ES Framework Team

A Glimpse Behind the Curtain

Who We Are

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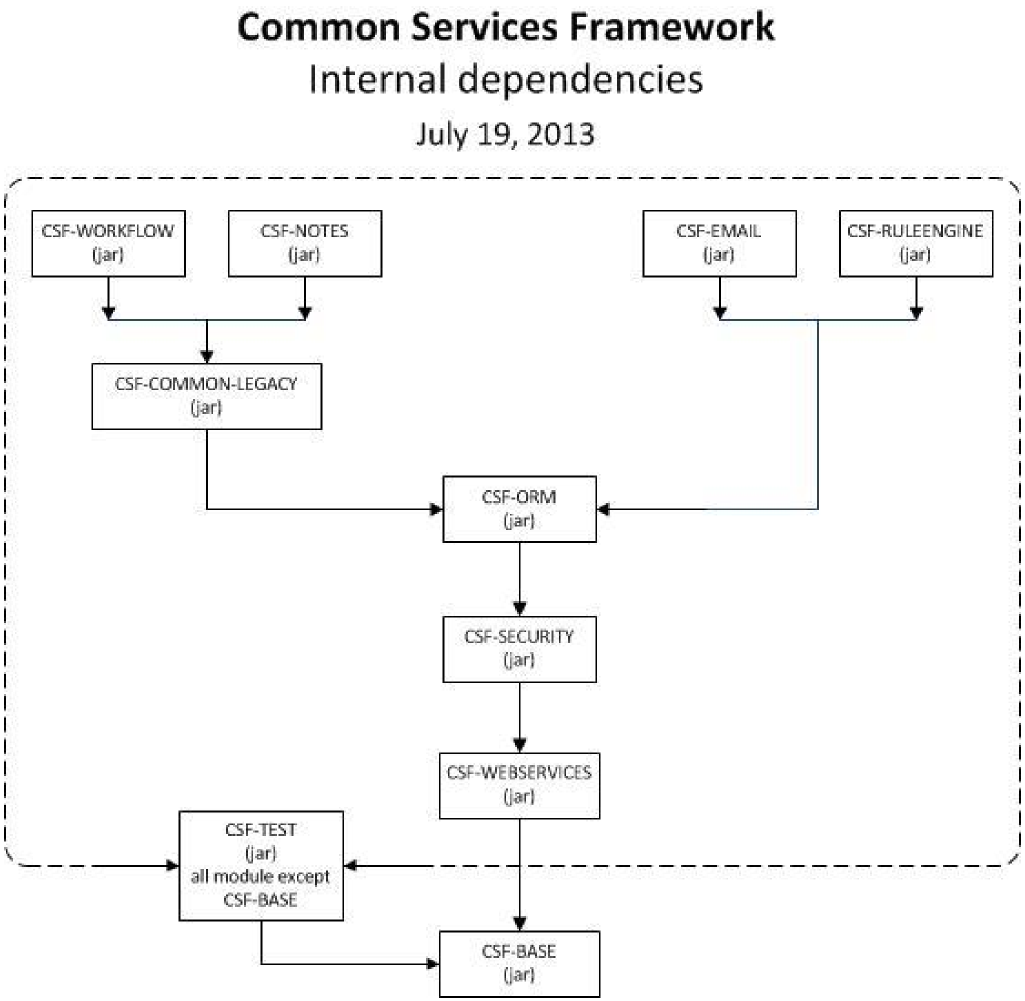
The Things We Do

- Education Systems Java Framework [Common Services Framework - CSF]
- CSF Wiki
- Developer Tools (Bamboo, Maven, SVN)
- Moves
- Miscellaneous infrastructure tasks as needed
- Futures - e.g. APIs

CSF Modules


Common Services Framework
Internal dependencies
July 19, 2013
CSF-WORKFLOW (jar)
CSF-NOTES (jar)
CSF-EMAIL (jar)
CSF-RULEENGINE (jar)
CSF-COMMON-LEGACY (jar)
CSF-ORM (jar)
CSF-SECURITY (jar)
CSF-WEBSERVICES (jar)
CSF-TEST (jar) all module except CSF-BASE
CSF-BASE (jar)

CSF WIKI

CSF Wiki

- Guide to CSF and Development Environment
- Getting Started - Setup for New Devs
- Software Development - Tech Leads & Devs
- Tomcat & OC4J
- CSF Releases
- Standards
- CSF Architecture
- CSF Security
- CSF Initiatives

DEVELOPER TOOLS

Developer Tools

- SVN - Source Code Repository
- Bamboo - Continuous Integration
- Moves - Release Management and Deployments
- Maven - Repository of Deployable & Reusable Artifacts
- Maven - Software Dependency and Build Tool

MISCELLANEOUS ACTIVITIES

Miscellaneous Activities

- Moving from OC4J to Tomcat
- Utilizing Test Roles DB
- Load/Performance Testing
- Development Project Team Support
- Ad-hoc Developer Support
- Migrating legacy projects to CSF
- Development of non-csf jars for common application code (e.g. csf-registration.jar, csf-studentaccount.jar)

EDUCATION SYSTEM JAVA FRAMEWORK

CSF-ORM

- a new jar that contains the modules and configurations for I/O operations.
- DaoFoundation and the abstractSessionFactory beans are configured here.
- DaoFoundation contains most commonly use methods that applications use to perform I/O operations.
- It is written to "substitute" HibernateDAOSupport and HibernateTemplate as Spring's H4 support actually drops these classes
- It is recommended that all applications that use csf use this class for all IO operations.

