

Students: Raluca Balogh, Signe Rasmussen, Alexandru Simaschevici

Slaughterhouse- 3 tier architecture

The three tiers in the slaughterhouse system are:

Tier 1 - Presentation Tier: There are 4 types of clients: Animal Client- register animals, Tray Client- register trays, Package Client- registers packages and Recall client- finds all packages related to a bad package. Tier 1 is implemented using C# and consumes the services available in tier2.

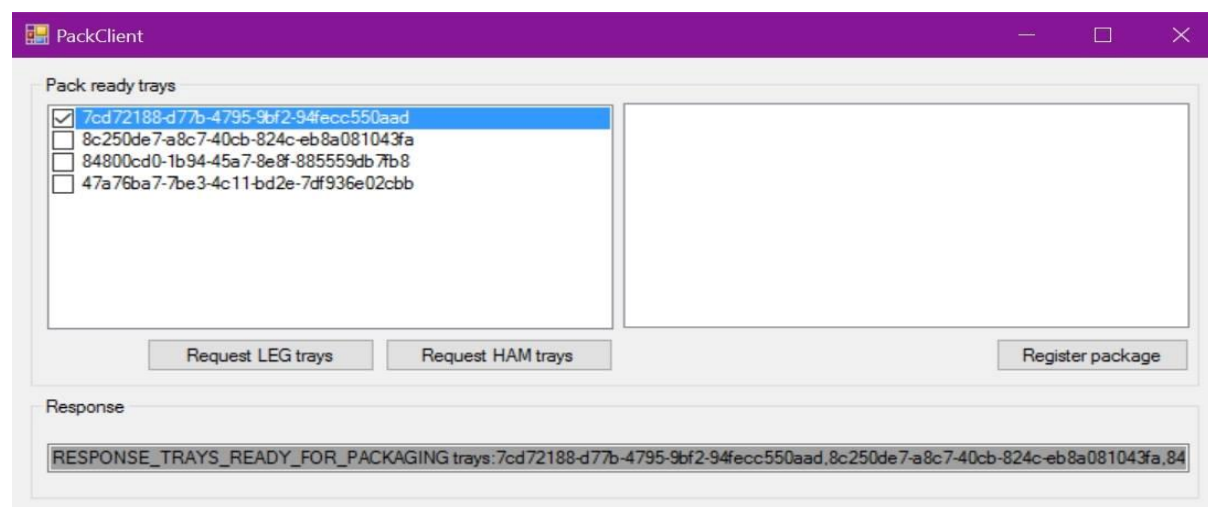
Tier 1 connects with tier 2 using web services


Tier 2 - Application Tier: Business logic or logic tier, this tier is pulled from the presentation tier. It controls application functionality by performing detailed processing.

Logic of the tier handles parsing of data received from client request, builds a local model structure, builds information received from tier 1 into objects that can be manipulated in the business logic, binds relations between the objects in order to complete the required processes, triggers saving of data using a singleton counter whenever a certain amount of data has been stored on tier 2 cache solution. Alongside the mentioned functionality, the tier 2 server saves all the time into a bin file stored locally on tier 2 server. This serves for backup in case the server is shut down unexpected and is reloaded automatically when server boots up again. The cache should be cleaned by deleting files older than defined amount of time. The deletion method will be implemented as a future feature. The second tier 2 server acts as an adaptor for retrieving all the bad packages related to a bad package. Tier 2 is implemented using Java.

Tier2 connects with tier 3 using RMI

Tier 3 - Data Tier: Database servers where information is stored and retrieved. Data in this tier is kept independent of application servers or business logic. Tier 3 is implemented using Java. The database connected to this tier is Oracle.





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FIND ALL PACKAGES RELATED


Insert package id:

680f7acb-5cd9-497b-90d9-a3ef5aae0a97

SHOW ALL

Results:

287d944c-4d7d-464b-867d-e9368b423730
63559333-210d-4fca-9966-5f840b413b08
680f7acb-5cd9-497b-90d9-a3ef5aae0a97
b81815c0-ddd1-4b17-8ecd-fe9dcb7e53f4
d6d3587d-7c08-421c-ad03-82dabf65d22d
d7338443-c102-4a5f-8ca2-5f12b97194f6



TrayClient

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Request uncut animals

☒ 4ee22766-bc37-47cb-b991-3aa3b8303ff1

Weight part 1: 20


Weight part 2: 20

Request

Send parts weight

Response

RESPONSE_UNCUT_ANIMALS animals:4ee22766-bc37-47cb-b991-3aa3b8303ff1



AnimalClient

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Animal Registration

Weight: 101

Register

Response

Animal saved with warnings