FDA My Studies

(Web application, Web services, Resources and User Registration)

Setup Instructions

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1 Introduction

1.1 Purpose

This document provides step by step instructions for acquiring the source code from Git, installing required components and to setup the environment and run HPHC My Studies web application and web services.

2 Install Required Prerequisites

2.1 Java

Java is a general-purpose computer programming language that is concurrent, class-based, object-oriented, and specifically designed to have as few implementation dependencies as possible. It is intended to let application developers "write once, run anywhere", meaning that compiled Java code can run on all platforms that support Java without the need for recompilation. Java applications are typically compiled to bytecode that can run on any Java virtual machine (JVM) regardless of computer architecture.

Below link gives access to instructions for installing the JDK and JRE on Oracle Solaris, Windows, Linux, and OS X computers.

https://docs.oracle.com/javase/8/docs/technotes/guides/install/install_overview.html

2.2 Tomcat

Apache Tomcat version 8.0 implements the Servlet 3.1 and Java Server Pages 2.3 specifications from the Java Community Process, and includes many additional features that make it a useful platform for developing and deploying web applications and web services. Below link will assist you in downloading and installing Apache Tomcat, and using many of the Apache Tomcat features.

https://tomcat.apache.org/tomcat-8.0-doc/setup.html

2.3 MySQL

The MySQL software delivers a very fast, multi-threaded, multi-user, and robust SQL (Structured Query Language) database server. MySQL Server is intended for mission-critical, heavy-load production systems as well as for embedding into mass-deployed software. Below link describes how to obtain and install MySQL or to upgrade an existing version of MySQL to a newer version.

https://dev.mysql.com/doc/refman/5.7/en/installing.html

2.4 Maven

Apache Maven is a software project management and comprehension tool. Based on the concept of a project object model (POM), Maven can manage a project's build, reporting and documentation from a central piece of information.

https://maven.apache.org/install.html

2.5 Eclipse IDE

Eclipse is an integrated development environment (IDE) used in computer programming, and is the most widely used Java IDE. It contains a base workspace and an extensible plug-in system for customizing the environment. Eclipse is written mostly in Java and its primary use is for developing Java applications, but it may also be used to develop applications in other programming languages via plug-ins.

https://www.eclipse.org/downloads/packages/eclipse-ide-java-developers/oxygenr

2.6 Git Repository

GitLab is the leading integrated product for modern software development. Connecting issue management, version control, code review, CI, CD, and monitoring into a single, easy-to-install application, we help teams go faster from idea to production.

Source code for HPHC web application and Web services will be available at:

https://gitlab.com/users/sign_in

3 Configuration Required

3.1 Initial Configuration

- ✓ *HPHC_WCP_DB_Create_Script.sql* script file should be executed on MySQL and this file can be found inside *sqlscript* folder of Git repo.
- ✓ *hphcAuditLogs* folder should be created inside the server and the path should be configured inside *messageResouce.properties* for *fda.logFilePath* property.
  Ex: fda.logFilePath=/usr/local/hphcAuditLogs/

3.2 Properties Files

application.properties file should be downloaded from root folder of Git repository and stored on the system/server and below are configurations that needs to be changed.

```
smtp.portvalue=25  #Should be changed to actual SMTP port
smtp.hostname=127.0.0.1 #Should be changed to actual SMTP IP
fda.imgUploadPath=<Tomcat installed path>/webapps/fdaResources/
#<Tomcat installed path> will be changed to actual path
acceptLinkMail
=http://localhost:8080/fdahpStudyDesigner/createPassword.do?securityToken=
login.url=http://localhost:8080/fdahpStudyDesigner/login.do
signUp.url=http://localhost:8080/fdahpStudyDesigner/signUp.do?securityToken=

db.url=localhost/fda_hphc
db.username=****
db.password=****
#"db.username" value will be changed to actual username of database.
#"db.password" value will be changed to actual password of database.

hibernate.connection.url=jdbc:mysql://localhost/fda_hphc
hibernate.connection.username=****
hibernate.connection.password=****

#"localhost" will be changed to IP address or domain name, if database is installed on
different server. If database is on same server, it's not required to change "db.url" and
"hibernate.connection.url".
#"hibernate.connection.username" value will be changed to actual username of database.
#"hibernate.connection.password" value will be changed to actual password of database.

fda.smd.study.thumbnailPath = http://localhost:8080/fdaResources/studylogo/
fda.smd.study.pagePath = http://localhost:8080/fdaResources/studypages/
fda.smd.resource.pdfPath = http://localhost:8080/fdaResources/studyResources/
fda.smd.questionnaire.image=http://localhost/fdaResources/questionnaire/
fda.smd.gatewayResource.pdfPath=http://localhost:8080/fdaResources/gatewayResource/
App_Glossary.pdf
fda.smd.pricaypolicy=https://www.fda.gov/AboutFDA/AboutThisWebsite/WebsitePolicies/
fda.smd.terms=https://www.fda.gov/AboutFDA/AboutThisWebsite/WebsitePolicies/
```

#for all the properties “localhost” will be changed to actual IP address or domain name.

