes.
APPS_USER	USER_NAME, LANG_CODE	Domain value mapping for language code and user.
BLOOD_TYPE	EBIZ_01, COMMON, OTM_01	Mapping for blood type.
BUSINESSGROUP_ DOMAIN	EBIZ_01, COMMON, OTM_01	Domain value mapping for business group.
COMMUNICATION _METHOD	EBIZ_01, COMMON, OTM_01	Mapping for communication methods.

Table 9–1 (Cont.) DVM for Driver Profile Process Flow

Name	Columns	Description
CONTACT_ GENDERCODE	EBIZ_01, COMMON, OTM_01	Mapping for gender.
PHONE_TYPE	EBIZ_01, COMMON, OTM_01	Mapping for phone type.
QUALIFICATIONTY PE_ID	EBIZ_01, COMMON, OTM_01	Mapping for qualification type ID/Code.
STATE	EBIZ_01, COMMON, OTM_01	Mapping for state codes.
WORKER_ ADDRESSTYPE	EBIZ_01, COMMON, OTM_01	Mapping for address type.
WORKER_ ASSIGNMENT_ STATUS	EBIZ_01, COMMON, OTM_01	Mapping for assignment status.
WORKER_ CERTIFICATIONID	EBIZ_01, COMMON, OTM_01	Mapping for certification ID.
WORKER_ COMPETENCE_ID	EBIZ_01, COMMON, OTM_01	Mapping for competence ID.
WORKER_PERIOD_ STATUS_CODE	EBIZ_01, COMMON, OTM_01	Mapping for status.
WORKER_PERSON_ TYPE_ID	EBIZ_01, COMMON, OTM_01	Mapping for person type ID.

9.1.2 Location Process Flow

These are the domain value mappings (DVMs) for the Location process flow:

Table 9–2 DVMs for Location Process Flow

Name	Columns	Description
ADDRESS_ COUNTRYID	EBIZ_01, COMMON, OTM_ 01	Domain value mapping for domain names.
APPS_USER	USER_NAME, LANG_CODE	Domain value mapping for language code and user.
BUSINESSGOURP_ DOMAIN	EBIZ_01, COMMON, OTM_ 01	Domain value mapping for domain names.
STATE	EBIZ_01, COMMON, OTM_ 01	Domain value mapping for state.
TIMEZONE	EBIZ_01, COMMON, OTM_ 01	Domain value mapping for domain timezone.

9.1.3 Training and Absence Calendar Process Flow

These are the domain value mappings (DVMs) for the Training and Absence Calendar process flow:

Table 9–3 DVMs for Training and Absence Calendar

Name	Columns	Description
APPS_USER	USER_NAME, LANG_ CODE	Domain value mapping for language code and user.
BUSINESSGOURP_ DOMAIN	EBIZ_01, COMMON, OTM_01	Domain value mapping for domain names.
CALENDAR_EVENT_ TYPE	EBIZ_01, COMMON, OTM_01	Domain value mapping for Absence Category/Calendar Event types.
TIMEZONE_OFFSET	EBIZ_01, COMMON	Domain value mapping for timezone offset.

9.1.4 Work Invoice Process Flow

These are the domain value mappings (DVMs) for the Work Invoice process flow:

Table 9–4 Work Invoice Process Flow

Names	Columns	Description
Currency_Code	EBIZ_01, COMMON, OTM_ 01	Domain value mappings for Currency code.
PAYABLEINVOICE_ PAYABLE_STATUS	EBIZ_01, COMMON, OTM_ 01	Domain value mappings for Payable status.
PAYABLEINVOICE_ Revenue_Class	EBIZ_01, COMMON, OTM_ 01	Domain value mappings for Revenue class.
UNIT_OF_MEASURE	EBIZ_01, COMMON, OTM_ 01	Domain value mappings for UOM code.

10

Setting Configuration Properties

The tables in this chapter list the properties that need to be set in the configuration file.

Set these properties in the AIAConfigurationProperties.xml file. The file is located in <AIA_HOME>/aia_instances/$INSTANCE_NAME/AIAMetaData/config.

For more information about requirements for working with AIAConfigurationProperties.xml, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack*, "Building AIA Integration Flows," How to Set Up AIA Workstation".

10.1 SyncWorkerListEbizReqABCSImpl

This table lists the configuration properties to be set in the AIAConfigurationProperties.xml file:

Table 10–1 SyncWorkerListEbizReqABCSImpl Properties

Property Name	Value/Default Value	Description
Default.SystemID	EBIZ_01	Based on the SenderHostName obtained from application business message (ABM), sender SystemID is derived. If it is empty, then AIA tries to read it from the config file using this property.

Table 10–1 (Cont.) SyncWorkerListEbizReqABCSImpl Properties

Property Name	Value/Default Value	Description
Routing.WorkerEBS.SyncWorkerList.RouteToCAVS	True/False	EnvironmentCode in the Header population is derived based on this value. If this property value is set to true, then the EnvironmentCode value is set to CAVS. If this property value is set to false, read the Routing.MessageProcessingInstruction.EnvironmentCode property from the config file and set that value for EnvironmentCode. If Routing.MessageProcessingInstruction.EnvironmentCode property is not set, then the default EnvironmentCode is PRODUCTION. In addition, in the enterprise business service routing rules decide based on the EnvironmentCode where it should route.
Routing.WorkerEBS.SyncWorkerList.MessageProcessingInstruction.EnvironmentCode	PRODUCTION	This property is used to set the environment code to PRODUCTION.
Routing.WorkerEBS.SyncWorkerList.CAVS.EndpointURI		This property is used for setting the DefinitionID at the time of populating the EBMHeader. This holds the URI of CAVS simulator where the EBS should send the request.
ABCSExtension.PreProcessABM	True/False	This property is used as an extension point before application business message (ABM) is transformed to enterprise business message (EBM). It determines whether invocation of service at the extension point is to be made depending on whether it is true or false.
ABCSExtension.PreProcessEBM	True/False	This property is used as an extension point after ABM to EBM transformation and before Invoking the EBS. It determines whether invocation of service at the extension point is to be made depending on whether it is true or false.

