|  |
| --- |
| Detail Design EBS Invoices Push to ODS  Version ● Proposed |
|  |
|  |
| By Meghana Narne |

|  |  |  |
| --- | --- | --- |
| |  |  | | --- | --- | | CREATED WITH |  | |

# Overview

This document describes a core reusable service for ODS, and will meet the BIC Graphic [ODS Technical Requirements](file:///X:\\IT\\Integrations%20Team\\ODS-2019\\architecture\\ODS%20Technical%20Requirements.docx).

Building the ODS Invoices API enables EBS to push Invoices and persistence of those Invoices for support purposes. This document is about the development of BIC Order data availability to consumer systems from the ODS Landscape.

# Specifications

* The pom.xml created by the designer includes these versions already.
  + Java, version 1.8
  + Spring Boot REST Web service, version 1.5.3
  + Mongo DB Driver, version 3.4.3
* Dev stack should contain Spring MVC, JPA and Spring boot.
* Validation needs to be done on the required fields using Spring validation framework.
* The Database Name for Events is “InvoiceDB”.
* The Collection Name for Events is “InvoicesCollection”.

Projects are to be developed in eclipse.

Projects are to use Maven for bootstrapping, code generation, and packaging.

Project name, Docker Image, and Docker Service should be prefixed with ods.

All microservices include the following operations.

* version() – takes no parameters and simply returns a build number. This will be used as a heartbeat for the docker image
* diagnostics() – takes no parameters and does some simple test to make sure resources are available, i.e. a simple connection to Mongo if it uses Mongo, to Oracle if it uses Oracle, to filesystem if it uses files. It reports “OK” if no issues. Else it reports “ERROR” and lists what is not working.

# Detail Design - Invoices- EBS Push to ODS

Package in package 'Model'

Detail Design - Invoices- EBS Push to ODS

Version Phase 1.0 Proposed

mnarne created on 2/4/2019. Last modified 2/4/2019

## Invoices- EBS Push to ODS

Package in package 'Detail Design - Invoices- EBS Push to ODS'

Invoices- EBS Push to ODS

Version 1.0 Phase 1.0 Proposed

mnarne created on 2/4/2019. Last modified 2/4/2019

### Invoices- EBS Push to ODS diagram

Interaction diagram in package 'Invoices- EBS Push to ODS'

Invoices- EBS Push to ODS

Version 1.0

mnarne created on 2/4/2019. Last modified 2/20/2019



1. Invoices- EBS Push to ODS

### Invoices- EBS Push to ODS diagram

Class diagram in package 'Invoices- EBS Push to ODS'

Invoices- EBS Push to ODS

Version 1.0

mnarne created on 2/4/2019. Last modified 2/20/2019



1. Invoices- EBS Push to ODS

### InvoicesIngestionAPIController

Class in package 'controller'

InvoicesIngestionAPIController

Version 1.0 Phase 1.0 Proposed

mnarne created on 2/4/2019. Last modified 2/4/2019

| ATTRIBUTES |
| --- |
| invoicesService : InvoicesService Private  Properties:  annotations = @Autowired  [ Is static False. Containment is Not Specified. ] |
| LOGGER : Logger Private Const = LoggerFactory.getLogger(InvoicesIngestionAPIController.class)  [ Is static True. Containment is Not Specified. ] |

| ASSOCIATIONS | |
| --- | --- |
| Association (direction: Source -> Destination) | |
| Source: Public (Class) InvoicesIngestionAPIController | Target: Public (Class) InvoicesRepository |
| Association (direction: Source -> Destination) | |
| Source: Public (Class) InvoicesIngestionAPIController | Target: Private invoicesService (Class) InvoicesService |

| OPERATIONS |
| --- |
| getDiagnostics () : void Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| getInvoiceDetails (invoicesPullRequest : InvoicesPullRequest ) : ResponseEntity<InvoicesPullResponse> Public  Properties:  annotations = @PostMapping("/getInvoicedata")  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| getVersion () : void Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| handleValidationFailure () : ResponseEntity<String> Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| invoiceCUD (eventInvoicesRequest : EventInvoicesRequest ) : ResponseEntity<EventResponse> Public  Process Operations on Invoices object based on the EventRequest  Properties:  annotations = @PostMapping("/saveOrUpdateOrDelete")  throws = Exception  ea\_guid = {735B5BC1-9E41-47d5-BC1A-961A5F52C5EC}  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |

### InvoicesRepository

Class in package 'repository'

