Chart Review

Installation Guide

Version 1.0

Oct 2014

Department of Veterans Affairs (VA)

VINCI

Revision History

Table 1. Documentation revision history

Date	Revision	Description	Author
11/4/2014	1.0	• Initial version	• Brad Adams

i   **REF:** This is an initial version of the installation manual

Contents

Figures and Tables

Figures

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Tables

Overview

How to Use this Guide

The *Chart Review Installation Guide* is designed to provide the Chart Review system administrator, with a typical step-by-step Windows deployment example. Similar tools and strategies can be used for a Linux deployment as well.

> **i** **NOTE:** This document is available in Microsoft Word (.doc).

Intended Audience

This manual is intended to assist a system administrator deploy Chart Review to a Windows server or similar server environment.

Disclaimers

This manual provides an overall explanation of Chart Review 1.0 deployment; however, no attempt is made to explain how the reader may access the VINCI environment or procure and view data within that environment. We suggest contacting VINCI management directly from the VA network at vaww.vinci.med.va.gov.

> ⚠ **DISCLAIMER: The appearance of external hyperlink references in this manual does *not* constitute endorsement by the Department of Veterans Affairs (VA) of this Website or the information, products, or services contained therein. The VA does *not* exercise any editorial control over the information you may find at these locations. Such links are provided and are consistent with the stated purpose of the VA.**

Documentation Conventions

This manual uses several methods to highlight different aspects of the material:

- Various symbols are used throughout the documentation to alert the reader to special information. Table gives a description of each of these symbols:

Table 1. Documentation symbol descriptions

Symbol	Description
ℹ️	**NOTE/REF:** Used to inform the reader of general information including references to additional reading material.
⚠️	**CAUTION/RECOMMENDATION/DISCLAIMER:** Used to caution the reader to take special notice of critical information.

Assumptions

This manual is written with the assumption that the reader is familiar with the following:

- SQL – there will be some references to SQL code in setting up the Chart Review and project databases.

References / Online Demo

Readers who wish to learn more about Chart Review should consult the following documents:

- *Chart Review Release Notes* (TBD)

- *Chart Review Installation Guide* (this guide; Word format)

- *Chart Review Technical Manual* (TBD)

- *Chart Review User Manual* (Word, PDF and HTML format – click help on the Chart Review Home page)

- *Chart Review Developer's Guide* (TBD)

ℹ️ **ONLINE DEMO:** A demo of Chart Review and its online help is available on the VA intranet at: http://vhacdwweb03:8080/chart-review/ Using a Fire Fox (ver > 30) browser, open Chart Review and, after logging in as admin/admin (project administrator features) or project1/project1 (annotator features), access the help link at the top of the page.

1 System Prerequisites

1.1 Target Platforms

Chart Review can be deployed on the at least the following platforms:

- Windows

- Linux

- Mac OS

1.2 Required Tools

The following is a list of tools used in the deployment of Chart Review (see below for details):

- Java 7

- JDBC Accessible Database (i.e. MySQL Community Server 5.5)

- Web Container Service (i.e. Tomcat 7 service installer)

2 Install Java

Install Java 7 on the target platform.

Table 2: Setup Java

Item/Action	Description/Result
1) Run Java 7 Runtime	1. Can use all defaults.

3 Setup/Access Databases

ChartReview uses two databases (see User Manual, Introduction, System Architecture Must-Knows), one that is ChartReview specific (user, project info) and the project database (EHR data, clinical element configurations, schemas, process tasks, and annotations). These databases can be anything that is JDBC accessible. As examples in this document, we use MySQL for the ChartReview database, and SQLServer for the project database.

3.1 Chart Review Database Setup

Create a Chart Review specific database on the server machine (not a project database) to hold user, and project information.