Table 10–1 (Cont.) SyncWorkerListEbizReqABCSImpl Properties

Property Name	Value/Default Value	Description
ABCSExtension.PostProcessABM	True/false	Setting this property to true enables us to override the existing mappings
ABCSExtension.PostProcessEBM	True/false	This property along with the UserName is used for setting the AppsContext in SetAppsContext.xsl. This xsl is used for setting the Oracle E-Business Suite User and Responsibility before invoking PL/SQL API
Transformation.EnableExtensions	True/false	This property should be set to true when customers want to customize the attribute mapping done in xsl.
EBIZ_01.PersonTypeEMP	EMP	This property should be set to true when customers want to customize the attribute mapping done in xsl.

10.2 SyncWorkerListLogisticsProvABCSImpl

This table lists the configuration properties to be set in the AIAConfigurationProperties.xml file:

Table 10–2 SyncWorkerListLogisticsProvABCSImpl Values

Property Name	Value/Default Value	Description
Default.SystemID	OTM_01	Target SystemID is obtained from EBMHeader, but if it is empty then we try to read it from the config file using this property.
Routing.LogisticsWebService.RouteToCAVS	True/False	Set this property to true to route the message to CAVS. Otherwise, the message is routed to the target application through the Adapter.
Routing.LogisticsWebService.CAVS.EndpointURI		If the RouteToCAVS property is set to true, the URI of the simulator is dynamically derived by the Java activity from this property.

Table 10–2 (Cont.) SyncWorkerListLogisticsProvABCSImpl Values

Routing.WorkerResponseEBS.SyncWorkerList.RouteToCAVS	True/false	EnvironmentCode in the Header population for WorkerResponseEBS is derived based on this value. If this property value is set to true, then the EnvironmentCode value is set to CAVS If this property value is set to false, we need to read the Routing.WorkerResponseEBS.SyncWorkerList.MessageProcessingInstruction.EnvironmentCode property from the config file and set that value for EnvironmentCode.
Routing.WorkerResponseEBS.SyncWorkerList.CAVS.EndpointURI		
Routing.WorkerResponseEBS.SyncWorkerList.MessageProcessingInstruction.EnvironmentCode	PRODUCTION	
Routing.LogisticsWebService.OTM_01.EndpointURI		If the RouteToCAVS property is set to false, the URI of the partner link is dynamically derived by the Java activity from this property. This property should hold the endpoint URI of the provider application or that of the adapter service connected to provider application, if any.
ABCSExtension.PreProcessABM	True/False	This property is used as an extension point before application business message (ABM) is transformed to enterprise business message (EBM). It determines whether invocation of service at the extension point is to be made depending on whether it is true or false.
ABCSExtension.ABCSExtension.PreInvokeABS	True/False	This property is used as an extension point after EBM is transformed to ABM and before invoking the target application. It determines whether invocation of service at the extension point is to be made depending on the property value.

Table 10–2 (Cont.) SyncWorkerListLogisticsProvABCSImpl Values

ABCSExtension.PreProcess ABM	True/False	This property is used as an extension point after EBM to ABM transformation and before Invoking the target. It determines whether invocation of service at the extension point is to be made depending on whether it is true or false.
ABCSExtension.PostProcess ABM	True/false	Setting this property to true enables us to override the existing mappings.
ABCSExtension.PostProcess EBM	True/false	This property decides whether AutoInvoice Master Program should be called immediately after Invoice is inserted in the Oracle E-Business Suite interface tables. If the value is set to true, then the AutoInvoice Master Program is triggered immediately after inserting invoice in the Oracle E-Business Suite interface table; otherwise, the administrator needs to trigger it manually at a later point in time.
Transformation.EnableExtensions	True/false	This property should be set to true when customers want to customize the attribute mapping done in xsl.
OTM_01.CONTACT_DOMAIN	GUEST	This property should be set to the domain of the contact in the Oracle Transportation Management (OTM) Instance. This is supplied in the OTM Transmission Header based on which OTM authorizes the message sent to it.
OTM_01.CONTACT_Gid	WORKER_ESID	This property should be set to the contact GID in Oracle Transportation Management (OTM) instance. This is supplied in the OTM Transmission Header based on which OTM authorizes the message sent to it.
CallBackURL		This property should be set to send back the Transmission Report.
OTM_01.DefaultAddressType	WORK	Target SystemID is obtained from EBMHeader, but if it is empty, then we try to read it from the config file using this property.

Table 10–2 (Cont.) SyncWorkerListLogisticsProvABCSImpl Values

OTM_01.PersonTypeEMP	EMP	Target SystemID is obtained from EBMHeader, but if it is empty then we try to read it from the config file using this property.
OTM_01.PersonTypeCWK	EMP	Target SystemID is obtained from EBMHeader, but if it is empty, then we try to read it from the config file using this property.
OTM_01.DefaultDomain	GUEST	Target SystemID is obtained from EBMHeader, but if it is empty, then we try to read it from the config file using this property.
OTM_ 01.ISPASSWORDENCRYPTED	True/False Default=False	Property specifies whether the OTM password is encrypted in the Configuration Properties file. If true, DecryptionService is called to decode the OTM password.
DriverStatusType	DRIVER STATUS	he value configured in OTM to denote the different possible statuses for the Driver.

10.3 SyncWorkerListBPELAggregator

This table lists the configuration properties to be set in the AIAConfigurationProperties.xml file:

Table 10–3 SyncWorkerListBPELAggregator Values

Name	Value/Default Value	Description
ASSIGNMENT	1	This property is used for payload completeness check. If this property is set to 1, then the check for this element in the payload is done in business process execution language (BPEL) Aggregator, where the complete payload is formed and if it is not available in the payload, the process terminates.