Folder for Audit log files:

#Please create a folder "hphcAuditLogs" inside the server and replace the path "/usr/local/hphcAuditLogs/" with actual path for “fda.logFilePath” property.

#User registration server root URL:
fda.registration.root.url = https://hphc-fdama.labkey.com/fdahpUserRegWS
#https://hphc-fdama.labkey.com – Should be replaced with actual URL

Changes in Tomcat configuration File

Below are the changes required to Tomcat context.xml file and it can be found at: <tomcat installed path>/tomcat/conf/

Add below parameters in *context.xml* file inside <context> tag.

```
<Parameter name="property_file_location_prop" value="/usr/local/" override="1"/>
<Parameter name="property_file_name" value="application" override="1"/>
<Parameter name="property_file_location_config"
value="/usr/local/application.properties" override="1"/>
<Parameter name="property_file_location_path" value=" /usr/local/application.properties"
override="1"/>
```

Note: If the application.properties file stored at /usr/local folder

messageResource.properties file for web application can be found at /src/main/resources folder inside project directory and below are the changes required:

max.login.attempts=3 #Maximum continuous fail login attempts by a user.
password.resetLink.expiration.in.hour=48
#Reset password link will get expired after the specified hours.
password.expiration.in.day=90 #User generated password expiration in days.
lastlogin.expiration.in.day=90 #User will get locked if he has not logged in for specified days.
password.history.count=10
#User cannot reuse the last 10 generated passwords for change password.
user.lock.duration.in.minutes=30
#User lock duration in minutes after crossed Maximum continuous fail login attempts limit.

messageResource.properties file for web services application can be found at /studyMetaData/src/main/resources folder inside project directory and below are the changes required:

fda.smd.notification.title=HPHC My Studies #Local notification title.
fda.smd.email.title=The HPHC My Studies Platform Team #Email notification title

authorizationResource.properties file for web services application can be found at /studyMetaData/src/main/resources folder inside project directory and below are the changes required:

{UUID used to uniquely identify app}=android.apptoken #Android unique identifier.
{android package name}=android.bundleid #The unique identifier for all Android apps

{UUID used to uniquely identify app}=ios.apptoken #iOS unique identifier.
{iOS package name}=ios.bundleid #The unique identifier for all iOS apps

4 User Registration Web Services

4.1 Getting started

The User Registration web services are built on Labkey environment and to start this project, you need to set up the Labkey development machine and below link will help you to set up the same.

https://www.labkey.org/Documentation/wiki-page.view?name=devMachine

Once the Labkey development environment is set then, clone git repositories such as fdahpUserRegWS into the /server/customModules folder. And also clone git repositories such as compliance into the /server/optionalModules folder

- ✓ **git clone** https://github.com/LabKey/compliance.git
- ✓ Switch to the release17.1 branch and then do **git pull**

5 Build

5.1 Web Application and Web Services

To build the application(s), run below command from project root folder(s).

mvn clean install

5.2 User Registration Web Services

Once the setup is done, you should be able to build the distribution with below commands

ant clean

ant dist -Dname=Registration

Once the build is complete, you will find the distribution file at below path:

{LABKEY_HOME}/server/dist/HPHC-Reg

LBAKEY_HOME is the root folder where you cloned the labkey code

6 Deployment

6.1 Web Application and Web Services

Once the build is successful, the .war files will be generated inside target folder. To deploy, copy these .war files and paste them inside webapps folder of tomcat installation path and restart the server.

6.2 User Registration Web Services

Move the above distribution file from {LABKEY_HOME}/server/dist/HPHC-Reg/

to your tomcat webapps folder and unzip the folder and restart the server.

6.3 Test the application(s)

After deploying the builds to verify the application's status, hit below URLs

Web application:

http://localhost:8080/fdahpStudyDesigner will redirect you to login page.

Web services:

http://localhost:8080/StudyMetaData/ping will display "It Works!"

User Registration Web Services:

http://localhost:8080/labkey/fdahpUserRegWS/ping.api will display "It Works!"