**Sperasoft**

Your game dev partner

# Apache JCS
# UI Caching

1. JCS - What is it?

2. UI Caching - What is it?

3. Problems - What we got!

4. Solutions - What we found!

5. The one - What we chose!

6. Implementation - What we done!

JCS is a distributed caching system written in java. The JCS goes beyond simply caching objects in memory. It provides numerous additional features:

- *Memory management*
- *Disk overflow (and defragmentation)*
- *Thread pool controls*
- *Element groupingand e.t.c.*
  http://commons.apache.org/jcs/

**STEP 1: Understand the Core Concepts**

**STEP 2: Download JCS**

**STEP 3: Get the Required Dependencies**

**STEP 4: Configure JCS**

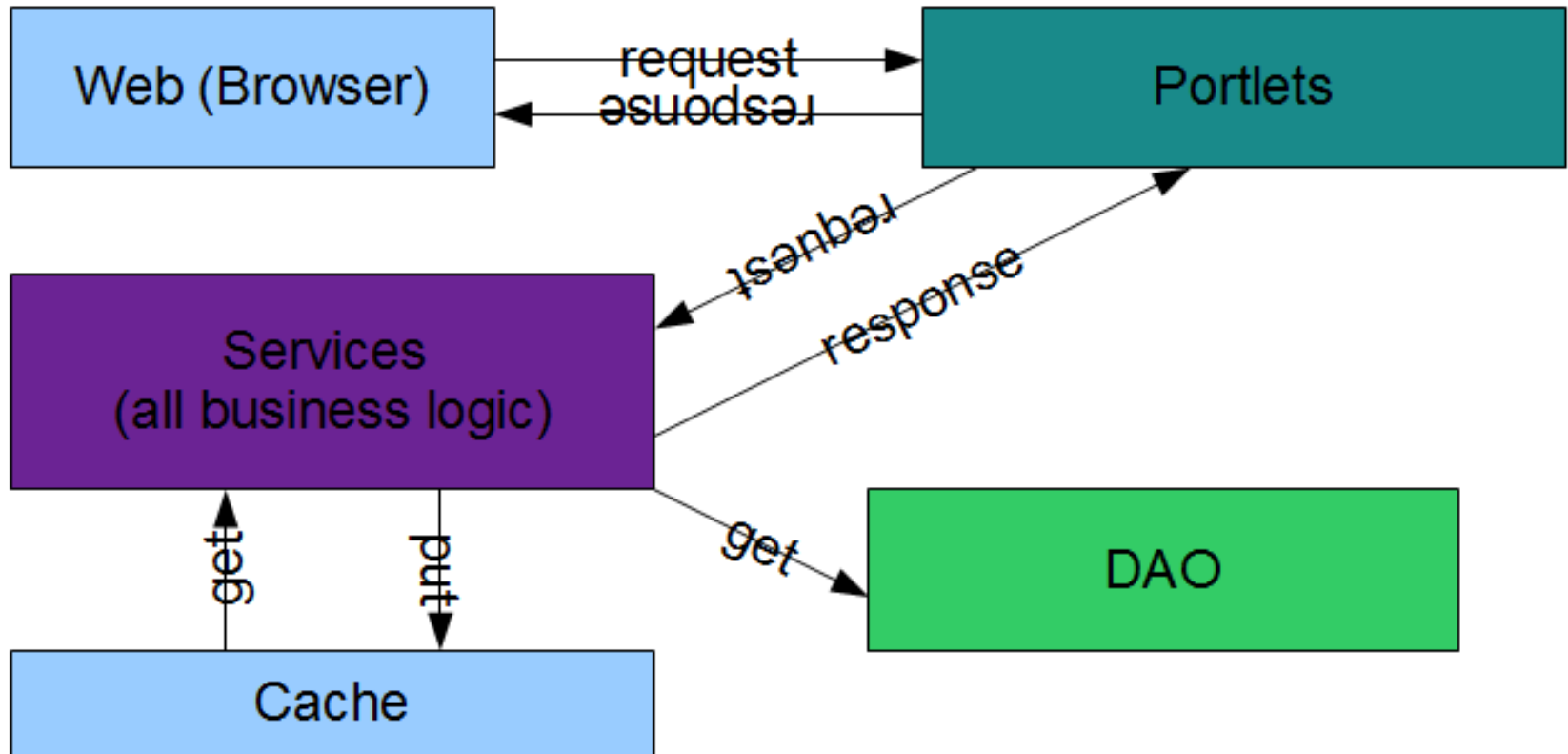## *Configuration parts of file:*

1. DEFAULT CACHE REGION
2. PRE-DEFINED CACHE REGIONS
3. AVAILABLE AUXILIARY CACHES

## Region:

1. cacheattributes.MemoryCacheName ;

2. elementattributes.IsEternal;

3. elementattributes.MaxLifeSeconds;

## Auxiliary:

4. jcs.auxiliary (factory);

5. jcs.auxiliary.(..).attributes (attributes);

6. attributes.OptimizeAtRemoveCount.

You can use cache in three ways:

**1.** put once and do not change it (**no problem**);

**2.** put every time new data by new key (**no problem**);

**3.** put every time new data by same key

*(problems will be if you used file caching).*

**Problem:** our cache file was grown very fast.

**Task:** make it the fixed size or try to do it not so big because information in this region about few megabytes. So we have to optimize size of cache file. But how?

optimization file we can use only when we load cache and if we use method remove:

jcs.auxiliary.(..).attributes.**OptimizeAtRemoveCount**=2000

jcs.auxiliary.(..).attributes.**OptimizeOnShutdown**=true

We restart our application not often, so way with restart attribute is not suitable.

Optimize after removes - **it's good.**

**BUT...**

**In some situation We don't remove from cache we just replace data.**

**So how to optimize file?**

1. try to fix this using parameters;

2. try to organize structure to force deleting cache files;

3. try to create new parameters and fix it by them;

## 1. Create new classes with new functionality extend or implements these ones:

org.apache.jcs.auxiliary.disk.indexed.IndexedDiskCache;

org.apache.jcs.auxiliary.AuxiliaryCacheFactory;

org.apache.jcs.auxiliary.AuxiliaryCacheManager;

org.apache.jcs.auxiliary.AuxiliaryCacheAttributes.

## 2. Add this classes to configuration file:

jcs.auxiliary.(..)=com.sperasoft.ui.cache

.**OptimizationIndexedDiskCacheFactory**

jcs.auxiliary.(..).attributes= com.sperasoft.ui

.cache.**OptimizationIndexedDiskCacheAttributes**

3. added new attribute to configuration file:

*jcs.auxiliary.DC.attributes.*

*OptimizationTimeout=28800*

This attribute contain information how often cache

how to optimize file. Time sets in second.

4. Write a documentation.

We just added new property for JCS that say how often we want to optimize cache file and added realization of calling standard method of DiskCache.

So if you need to extend JCS –

# **just do it.**

# Check out more knowledge sharing here:

- Slideshare - https://www.slideshare.net/Sperasoft/

- SpeakerDeck - https://speakerdeck.com/sperasoft

- GitHub - http://github.com/sperasoft

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