CSF-ORM

- The benefits of DaoFounation
  - Remove the dependency of HibernateDaoSupport from dao modules. The dao modules can simply inject DaoFounation in it to use it.
  - Better position ourselves for any future upgrade of Hibernate or other persistence framework.
  - Simply use the getCurrentSession().createQuery() method in DaoFoundation to retrieve data from database for a dao unit test, instead of hardcoding.

CSF-EMAIL

- Emails are now stored in 3 database tables in the inframgr schema
- EmailService accepts 2 forms of attachments: a list of file objects or a list of datasource(s).
- It supports bulk email with or without velocity template, and with or without summary report
- New properties to be configured in your application properties file:
    - email.app.id (mandatory)

CSF-EMAIL

- Support for oc4j and tomcat servers
  - for applications running on oc4j : place the template in the src/main/webapp/WEB-INF/velocity folder
  - for applications running on tomcat: place the template in the src/main/resources/velocity folder
- Configuration on the servers
  - we would recommend to configure only one of the servers of the same tier to send out the emails. To disable other servers from sending out emails, configure the following in the application properties file on the server:
    - email.sendEmailSchedule=0 0/5 0-22 * * ? 2099
    - email.deleteEmailSchedule=0 30 22 * * ? 2099

CSF-RULENGINE

- A module enables our application to handle generating application- and/or situation- specific messages in a flexible and configurable way
- The rulengine will look into 2 tables:
  - SGRGP_RULE_MESSAGE
  - SGRGP_RULE_METADATA

  to determine what verifications it needs to perform and what messages need to output in what situations (application + context).
- Each rule is implemented as a class in the application.

CSF-RULENGINE

- The benefits of csf-rulengine
    - Usage of each rule is flexible, as it is determined by configuration
    - changes to the message text as well as the situation the rule should apply can be edited by user with the Toolkit, without rebuilding the application
    - Rule can be reused across different applications

CSF-NOTES

- A new module that we develop to act as sticky notes in electronic form per request of the Registrar office
- We include it as part of the framework as it is developed to be a reusable component that can be easily incorporated to any application.
- The module uses ajax calls extensively to invoke various functionalities including read, insert, update and generate a pdf file for the note records.
- Currently, we provide a set of javascripts that work on multiple browsers and another set of javascripts that work on the jQuery mobile framework.

CSF-NOTES

Demo

MOVES

MOVES

Demo

MOVES
What's New

Build a Release

- Display Filter available for both trunk and branch builds.
- **RESTRICTED BUILDS** - The **NEW** build option for dependent components may or may not be available.
- The **Mailing List** now works correctly.

Branch a Release

- Display Filter available
- The **Mailing List** now works correctly.

Workflows

- The **Workflows** display for a specific build is dynamically updated.
- The **Maven log** is dynamically updated during the build/release process.

Administration

- Tomcat stacks are now supported.

FUTURES

FUTURES

First Generation Developer Workstation

Developer Workstation

Demo

VM's in the MIT ether
Standard Developer Workstation

The hardware

- 2 core processor
- 8 GB memory
- 128 GB disk

The operating system

- Window 7 x64

  fully configured and operational

The Standard Developer Workstation Software Configuration

All software is fully integrated and operational

- Java SE Development Kit 6u27
- CollabNetSubversion client 1.7.9-1
- OpenSSL 1.0.1e x64
- Maven 3.0.5
- Tomcat 7.0.29
- Oracle OC4J 10.1.3.5.0 standalone application server
- myEclipse Professional 2013
- SQL Developer 3.2.20.09.87 x64
- GNU for Windows
- MIT securecrtfx 70 x64
- Tortoise SVN 1.7.12.24070 x64
- WinMerge 2.12.4
- IE, Firefox and Chrome
- Kerberos for Windows
- Java key stores (jks)
- Tuvoli Storage Manager (TSM)

The Standard Developer Workstation Operational Requirements

- provide, on demand, a fully operational developer workstation
- 7 x 24 availability
- accessible from anywhere in the world
- easy to replace with minimal down time

More information available on the CSF wiki under either the **Getting Started** or **Software Development** tabs.

Spring Restful Services

Spring Restful Services
Representational State Transfer (REST)

July 2012

We ~~are deprecating~~ **have deprecated** DWR in favor of Spring MVC Controllers. Controller methods can be invoked via AJAX and can return JSON-formatted data. More information to follow.

REST APIs

We should now use REST-style APIs implemented with Spring MVC Controllers to support web client access to server-side resources. The REST APIs will support AJAX calls from components on web pages in addition to other arbitrary HTTP based clients. REST APIs are most commonly implemented using the HTTP protocol. The APIs are focused on resources.

Spring Restful Services

Cross-Origin Resource Sharing (CORS)

Demo

Spring Restful Services Web Application

Written as an MVC application

CONTROLLER METHODS

MVC method signature:

```
@RequestMapping(value = "/restServicesSignin.htm", method = RequestMethod.GET)
public ModelAndView getRestServicesSignin(HttpServletResponse response, HttpServletRequest request,
                                          @RequestParam(value = "returnUri", required = false) String returnUri,
                                          @RequestParam(value = "appServer", required = false) String appServer,
                                          @RequestParam(value = "restServer", required = false) String restServer) {
```

MVC REST method Signature:

```
@RequestMapping(value = "/schedule/{kerbname}/{termCode}", method = RequestMethod.GET)
public ModelAndView getStudentSchedule(HttpServletResponse response, HttpServletRequest request,
                                          @PathVariable("kerbname") String kerbname,
                                          @PathVariable("termCode") String termCode) {
```

FUTURES
Recap

VM's in the MIT ether
The Developer Workstation

Spring Restful Services
A replacement for DWR

One Last Thing...

Please give us feedback:

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