10.4 SyncWorkerListEbizInitialLoad

This table lists the configuration properties to be set in the AIAConfigurationProperties.xml file:

Table 10–4 SyncWorkerListEbizInitialLoad Values

Name	Value/Default Value	Description
NoOfRecords	10	This module property enables us to know how many records are extracted from the Person table of the E-business Suite.

10.5 SyncLocationListEbizReqABCSImpl

This table lists the configuration properties to be set in the AIAConfigurationProperties.xml file:

Table 10–5 SyncLocationListEbizReqABCSImpl Values

Name	Value/Default Value	Description
Default.SystemID	EBIZ_01	The application is responsible for sending the SystemID from which the request is being sent. If any requestor application fails to send this, AIA picks the sender SystemID from this config property.
RESPONSIBILITY	Global Super HRMS Manager, Standard	This property is used to populate the responsibility field in the AppsContextOutboundHeader during the QueryAPI call to Oracle E-Business Suite database (to get the full payload for a booking ID received from Oracle E-Business Suite).
USER	Operations	This property is used to populate the user field in the AppsContextOutboundHeader during the QueryAPI call to Oracle E-Business Suite database (to get the full payload for a booking ID received from Oracle E-Business Suite).

Table 10–5 (Cont.) SyncLocationListEbizReqABCSImpl Values

Name	Value/Default Value	Description
Routing.LocationEBS.SyncLocationList.RouteToCAVS	True / false	This property, which is used for populating EBMHeader's EnvironmentCode decides whether the LocationEBS should invoke CAVS or the Provider application's business connector service. If the value is set to true, EBMHeader's EnvironmentCode is set to CAVS and the Enterprise Business Service (EBS) routes the request to CAVS. If the value is set to false, EBMHeader's EnvironmentCode is set to the EnvironmentCode mentioned in AIAConfiguration property Routing.LocationEBS.SyncLocationList.MessageProcessingInstruction.EnvironmentCode, or if this property is not set, then the default EnvironmentCode is PRODUCTION. In the EBS, routing rules decide based on the EnvironmentCode where it should route.
Routing.LocationEBS.SyncLocationList.MessageProcessingInstruction.EnvironmentCode	PRODUCTION	This property defines the Environment Code to be supplied in EBMHeader, which is used by the Enterprise Business Service (EBS) to route it to the corresponding provider application business connector service or CAVS. This property is used while checking the RouteToCAVS property.
Routing.LocationEBS.SyncLocationList.CAVS.EndpointURI		This property defines the definition ID to be supplied in MessageProcessingInstruction of the EBMHeader when the RouteToCAVS property is set to true. This holds the URI of CAVS simulator, where the Enterprise Business Service (EBS) should send the request.

Table 10–5 (Cont.) SyncLocationListEbizReqABCSImpl Values

Name	Value/Default Value	Description
ABCSExtension.PreXformABMtoEBM	True/false	This property is used as an extension point before application business message (ABM) is transformed to enterprise business message (EBM). It determines whether invocation of service at the extension point is to be made depending on whether it is true or false.
ABCSExtension.PreInvokeEBS	True/false	This property is used as an extension point after ABM to EBM transformation and before Invoking the EBS. It determines whether invocation of service at the extension point is to be made depending on whether it is true or false.
ABCSExtension.PostProcessABM	True/false	This property is used as an extension point after EBM is transformed to ABM. It determines whether invocation of service at the extension point is to be made depending on whether it is true or false. This property is not used in this flow.
ABCSExtension.PostProcessEBM	True/false	This property is used as an extension point after EBM is transformed to ABM. It determines whether invocation of service at the extension point is to be made depending on whether it is true or false. This property is not used in this flow.
Transformation.EnableExtensions	True/false	This property should be set to true when customers want to customize the attribute mapping done in xsl.

10.6 SyncLocationListLogisticsProvABCSImpl

This table lists the configuration properties to be set in the AIAConfigurationProperties.xml file:

Table 10–6 SyncLocationListLogisticsProvABCSImpl Values

Name	Value/Default Value	Description

Table 10–6 (Cont.) SyncLocationListLogisticsProvABCSImpl Values

Name	Value/Default Value	Description
Default.SystemID	OTM_01	Customers are responsible for setting the SystemID in EBMHeader to which the request should be sent in the Enterprise Business Service (EBS). If the SystemID is not set, the ProviderABCS routes the message to this DefaultSystemID picked from the config file.
Routing.LogisticsWebService.RouteToCAVS	True/false. Default = false	This property indicates whether the message should be sent to the target application or to CAVS.
Routing.LogisticsWebService.CAVS.EndpointURI		If the RouteToCAVS property is set to true, the URI of the simulator is dynamically derived by the Java activity from this property.
Routing.LocationResponseEBS.SyncLocationList.CAVS.EndpointURI		If the RouteToCAVS property is set to false, the URI of the partnerlink is dynamically derived by the Java activity from this property. This property should hold the endpoint URI of the provider application or that of the adapter service connected to provider application if any.
Routing.LocationResponseEBS.SyncLocationList.RouteToCAVS	True/false	Whether the Response message from the provider application should be sent to the requestor application or to CAVS is decided by RouteToCAVS property based on what we set Environment Code to while populating ResponseEBM Header. If RouteToCAVS is set to true, EnvironmentCode is set to CAVS and then the simulator URI is picked up from Routing.LocationResponseEBS.SyncLocationList.RouteToCAVS. If RouteToCAVS is set to false, EnvironmentCode is set to the value of Routing.LocationResponseEBS.SyncLocationList.MessageProcessingInstruction.EnvironmentCode, and if this value is NULL, it is set to PRODUCTION by default.
Routing.LocationResponseEBS.SyncLocationList.CAVS.EndpointURI		
Routing.LocationResponseEBS.SyncLocationList.MessageProcessingInstruction.EnvironmentCode	PRODUCTION	

