IBM Cúram Social Program Management
Version 6.0.5

Curam Wait List Developer Guide

Note
Before using this information and the product it supports, read the information in "Notices" on page 9

Revised: March 2014

This edition applies to IBM Cúram Social Program Management v6.0.5 and to all subsequent releases unless otherwise indicated in new editions.

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Developing with Wait Lists

Use this information to develop Cúram wait lists through extension points and customizable interfaces that define the default behavior. A wait list is a list of clients who are awaiting the availability of a specified resource. Cúram wait lists provide a lightweight, generic implementation that can be used to meet a wide range of requirements.

Introduction

Purpose

The purpose of this document is to explain to the reader how to design, implement, customize and configure Cúram Wait Lists. In order to best understand these concepts, the guide should be read in full.

Audience

This document is intended for designers and developers who need to know how to extend Cúram Wait Lists to meet their specific requirements. A reasonable degree of knowledge of the application is assumed. There are certain aspects of the document that may prove useful to business analysts, which do not require technical knowledge.

Prerequisites

It is assumed that the reader is familiar with the basic concepts of Social Enterprise Management (SEM) and the following concepts

- Persistence Cookbook
- Cúram Batch Processing Guide.

Why Customize a Wait List

What is a Wait List?

A wait list is a list of clients who are awaiting the availability of a specified resource. The resources in question are usually required for the delivery of a service, such as funds or the availability of a place in a facility. Where the resource isn't available, a client can be added to wait list, either by allocating a certain position, or adding the client to the end of the list. Once added, a client's position on the wait list can be moved up or down, depending on how pressing the client's need for the resource is.

Why Customize a Wait List?

Cúram Wait Lists can be applied to any of the industry segments within the SEM model. Social Enterprise agencies servicing these industry segments provide a diverse array of benefits and services to their clients. These services may have different funding sources, and some may be contracted out to third party providers; there are therefore a wide range of ways in which wait lists could be used.

As a result of this, the intention of the Cúram Wait List functionality is to provide a lightweight, generic implementation, which can be used to meet as many of these needs as possible. Hence customizing the wait list to suit the various needs of SEM agencies becomes vital. To accommodate this, the Cúram Wait List includes extension points and customizable interfaces through which the default behaviour can be changed.

Code Package

The Cúram Wait List is implemented using the Persistence Infrastructure approach. This is placed under the following package:

- curam.waitlist.impl

Customization Points

Replaceable Implementations

Introduction

Persistence Infrastructure makes use of Google Guice to act as a factory mechanism for interface objects. In general, it is not compliant to change an implementation which is bound to an interface. Note that if an implementation is replaced in a non-compliant way, difficulties may be encountered in a later upgrade to a newer version.

However, wait list does provide an interface which allows the customer to replace the default implementation with a new custom implementation, if required, by creating a new Guice module class and adding a corresponding entry in the MODULE table. For more information on Guice and how to use Guice bindings using a Module class, please refer to the Persistence Cookbook.

Renumbering of Wait List entries

Interface location: curam.waitlist.impl.WaitListRenumberLogic

Purpose: The agency may wish to renumber the wait list entries considering the priority of the entry, or on first come first served basis, or using some other criteria.

Default implementation: The default implementation renumbers wait list entries in a wait list. The wait list entry position is incremented or decremented if there is an insertion or removal or allocation or expiry of an entry in the list.

When creating a new wait list entry system increments the position by 1 for all the wait list entries in an 'open' state with a position higher than or equal to the position of the entry to be added to the wait list.

When a wait list entry is canceled or expired, system decrements the position by 1 for all wait list entries in an 'Open' state with a position higher than the position of the entry being removed or expired from the wait list.

The usage of this implementation in operations Create/Modify/Cancel/Expire/ Allocate a Wait List Entry in a Wait List has been explained below with example.

Create Wait List Entry: When creating a new wait list entry, if a wait list requires renumbering then system calls wait list renumbering API. Wait list renumbering API increments the position by 1 for all 'Open' state wait list entries with a

position higher than or equal to the position of the entry to be added to the wait list. After renumbering the existing wait list entries, system adds the client (i.e. a wait list entry) to the wait list as per the specified position.

For example, if there are 10 clients waiting for a resource with position from 1 to 10. If a new wait list entry to be created at position 5. System will first try to empty the position 5 by incrementing position by 1 for all entries which are greater than or equal to 5 by using wait list renumbering API and then insert the new record with position 5.