InvoicesRepository

Version 1.0 Phase 1.0 Proposed

mnarne created on 2/4/2019. Last modified 2/4/2019

| ATTRIBUTES |
| --- |
| mongoInvoiceTemplate : MongoTemplate Private  Properties:  annotations = @Autowired@Qualifier("mongoInvoiceTemplate")  [ Is static False. Containment is Not Specified. ] |

| ASSOCIATIONS | |
| --- | --- |
| Association (direction: Source -> Destination) | |
| Source: Public (Class) InvoicesIngestionAPIController | Target: Public (Class) InvoicesRepository |
| Association (direction: Source -> Destination) | |
| Source: Public (Class) InvoicesService | Target: Private invoicesRepository (Class) InvoicesRepository |

| OPERATIONS |
| --- |
| deleteInvoice (invoices : Invoices ) : void Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| getInvoiceDetails (customerNumbers : List<String> ) : List<Invoices> Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| saveInvoice(saveToMongo) (invoices : Invoices ) : Invoices Public  call Invoices Repository to Persist the Invoices Object to MongoDB  Properties:  ea\_guid = {D1265732-A27D-4178-97FF-B32C003F6A76}  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| updateInvoice (invoices : Invoices ) : Invoices Public  Properties:  ea\_guid = {A28AB515-2EF8-4f49-98D2-5D0F82A46A10}  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |

### EventController

Class in package 'controller'

EventController

Version 1.0 Phase 1.0 Proposed

mnarne created on 2/4/2019. Last modified 2/4/2019

| ATTRIBUTES |
| --- |
| eventLoader : EventLoader Private  Properties:  annotations = @Autowired  [ Is static False. Containment is Not Specified. ] |
| LOGGER : Logger Private Const = LoggerFactory.getLogger(EventController.class)  [ Is static True. Containment is Not Specified. ] |

| ASSOCIATIONS | |
| --- | --- |
| Association (direction: Source -> Destination) | |
| Source: Public (Class) EventController | Target: Private eventLoader (Class) EventLoader |

| OPERATIONS |
| --- |
| save (event : EventRequest ) : ResponseEntity<EventResponse> Public  Post call to the controller persist the EventRequest Object to MongoDB  Properties:  annotations = @PostMapping("/event")  ea\_guid = {C5D0F61C-719F-40e5-90BF-DBB27CA3B065}  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| store (event : EventRequest ) : void Public  Storing all the event requests.  Properties:  ea\_guid = {E6C67C6E-D0C7-490e-8C66-D7E4C354B184}  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |

### EventRepository

Interface in package 'repository'

EventRepository

Version 1.0 Phase 1.0 Proposed

mnarne created on 2/4/2019. Last modified 2/4/2019

Extends MongoRepository

| ASSOCIATIONS | |
| --- | --- |
| Association (direction: Source -> Destination) | |
| Source: Public (Class) EventLoader | Target: Package eventRequestRepository (Interface) EventRepository |

| OPERATIONS |
| --- |
| getByEventObjectAndEventType (eventObject : String , eventType : String ) : List<EventRequest> Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| saveToMongo () : void Public  Repository to save the EventRequest to MongoDB  Properties:  ea\_guid = {14182C8D-0264-4e9d-823A-320442D0CE5B}  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |

|  |
| --- |
| INTERACTION MESSAGES |
| 1.0 'invoiceCUD(EventInvoicesRequest)' from 'EBS' sent to 'InvoicesIngestionAPIController'.  Synchronous Call. Returns ResponseEntity<EventResponse>.  [ Return is False. Iteration is False. New group is False. ] |
| 1.1 'save | update |delete' from 'InvoicesIngestionAPIController' sent to 'InvoicesRepository'.  Synchronous Call. Returns void.  CUD Invoice object  [ Return is False. Iteration is False. New group is False. ] |
| 1.2 'store(EventRequest)' from 'InvoicesIngestionAPIController' sent to 'EventController'.  Synchronous Call. Returns void.  [ Return is False. Iteration is False. New group is False. ] |
| 1.3 'saveToMongo()' from 'EventController' sent to 'EventRepository'.  Synchronous Call. Returns void.  [ Return is False. Iteration is False. New group is False. ] |

### Invoices

Class in package 'model'