Table 10–6 (Cont.) SyncLocationListLogisticsProvABCSImpl Values

Name	Value/Default Value	Description
ABCSExtension.PreXformEBMtoABM	True/false	This property is used as an extension point before enterprise business message (EBM) is transformed to application business message (ABM). It determines whether invocation of service at the extension point is to be made depending on whether it is true or false.
ABCSExtension.PreInvokeABS	True/false	This property is used as an extension point after EBM is transformed to ABM and before invoking the target application. It determines whether invocation of service at the extension point is to be made depending on whether it is true or false.
ABCSExtension.PostProcessABM	True/false	This property is used as an extension point before ABM is transformed to EBM and after getting the response from the target application and before sending it back to the source application. It determines whether invocation of service at the extension point is to be made depending on whether it is true or false. This property is not used in this flow.
ABCSExtension.PostProcessEBM	True/false	This property is used as an extension point after ABM is transformed to EBM and before sending it back to the source application. It determines whether invocation of service at the extension point is to be made depending on whether it is true or false. This property is not used in this flow.
Transformation.EnableExtensions	True/false	This property should be set to true when customers want to customize the attribute mapping done in xsl.
OTM_01.DefaultDomain	GUEST	This property should be set to the default domain to be used for Oracle Transportation Management (OTM) Instance if the business group ID from Oracle E-Business Suite is not sent. This is populated as domain for locations to be interfaced into OTM.
OTM_01.CONTACT_DOMAIN	GUEST	This property is used to set the user name of the OTM Instance.
OTM_01.CONTACT_Gid	LOCATIONLIST_ESID	This property should be set to the contact GID in OTM instance. This is populated in the OTM Transmission Header based on which OTM authorizes the message sent to it.
CallBackURL		This property should be set to use by OTM to send back the Transmission Report.

Table 10–6 (Cont.) SyncLocationListLogisticsProvABCSImpl Values

Name	Value/Default Value	Description
OTM_ 01.ISPASSWORDENCRYPTED	True/False Default=False	Property specifies whether the OTM password is encrypted in the Configuration Properties file. If true, Decryption Service is being called to decode the OTM password.

10.7 SyncLocationListEbizReqABCSImpl

This table lists the configuration properties to be set in the AIAConfigurationProperties.xml file:

Table 10–7 SyncLocationListEbizReqABCSImpl Values

Name	Value/Default Value	Description
Default.SystemID	EBIZ_01	The application is responsible for sending the SystemID from which the request is being sent. If any requestor application fails to send this, AIA picks the sender SystemID from this config property.
RESPONSIBILITY	Global Super HRMS Manager, Standard	This property is used to populate the responsibility field in the AppsContextOutboundHeader during the QueryAPI call to Oracle E-Business Suite database (to get the full payload for a booking ID received from Oracle E-Business Suite).
USER	Operations	This property is used to populate the user field in the AppsContextOutboundHeader during the QueryAPI call to Oracle E-Business Suite database (to get the full payload for a booking ID received from Oracle E-Business Suite).

Table 10–7 (Cont.) SyncLocationListEbizReqABCSImpl Values

Name	Value/Default Value	Description
Routing.LocationEBS.SyncLocationList.RouteToCAVS	True / false	This property, which is used for populating EBMHeader's EnvironmentCode decides whether the LocationEBS should invoke CAVS or the Provider application's business connector service. If the value is set to true, EBMHeader's EnvironmentCode is set to CAVS and the Enterprise Business Service (EBS) routes the request to CAVS. If the value is set to false, EBMHeader's EnvironmentCode is set to the EnvironmentCode mentioned in AIAConfiguration property Routing.LocationEBS.SyncLocationList.MessageProcessingInstruction.EnvironmentCode, or if this property is not set, then the default EnvironmentCode is PRODUCTION. In the EBS, routing rules decide based on the EnvironmentCode where it should route.
Routing.LocationEBS.SyncLocationList.MessageProcessingInstruction.EnvironmentCode	PRODUCTION	This property defines the Environment Code to be supplied in EBMHeader, which is used by the Enterprise Business Service (EBS) to route it to the corresponding provider application business connector service or CAVS. This property is used while checking the RouteToCAVS property.
Routing.LocationEBS.SyncLocationList.CAVS.EndpointURI		This property defines the definition ID to be supplied in MessageProcessingInstruction of the EBMHeader when the RouteToCAVS property is set to true. This holds the URI of CAVS simulator, where the Enterprise Business Service (EBS) should send the request.

Table 10–7 (Cont.) SyncLocationListEbizReqABCSImpl Values

Name	Value/Default Value	Description
ABCSExtension.PreXformABMtoEBM	True/false	This property is used as an extension point before application business message (ABM) is transformed to enterprise business message (EBM). It determines whether invocation of service at the extension point is to be made depending on whether it is true or false.
ABCSExtension.PreInvokeEBS	True/false	This property is used as an extension point after ABM to EBM transformation and before Invoking the EBS. It determines whether invocation of service at the extension point is to be made depending on whether it is true or false.
ABCSExtension.PostProcessABM	True/false	This property is used as an extension point after EBM is transformed to ABM. It determines whether invocation of service at the extension point is to be made depending on whether it is true or false. This property is not used in this flow.
ABCSExtension.PostProcessEBM	True/false	This property is used as an extension point after EBM is transformed to ABM. It determines whether invocation of service at the extension point is to be made depending on whether it is true or false. This property is not used in this flow.
Transformation.EnableExtensions	True/false	This property should be set to true when customers want to customize the attribute mapping done in xsl.