Cancel/Expire/Allocate a Wait List Entry: After cancelling/Expiring/Allocating a wait list entry, if a wait list requires renumbering then system calls wait list renumbering API. The wait list renumbering API decrements the position by 1 for all 'Open' state wait list entries with a position higher than the position of the removed entry from the wait list.

For example, if there are 10 clients waiting for a resource with position from 1 to 10.If a wait list entry (i.e. a client) at position 5 is removed from the wait list, then system will decrement position by 1 for all entries which are having the position greater than 5 by using wait list renumbering API.

Update Wait List Entry: In case of update wait list entry, system first checks whether there is change in the position. If yes then check whether position renumbering is required. If renumbering is required, then system calls wait list renumbering API to reshuffle the wait list entries position.

For example, if there are 10 clients waiting for a resource with position from 1 to 10. When modifying the wait list entry at position 6, if user changed the position value from 6 to 8 then system first decrements the position by 1 for all 'Open' state wait list entries with a position higher than the original position (i.e.6) and then increment the position by 1 for all 'Open' state wait list entries with a position higher than or equal to the newly specified position (i.e.8). This creates an empty block so that our modified wait list entry goes and gets placed there.

For more information, on how to provide a compliant implementation for an interface, see the section 'How to provider a compliant implementation for an interface that is marked as an extension point within the framework' in Cúram Provider Management Developers Guide.

Events

Introduction

Following events are raised by wait list to allow the customer to write and attach custom workflows.

Event on Wait List Entry Creation

An event is raised when a wait list entry is added to a wait list.

Table 1. Event on Wait List Entry Creation

Event Detail	Primary Event Data	Raised From
WAITLIST.WAITLISTENTRYCREATED	WaitListEntryID	curam.waitlist.impl.WaitListEntryImpl.createWaitLis

Event on Wait List Entry Update

An event is raised when a wait list entry is updated.

Table 2. Event on Wait List Entry Update

Event Detail	Primary Event Data	Raised From
WAITLIST.WAITLISTENTRYUPDATED	WaitListEntryID	curam.waitlist.impl.WaitListEntryImpl.modifyWaitList

Event on Wait List Entry Allocation

An event is raised when a wait list entry is allocated.

Table 3. Event on Wait List Entry Allocation

Event Detail	Primary Event Data	Raised From
WAITLIST.WAITLISTENTRYALLOCATED	WaitListEntryID	curam.waitlist.impl.WaitListEntryImpl.allocate

Event on Wait List Entry Removal

An event is raised when a wait list entry is deleted.

Table 4. Event on Wait List Entry Removal

Event Detail	Primary Event Data	Raised From
WAITLIST.WAITLISTENTRYREMOVED	WaitListEntryID	curam.waitlist.impl.WaitListEntryImpl.cancel

Event on Wait List Entry Expiration

An event is raised when a wait list entry is expired.Wait list entry is expired when the expiry date on the wait list entry is crossed. The wait list entry can be primarily expired by using expire wait list entry batch job.

Table 5. Event on Wait List Entry Expiration

Event Detail	Primary Event Data	Raised From
WAITLIST.WAITLISTENTRYEXPIRED	WaitListEntryID	curam.waitlist.impl.WaitListEntryImpl.expire

Event on Wait List Entry Review

An event is raised when a wait list entry is selected for review. A wait list entry can be selected for review by running the WaitListReview batch job. This will result in all wait list entries with a review date on or before the batch processing date being selected for review.

Table 6. Event on Wait List Entry Review

Event Detail	Primary Event Data	Raised From
WAITLIST.WAITLISTENTRYSELECTEDFORREVIEW	WaitListEntryID	curam.core.sl.impl.WaitListReview.processWaitListEntr

Event on Wait List Entry Deferring

An event is raised when the Wait List Entry review is deferred to a future date. This event is also raised when the review date is updated to be a date in the future.

Table 7. Event on Wait List Entry Deferring

Event Detail	Primary Event Data	Raised From
WAITLIST.WAITLISTENTRYREVIEWDEFERRED	waitListEntryID	curam.waitlist.impl.WaitListEntryImpl.deferReview

Implementing a new Wait List

Implementing a new Wait List

Implementing a new Wait List

A customer who wishes to create their own type of wait list will need administratively to add a new type of wait list. This can be done by adding a custom entry in the WaitListType codetable corresponding to the new wait list type or resource type.