Table 3: Chart Review Database Setup

Item/Action	Description/Result
1) Install MySQL Community 5.5	1. Typical installation. 2. Can use all defaults.
2) Run MySQL Server Instance Configuration	1. Server Machine. 2. Multifunctional Database. 3. Default Path. 4. Decision Support (DSS)/OLAP. 5. Enable TCP/IP Networking (Port Number: 3306). 6. Enable Strict Mode. 7. Standard Character Set. 8. Install as Windows Service (Service Name: MySQL). 9. Launch the MySQL Server automatically. 10. Root password "passw0rd". 11. Enable root access from remote machines.
3) Create Database	*In MySQL:* *create database chartreview;*
4) Grant all Permissions to Root	*In MySQL:* *grant all on chartreview.* to 'root'@'locahost' identified by 'passw0rd';*

5) Grant all Permissions to chartreview user	*In MySQL:* *grant all on chartreview.* to 'chartreview'@'locahost' identified by 'passw0rd';*

3.2 Project Database Access and Permissions

It is assumed that a project database already exists (i.e. other deployment environments may be similar to the VINCI environment where a SQLServer project database is created for each project by the VINCI data managers, having permissions specific to the users listed on an IRB). Get access to the project database and provide table creation permissions for the user that will launch the web container (i.e. Tomcat) service (could be the system administrator or another key project user, because the user will only have to provide credentials one time, when the service is created).

⚠ Note: Until single sign-on is deployed, there must be one instance of the ChartReview web server (i.e. Tomcat) service deployed per project, because it is the user that launches the web server (i.e. Tomcat) service whose credentials are validated by the project database. This user will need to provide his credentials one time, when setting up the service. Those credentials are then used, even when the service is restarted.

Table 4: Project Database Access and Permissions

Item/Action	Description/Result

1) Get Access to ChartReview database.	ⓘ The chartreview database will be accessed with the following Tomcat context information by default, unless a custom chart-review.xml context definition is provided (see Setup Web Container step 4 – defined the chart-review.xml context - for details about chart-review.xml context deployment):
	 <Context>
	  <Resource name="jdbc/chartReviewDS"
	    auth="Container"
	    type = "javax.sql.DataSource"
	    username="chartreview"
	    password="passw0rd"
	    driverClassName="com.mysql.jdbc.Driver"
	    url="jdbc:mysql://localhost:3306/chartreview
	    validationQuery="select 1"
	    maxActive="25"
	    maxIdle="3"/>
	 </Context>

2) Get Permissions to add tables to the	ⓘ When ChartReview server initially boots up, it

database.	creates tables in the project database to hold the annotation workflow process tasks, annotations, etc.

4 Setup Web Container

Setup one instance of a web container (i.e. Tomcat) as a service per Chart Review project.

⚠ Note Repeated: Until single sign-on is deployed, there must be one instance of the ChartReview web server (i.e. Tomcat) service deployed per project, because it is the user that launches the web server (i.e. Tomcat) service whose credentials are validated by the project database. This user will need to provide his credentials one time, when setting up the service. Those credentials are then used, even when the service is restarted.

Table 5: Setup Web Container

Item/Action	Description/Result
1) Install Tomcat as a Service (Download and Run the Tomcat Service Installer)	1. Take all defaults 2. Do not launch tomcat service or stop service if started.
2) Edit Tomcat Service Properties (Go to {tomcat dir}/bin/{port}w, right click, and run as administrator to edit the tomcat service properties)	1. General Tab - Set the Startup Type to be "Automatic". 2. Log On Tab - Set Log on as to "This account". Provide the credentials of the project user that can access the project database. The service will be started as this user from now on. The username may be First.Last@va.gov, for example ⚠ Note: This launches the service as the user who has access to the project database. This is an important step; if access errors occur later, double check this setup. 3. Java Tab – Java Options (add the following): -XX:MaxPermSize=256m -XX:-UseConcMarkSweepGC (tells Java not to pause for garbage collection)

	Initial memory pool: 1024 MB Maximum memory pool: 2048 MB;
3) Enable Native Operating System Functions (random, etc.) for performance	1. Put tcnative-1.dll in the tomcat/bin directory.
4) Define the chart-review context	1. Put a chart-review.xml file in tomcat/conf/Catalina/localhost OR 2. Set deployXML="true" copyXML="true" in the attributes of the Host defined in tomcat/config/server.xml and the default chart-review.xml will be copied into the tomcat/conf/Catalina/localhost automatically when the tomcat service is started.
5) Deploy chart-review.war	1. Put chart-review.war in the tomcat/webapps directory – tomcat will explode this war when it is started.
6) Start the Tomcat Service	⚠ If the service does not start, or it starts with errors (see stderr.log or stacktrace.log), edit the database connection information found in tomcat/conf/Catalina/localhost/chart-review.xml and restart the server. The default chart-review.xml may not match your environment.

Glossary

TBD   TBD

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