10.8 SyncLocationListLogisticsProvABCSImpl

This table lists the configuration properties to be set in the AIAConfigurationProperties.xml file:

Table 10–8 SyncLocationListLogisticsProvABCSImpl Values

Name	Value/Default Value	Description
Default.SystemID	OTM_01	Customers are responsible for setting the SystemID in EBMHeader to which the request should be sent in the Enterprise Business Service (EBS). If the SystemID is not set, the ProviderABCS routes the message to this DefaultSystemID picked from the config file.
Routing.LogisticsWebService.RouteToCAVS	True/false. Default = false	This property indicates whether the message should be sent to the target application or to CAVS.
Routing.LogisticsWebService.CAVS.EndpointURI		If the RouteToCAVS property is set to true, the URI of the simulator is dynamically derived by the Java activity from this property.
Routing.LocationResponseEBS.SyncLocationList.CAVS.EndpointURI		If the RouteToCAVS property is set to false, the URI of the partnerlink is dynamically derived by the Java activity from this property. This property should hold the endpoint URI of the provider application or that of the adapter service connected to provider application if any.
Routing.LocationResponseEBS.SyncLocationList.RouteToCAVS	True/false	Whether the Response message from the provider application should be sent to the requestor application or to CAVS is decided by RouteToCAVS property based on what we set Environment Code to while populating ResponseEBM Header. If RouteToCAVS is set to true, EnvironmentCode is set to CAVS and then the simulator URI is picked up from Routing.LocationResponseEBS.SyncLocationList.RouteToCAVS. If RouteToCAVS is set to false, EnvironmentCode is set to the value of Routing.LocationResponseEBS.SyncLocationList.MessageProcessingInstruction.EnvironmentCode, and if this value is NULL, it is set to PRODUCTION by default.
Routing.LocationResponseEBS.SyncLocationList.CAVS.EndpointURI		
Routing.LocationResponseEBS.SyncLocationList.MessageProcessingInstruction.EnvironmentCode	PRODUCTION	

Table 10–8 (Cont.) SyncLocationListLogisticsProvABCSImpl Values

Name	Value/Default Value	Description
ABCSExtension.PreXformEBMtoABM	True/false	This property is used as an extension point before enterprise business message (EBM) is transformed to application business message (ABM). It determines whether invocation of service at the extension point is to be made depending on whether it is true or false.
ABCSExtension.PreInvokeABS	True/false	This property is used as an extension point after EBM is transformed to ABM and before invoking the target application. It determines whether invocation of service at the extension point is to be made depending on whether it is true or false.
ABCSExtension.PostProcessABM	True/false	This property is used as an extension point before ABM is transformed to EBM and after getting the response from the target application and before sending it back to the source application. It determines whether invocation of service at the extension point is to be made depending on whether it is true or false. This property is not used in this flow.
ABCSExtension.PostProcessEBM	True/false	This property is used as an extension point after ABM is transformed to EBM and before sending it back to the source application. It determines whether invocation of service at the extension point is to be made depending on whether it is true or false. This property is not used in this flow.
Transformation.EnableExtensions	True/false	This property should be set to true when customers want to customize the attribute mapping done in xsl.
OTM_01.DefaultDomain	GUEST	This property should be set to the default domain to be used for Oracle Transportation Management (OTM) Instance if the business group ID from Oracle E-Business Suite is not sent. This is populated as domain for locations to be interfaced into OTM.
OTM_01.CONTACT_DOMAIN	GUEST	This property is used to set the user name of the OTM Instance.

Table 10–8 (Cont.) SyncLocationListLogisticsProvABCSImpl Values

Name	Value/Default Value	Description
OTM_01.CONTACT_Gid	LOCATIONLIST_ESID	This property should be set to the contact GID in OTM instance. This is populated in the OTM Transmission Header based on which OTM authorizes the message sent to it.
CallBackURL	This property should be set to use by OTM to send back the Transmission Report.	
OTM_ 01.ISPASSWORDENCRYPTED	True/False Default=False	Property specifies whether the OTM password is encrypted in the Configuration Properties file. If true, Decryption Service is being called to decode the OTM password.

10.9 SyncTrainingCalendarListEbizReqABCSImpl

This table lists the configuration properties to be set in the AIAConfigurationProperties.xml file:

Table 10–9 SyncTrainingCalendarListEbizReqABCSImpl Values

Name	Value/Default Column	Description
Sender.SystemID	EBIZ_01	The application is responsible for sending the SystemID from which the request is being sent. If any requestor application fails to send this, AIA picks the sender SystemID from this config property.
Training.Event	TRAINING	This property is sent as the EventTypeCode in the enterprise business message (EBM) for the training enrollments in Oracle E-Business Suite.
RESPONSIBILITY	US Learning Management Administrator	This property is used to populate the Responsibility field in the AppsContextOutboundHeader during the QueryAPI call to Oracle E-Business Suite database (to get the full payload for a booking ID received from Oracle E-Business Suite).
USER	operations	This property is used to populate the User field in the AppsContextOutboundHeader during the QueryAPI call to Oracle E-Business Suite database (to get the full payload for a booking ID received from Oracle E-Business Suite).