The new resource will need to extend the interface curam.waitlist.impl.Resource and the corresponding implementation class needs to implement the methods defined in the Resource interface. This ensures that the new resource has the necessary methods implemented which are required during creation of a wait list.

The code snippet of the interface which extends the Resource interface:

```
public interface Provider extends ProviderOrganization,
    Insertable, OptimisticLockModifiable, Resource {
    // method declaration goes here
    }
```

The code snippet of the implementation which implements the Resource interface:

```
public class ProviderImpl extends
 ProviderOrganizationImpl<ProviderDtls< implements Provider {
   .
   .
     public long getResourceID() {
       return getDtls().providerConcernRoleID;
     }
   .
   .
     public WAITLISTTYPEEntry getResourceType() {
       return WAITLISTTYPEEntry.PROVIDER;
     }
 }
```

The necessary APIs to add/modify/cancel a wait list entry, list the history of wait list entries or search a wait list can be obtained in the corresponding Javadoc provided along with the Cúram Enterprise Framework.

Integration with Other Systems

Introduction

The Cúram Wait List is a generic functionality which holds the clients waiting for a resource to be available; this can be integrated with other systems. Examples of wait lists being integrated with other systems are described below.

Integration with Cúram Provider Management

Wait listed clients in Cúram Provider Management (CPM) wait for a provider or provider offering (service), which can be either a placement service or a non-placement service. For a placement service, the available places can be

searched for within the required time period. Once it is determined that a place is available for the client, a reservation or placement can be created. If no place has been specified for a wait listed client, a place from a list of available places can be selected when creating the reservation or placement. There is no OOTB automated allocation of clients when a place becomes available.

Clients can be wait listed for multiple providers, but once a reservation or placement is made, wait list entries for that client for the other providers can be removed. If there are active reservations for the same or overlapping periods, the reservations will be canceled when a place is allocated to a wait listed client.

Integration with Cúram Funded Program Management

Cúram Funded Program Management(FundedPM) wait lists allow clients to be placed on a wait list when funds are insufficient. For example, when a client is authorized to receive child care services and in turn, an attempt is made to obligate an amount from the Child Care fund, the client can be placed on a wait list if the child care fund does not have a sufficient amount to cover the obligation.

When funds become available, the request(s) to obligate funds on behalf of the client for the child care case plan items can be reassessed, and the obligation associated with the fund can be processed.

Wait List Batch Jobs

Please refer to the Cúram Batch Processing Guide for more information.

Introduction

Wait list functionality is provided with following batch jobs.

Expire Wait List Entry

Expire Wait List Entry expires any wait list entry for which the expiration date has passed.

Table 8. Wait List Expiration Batch Job

Batch Name	Implementation Class
ExpireWaitListEntry	curam.core.impl.ExpireWaitListEntry

Review Wait List Entry

This batch process selects the eligible wait list entries for review and raises a workflow event to generate wait list review reminder task. All wait list entries with a review date on or before the batch processing date will have a review reminder task generated. Review date is provided while creating a wait list entry. If there is no review date set for the wait list entry, it is derived by subtracting the Status Review Reminder Period from the expiry date. Status Review Reminder Period is configured in property administration.

Table 9. Wait List Review Batch Job

Batch Name	Implementation Class
WaitListReview	curam.core.sl.impl.WaitListReview

Batch Launcher configurations for Wait List Review batch job

Since Wait List Review batch process raises work flow events, for successful generation of review reminder tasks, following batch launcher properties should be configured in property administration:

- curam.batchlauncher.dbtojms.enabled (should be set to true)
- curam.batchlauncher.dbtojms.notification.host (should have appropriate host value set)
- curam.batchlauncher.dbtojms.notification.port (should have appropriate port value set)

Wait List Application Properties

Introduction

Following wait list properties are provided for configuration in property administration.

Configuration of Wait List Review properties

curam.waitlist.statusreviewreminderperiod

This property determines the reminder period for the wait list status review. It is subtracted from the expiry date to get the review date when review date is not specified. Default value is set as -1 in which case it is not considered.

curam.waitlist.statusreviewintervalperiod

This property determines the number of days between two wait list entry reviews. Default value is set as zero.

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