Invoices

Version 1.0 Phase 1.0 Proposed

mnarne created on 2/4/2019. Last modified 2/4/2019

| ATTRIBUTES |
| --- |
| amountDue : Double Private  [ Is static False. Containment is Not Specified. ] |
| currencyCode : String Private  [ Is static False. Containment is Not Specified. ] |
| customerName : String Private  [ Is static False. Containment is Not Specified. ] |
| customerNumber : String Private  [ Is static False. Containment is Not Specified. ] |
| customerParentNumber : String Private  [ Is static False. Containment is Not Specified. ] |
| dueDate : String Private  [ Is static False. Containment is Not Specified. ] |
| fileCreationDate : String Private  [ Is static False. Containment is Not Specified. ] |
| fileName : String Private  [ Is static False. Containment is Not Specified. ] |
| fileType : String Private  [ Is static False. Containment is Not Specified. ] |
| fileURL : String Private  [ Is static False. Containment is Not Specified. ] |
| id : Long Private  [ Is static False. Containment is Not Specified. ] |
| invoiceAmount : Double Private  [ Is static False. Containment is Not Specified. ] |
| invoiceDate : String Private  [ Is static False. Containment is Not Specified. ] |
| invoiceNumber : String Private  [ Is static False. Containment is Not Specified. ] |
| invoiceStatus : String Private  [ Is static False. Containment is Not Specified. ] |
| invoiceType : String Private  [ Is static False. Containment is Not Specified. ] |
| poNumber : String Private  [ Is static False. Containment is Not Specified. ] |
| soNumber : String Private  [ Is static False. Containment is Not Specified. ] |

| ASSOCIATIONS | |
| --- | --- |
| Association (direction: Source -> Destination) | |
| Source: Public (Class) EventInvoicesRequest | Target: Private invoices (Class) Invoices |

| OPERATIONS |
| --- |
| getAmountDue () : Double Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| getCurrencyCode () : String Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| getCustomerName () : String Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| getCustomerNumber () : String Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| getCustomerParentNumber () : String Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| getDueDate () : String Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| getFileCreationDate () : String Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| getFileName () : String Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| getFileType () : String Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| getFileURL () : String Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| getId () : Long Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| getInvoiceAmount () : Double Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| getInvoiceDate () : String Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| getInvoiceNumber () : String Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| getInvoiceStatus () : String Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| getInvoiceType () : String Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| getPoNumber () : String Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| getSoNumber () : String Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| setAmountDue (amountDue : Double ) : void Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| setCurrencyCode (currencyCode : String ) : void Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| setCustomerName (customerName : String ) : void Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| setCustomerNumber (customerNumber : String ) : void Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| setCustomerParentNumber (customerParentNumber : String ) : void Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| setDueDate (dueDate : String ) : void Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| setFileCreationDate (fileCreationDate : String ) : void Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| setFileName (fileName : String ) : void Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| setFileType (fileType : String ) : void Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| setFileURL (fileURL : String ) : void Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| setId (id : Long ) : void Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| setInvoiceAmount (invoiceAmount : Double ) : void Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| setInvoiceDate (invoiceDate : String ) : void Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| setInvoiceNumber (invoiceNumber : String ) : void Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| setInvoiceStatus (invoiceStatus : String ) : void Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| setInvoiceType (invoiceType : String ) : void Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| setPoNumber (poNumber : String ) : void Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |
| setSoNumber (soNumber : String ) : void Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ] |

### Test Model

Package in package 'Invoices- EBS Push to ODS'

Test Model

Version Phase 1.0 Proposed

mnarne created on 2/4/2019. Last modified 2/4/2019

#### Test Model diagram

Custom diagram in package 'Test Model'

Test Model

Version 1.0

mnarne created on 2/4/2019. Last modified 2/4/2019



1. Test Model

#### Test Case1

UseCase «testcase» in package 'Test Model'

Operation save() gracefully returns an error code when the formatted Invoice object is missing any required field.

Test Case1

Version 1.0 Phase 1.0 Proposed

mnarne created on 2/4/2019. Last modified 2/4/2019

#### Test Event Request

UseCase «testcase» in package 'Test Model'

Test Event Request

Version 1.0 Phase 1.0 Proposed

mnarne created on 2/4/2019. Last modified 2/4/2019

#### Test EventResponse

UseCase «testcase» in package 'Test Model'

Test EventResponse

Version 1.0 Phase 1.0 Proposed

mnarne created on 2/4/2019. Last modified 2/4/2019

#### Test Invoices object save to Mongo

UseCase «testcase» in package 'Test Model'

Operation invoiceCUD() stores a properly formatted Invoices object and stores it in Mongo DB in the InvoicesDB database and InvoicesCollection. The stored object contains exactly the data from the message. The operation gracefully returns the success code.

Test Invoices object save to Mongo

Version 1.0 Phase 1.0 Proposed

mnarne created on 2/4/2019. Last modified 2/4/2019

### EBS

Actor in package 'Invoices- EBS Push to ODS'

EBS

Version 1.0 Phase 1.0 Proposed

mnarne created on 2/4/2019. Last modified 2/4/2019

| OUTGOING BEHAVIORAL RELATIONSHIPS |
| --- |
| Name: invoiceCUD(EventInvoicesRequest)  Sequence from EBS to InvoicesIngestionAPIController |