Table 10–9 (Cont.) SyncTrainingCalendarListEbizReqABCSImpl Values

Name	Value/Default Column	Description
Routing.ResourceCalendarEntryEBS.SyncResourceCalendarEntryList.RouteToCAVS	True/false	This property, which is used for populating EBMHeader's EnvironmentCode, decides whether the ResourceCalendarEntryEBS should invoke CAVS or the Provider application's business connector service. If the value is set to true, EBMHeader's EnvironmentCode is set to CAVS and the Enterprise Business Service (EBS) routes the request to CAVS. If the value is set to false, EBMHeader's EnvironmentCode is set to the EnvironmentCode mentioned in AIAConfiguration property Routing.ResourceCalendarEntryEBS.SyncResourceCalendarEntryList.MessageProcessingInstruction.EnvironmentCode, or if this property is not set, then the default EnvironmentCode is PRODUCTION. In EBS, routing rules decide based on the EnvironmentCode where it should route.
Routing.ResourceCalendarEntryEBS.SyncResourceCalendarEntryList.MessageProcessingInstruction.EnvironmentCode	PRODUCTION	This property defines the Environment code to be supplied in EBMHeader, which is used by the EBS to route it to the corresponding provider application business connector service or CAVS. This property is used while checking the RouteToCAVS property.
Routing.ResourceCalendarEntryEBS.SyncResourceCalendarEntryList.CAVS.EndpointURI		This property defines the Definition ID to be populated in MessageProcessingInstruction of the EBMHeader when the RouteToCAVS property is set to true. This holds the URI of CAVS simulator where the EBS should send the request.
ABCSExtension.PreProcessABM	True/false	This property is used as an extension point before application business message (ABM) is transformed to EBM. It determines whether invocation of service at the extension point is to be made depending on whether it is true or false.

Table 10–9 (Cont.) SyncTrainingCalendarListEbizReqABCSImpl Values

Name	Value/Default Column	Description
ABCSExtension.PreProcessEBM	True/false	This property is used as an extension point after ABM to EBM transformation and before invoking the Enterprise Business Service (EBS). It determines whether invocation of service at the extension point is to be made depending on whether it is true or false.
ABCSExtension.PostProcessABM	True/false	This property is used as an extension point after enterprise business message (EBM) is transformed to ABM. It determines whether invocation of service at the extension point is to be made depending on whether it is true or false. This property is not used in this flow.
ABCSExtension.PostProcessEBM	True/false	This property is used as an extension point after EBM is transformed to ABM. It determines whether invocation of service at the extension point is to be made depending on whether it is true or false. This property is not used in this flow.
Transformation.EnableExtensions	True/false	This property should be set to true when customers want to customize the attribute mapping done in xsl.

10.10 SyncAbsenceCalendarListEbizReqABCSImpl

This table lists the configuration properties to be set in the AIAConfigurationProperties.xml file:

Table 10–10 SyncAbsenceCalendarListEbizReqABCSImpl Values

Name	Value/Default Column	Description
Sender.SystemID	EBIZ_01	The application sends the SystemID from which the request is being sent. If any requestor application fails to send this, AIA picks the sender SystemID from this config property.
RESPONSIBILITY	Employee Self-Service, Standard	This property is used to populate the Responsibility field in the AppsContextOutboundHeader during the QueryAPI call to Oracle E-Business Suite database (to get the full payload for a booking ID received from Oracle E-Business Suite)

Table 10–10 (Cont.) SyncAbsenceCalendarListEbizReqABCSImpl Values

Name	Value/Default Column	Description
USER	Operations	This property is used to populate the User field in the AppsContextOutboundHeader during the QueryAPI call to Oracle E-Business Suite database (to get the full payload for a booking ID received from Oracle E-Business Suite).
Routing.ResourceCalendarEntryEBS.SyncResourceCalendarEntryList.RouteToCAVS	True/false	This property, which is used for populating EBMHeader's EnvironmentCode decides whether the ResourceCalendarEntryEBS should invoke CAVS or the Provider application's business connector service. If the value is set to true, EBMHeader's EnvironmentCode is set to CAVS and the EBS routes the request to CAVS. If the value is set to false, EBMHeader's EnvironmentCode is set to the EnvironmentCode mentioned in AIAConfiguration property Routing.ResourceCalendarEntryEBS.SyncResourceCalendarEntryList.MessageProcessingInstruction.EnvironmentCode, or if this property is not set, then the default EnvironmentCode is PRODUCTION. In EBS, routing rules decide based on the EnvironmentCode where it should route.
Routing.ResourceCalendarEntryEBS.SyncResourceCalendarEntryList.MessageProcessingInstruction.EnvironmentCode	PRODUCTION	This property defines the Environment Code to be supplied in EBMHeader, which is used by the EBS to route it to the corresponding provider application business connector service or CAVS. This property is used while checking the RouteToCAVS property.

Table 10–10 (Cont.) SyncAbsenceCalendarListEbizReqABCSImpl Values

Name	Value/Default Column	Description
Routing.ResourceCalendarEntryEBS.SyncResourceCalendarEntryList.CAVS.EndpointURI		This property defines the Definition ID to be supplied in MessageProcessingInstruction of the EBMHeader when the RouteToCAVS property is set to true. This holds the URI of CAVS simulator where the EBS should send the request.
ABCSExtension.PreProcessABM	True/false	This property is used as an extension point before application business message (ABM) is transformed to enterprise business message (EBM). It determines whether invocation of service at the extension point is to be made depending on whether it is true or false.
ABCSExtension.PreProcessEBM	True/false	This property is used as an extension point after ABM to EBM transformation and before Invoking the Enterprise Business Service (EBS). It determines whether invocation of service at the extension point is to be made depending on whether it is true or false.
ABCSExtension.PostProcessABM	True/false	This property is used as an extension point after EBM is transformed to ABM. It determines whether invocation of service at the extension point is to be made depending on whether it is true or false. This property is not used in this flow.
ABCSExtension.PostProcessEBM	True/false	This property is used as an extension point after enterprise business message (EBM) is transformed to ABM. It determines whether invocation of service at the extension point is to be made depending on whether it is true or false. This property is not used in this flow.
Transformation.EnableExtensions	True/false	This property should be set to true when customers want to customize the attribute mapping done in xsl.

10.11 SyncResourceCalendarEntryListLogisticsProvABCSImpl

This table lists the configuration properties to be set in the AIAConfigurationProperties.xml file:

Table 10–11 SyncResourceCalendarEntryListLogisticsProvABCSImp Values

Name	Value/Default Value	Description
Default.SystemID	OTM_01	The customers are responsible for setting the SystemID in EBMHeader to which the request should be sent in the Enterprise Business Service (EBS). If the SystemID is not set, the ProviderABCS routes the message to this DefaultSystemID picked from the config file.
Routing.LogisticsWebService.CAVS.EndpointURI		If the RouteToCAVS property is set to true, the URI of the simulator is dynamically derived by the Java activity from this property.
Routing.LogisticsWebService.RouteToCAVS	True/false	This property indicates whether the message should be sent to the target application or to CAVS. If this property is set to true, the message is routed to CAVS, else it is routed to target application through adapter service if any. The URI of partnerlink is dynamically decided through a Java activity based on this property.
Routing.LogisticsWebService.OTM_01.EndpointURI		If the RouteToCAVS property is set to false, the URI of the partnerlink is dynamically derived by the Java activity from this property. This property should hold the endpoint URI of the provider application or that of the adapter service connected to provider application if any.
Routing.ResourceCalendarEntryResponseEBS.SyncResourceCalendarEntryList.RouteToCAVS	True/false	Whether the Response message from the provider application should be sent to the requestor application or to CAVS is decided by RouteToCAVS property, based on what we set Environment Code to while populating ResponseEBM Header.

Table 10–11 (Cont.) SyncResourceCalendarEntryListLogisticsProvABCSImp Values

Name	Value/Default Value	Description
Routing.ResourceCalendarEntryResponseEBS.SyncResourceCalendarEntryList.CAVS.EndpointURI		If RouteToCAVS is set to true, EnvironmentCode is set to CAVS and then the simulator URI is picked up from Routing.ResourceCalendarEntryResponseEBS.SyncResourceCalendarEntryList.RouteToCAVS.
Routing.ResourceCalendarEntryResponseEBS.SyncResourceCalendarEntryList.MessageProcessingInstruction.EnvironmentCode	PRODUCTION	If RouteToCAVS is set to false, EnvironmentCode is set to the value of Routing.ResourceCalendarEntryResponseEBS.SyncResourceCalendarEntryList.MessageProcessingInstruction.EnvironmentCode, and if this value is NULL, it is set to PRODUCTION by default.
ABCSExtension.PreProcessEBM	True/false	An enterprise business flow can also invoke custom code during its execution. These serve as extensibility points. Typical ABCS can have four Extension points. This property is used as an extension point before enterprise business message (EBM) is transformed to application business message (ABM). It determines whether invocation of service at the extension point is to be made depending on whether it is true or false.
ABCSExtension.PreProcessABM	True/false	This property is used as an extension point after EBM is transformed to ABM and before invoking the target application. It determines whether invocation of service at the extension point is to be made depending on whether it is true or false.
ABCSExtension.PostProcessABM	True/false	This property is used as an extension point before ABM is transformed to EBM and after getting the response from the target application and before sending it back to the source application. It determines whether invocation of service at the extension point is to be made depending on whether it is true or false. This property is not used in this flow.

Table 10–11 (Cont.) SyncResourceCalendarEntryListLogisticsProvABCSImp Values

Name	Value/Default Value	Description
ABCSExtension.PostProcess EBM	True/false	This property is used as an extension point after ABM is transformed to EBM and before sending it back to the source application. It determines whether invocation of service at the extension point is to be made depending on whether it is true or false. This property is not used in this flow.
Transformation.EnableExten sions	True/false	This property should be set to true when customers want to customize the attribute mapping done in xsl.
OTM_01.CONTACT_ DOMAIN	GUEST	This property should be set to the domain of the contact in the Oracle Transportation Management (OTM) Instance. This is populated in the OTM Transmission Header based on which OTM authorizes the message sent to it.
OTM_01.CONTACT_Gid	WORKER_ESID	This property should be set to the contact GID in OTM instance. This is populated in the OTM Transmission Header based on which OTM authorizes the message sent to it.
CallBackURL		This property should be set to use by OTM to send back the Transmission Report.
OTM_ 01.ISPASSWORDENCRYPT ED	True/False Default=False	Property specifies whether the OTM password is encrypted in the Configuration Properties file. If true, Decryption Service is being called to decode the OTM password.

10.12 CalculateDriverIncentiveCompensationListLogisticsReqABCSImpl

This table lists the configuration properties to be set in the AIAConfigurationProperties.xml file:

Table 10–12 CalculateDriverIncentiveCompensationListLogisticsReqABCSImpl Values

Name	Value/Default Value	Description
Default.SystemID	OTM_01	The application is responsible for sending the SystemID from which the request is being sent. If any requestor application fails to send this, AIA picks the sender SystemID from this config property.
Routing.RouteToCAVS	True/false	This property, which is used for populating EBMHeader's EnvironmentCode, decides whether the PayableInvoiceEBS should invoke CAVS or the Provider application's business connector service. If the value is set to true, EBMHeader's EnvironmentCode is set to CAVS and the Enterprise Business Service (EBS) routes the request to CAVS. If the value is set to false, EBMHeader's EnvironmentCode is set to the EnvironmentCode mentioned in AIAConfiguration property Routing.PayableInvoiceEBS.CalculateDriverIncentiveCompensationList.MessageProcessingInstruction.EnvironmentCode, or if this property is not set, then the default EnvironmentCode is PRODUCTION. In the Enterprise Business Service (EBS), routing rules decide based on the EnvironmentCode where it should route.
Routing.PayableInvoiceEBS.CalculateDriverIncentiveCompensationList.MessageProcessingInstruction.EnvironmentCode	PRODUCTION	This property defines the Environment Code to be supplied in EBMHeader, which is used by the EBS to route it to the corresponding provider application business connector service or CAVS. This property is used while checking the RouteToCAVS property.
Routing.PayableInvoiceEBS.CalculateDriverIncentiveCompensationList.CAVS.EndpointURI		This property defines the Definition ID to be supplied in MessageProcessingInstruction of the EBMHeader when the RouteToCAVS property is set to true. This holds the URI of CAVS simulator where the EBS should send the request.
ABCSExtension.PreProcessABM	True/false	This property is used as an extension point before application business message (ABM) is transformed to enterprise business message (EBM). It determines whether invocation of service at the extension point is to be made depending on whether it is true or false.

Table 10–12 (Cont.) CalculateDriverIncentiveCompensationListLogisticsReqABCSImpl

Name	Value/Default Value	Description
ABCSExtension.PreProcessEBM	True/false	An enterprise business flow can also invoke custom code during its execution. These serve as extensibility points. Typical ABCS can have four extension points. This property is used as an extension point after ABM to EBM transformation and before Invoking the EBS. It determines whether invocation of service at the extension point is to be made depending on whether it is true or false.
Transformation.EnableExtensions	True/false	This property should be set to true when customers want to customize the attribute mapping done in xsl.
OTM_01.WORKINVOICE.STATUS.NAME	WORK_INVOICE_SENT	This property is work invoice status.
OTM_01.WORKINVOICE.STATUS.VALUE.SUCCESS	WORK_INVOICE_SENT_RECEIVED	Status value with which the work-invoice status needs to be updated in OTM when it is successfully imported to interface tables of Oracle E-Business Suite.
OTM_01.WORKINVOICE.STATUS.VALUE.FAILED	WORK_INVOICE_SENT_FAILED	Status value with which the work-invoice status needs to be updated in Oracle Transportation Management (OTM) when it fails to import work invoice details into interface tables of Oracle E-Business Suite.
CallBackURL		This property should be set to send back the Transmission Report.
Routing.LogisticsWebService.OTM_01.EndpointURI		This property should be set to send back the Work invoice status to the OTM.
OTM_01.DefaultDomain	DIT1	The value of this property should be set to the domain of the OTM that the user is logged in.
OTM_01.CONTACT_DOMAIN	GUEST	The value of this property should be set to the user name of the OTM that the user logged in.

10.13 CalculateDriverIncentiveCompensationListEbizProvABCSImpl

This table lists the configuration properties to be set in the AIAConfigurationProperties.xml file:

Table 10–13 CalculateDriverIncentiveCompensationListEbizProvABCSImpl Values

Name	Value/Default Value	Description
Default.SystemID	EBIZ_01	The customer is responsible for setting the SystemID in EBMHeader to which the request should be sent in the Enterprise Business Service (EBS). If the SystemID is not set, the ProviderABCS routes the message to this DefaultSystemID picked from the config file.
Routing.CalculateDriverIncentiveCompensatiotEbizAdapter .RouteToCAVS	True/False	This property indicates whether the message should be sent to the target application or to CAVS. If this property is set to true, the message is routed to CAVS, else it is routed to target application through adapter service if any. The URI of partnerlink is dynamically decided through a Java activity based on this property.
Routing.CalculateDriverIncentiveCompensatiotEbizAdapter.CAVS.EndpointURI		If the RouteToCAVS property is set to true, the URI of the simulator is dynamically derived by the Java activity from this property.
Routing.CalculateDriverIncentiveCompensatiotEbizAdapter.EBIZ_01.EndpointURI		If the RouteToCAVS property is set to false, the URI of the partnerlink is dynamically derived by the Java activity from this property. This property should hold the endpoint URI of the provider application or that of the adapter service connected to provider application if any.
ABCSExtension.ABCSExtension.PreProcessABM	PRODUCTION	This property is used as an extension point after EBM is transformed to application business message (ABM) and before invoking the target application. It determines whether invocation of service at the extension point is made depending on whether it is true or false.
ABCSExtension.ABCSExtension.PostProcessABM	True/False	This property is used as an extension point after enterprise business message (EBM) is transformed to ABM and before invoking the target application. It determines whether invocation of service at the extension point is made depending on whether it is true or false.

Table 10–13 (Cont.) CalculateDriverIncentiveCompensationListEbizProvABCSImpl

Name	Value/Default Value	Description
ABCSExtension.ABCSExtension.PreProcessEBM	True/False	This property is used as an extension point after EBM is transformed to ABM and before invoking the target application. It determines whether invocation of service at the extension point is made depending on whether it is true or false.
ABCSExtension.ABCSExtension. PostProcessEBM	True/False	This property is used as an extension point after EBM is transformed to ABM and before invoking the target application. It determines whether invocation of service at the extension point is made depending on whether it is true or false.
Transformation.EnableExtensions	True/False	This property should be set to true when customers want to customize the attribute mapping done in xsl.
EBIZ_01.COMMIT_FLAG	T/F	This property is set to T so that the data gets committed. This is a mandatory field of the API and should be populated with a T.
EBIZ_01.TRANSACTION_TYPE	AIA	This property is to set the transaction type for the API. This is a mandatory field of the API and should be populated with AIA.
EBIZ_01.API_VERSION	1.0	This property should be set to mention the version of the API that is used. This is a mandatory field of the API and should be populated with 1.0.

10.14 Handling Errors

For more information about AIA error handling, see the *Oracle Fusion Middleware Infrastructure Components and Utilities User's Guide for Oracle Application Integration Architecture Foundation Pack*, "Setting Up and Using Error Handling and Logging."

10.15 Enterprise Business Object Implementation Maps

For more information about using XSL Mapping Analyzer (XMAN), see *Oracle Fusion Middleware Infrastructure Components and Utilities User's Guide for Oracle Application Integration Architecture Foundation Pack*, Using the XSL Mapping Analyzer.

For more information about how services are mapped, see EBO Implementation Maps (EIMs) 1095494.1 at My Oracle Support (https://support.oracle.com).