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Contour 3.4 Installation and Upgrade Guide

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1 Welcome to Contour

CONTOUR 3.4

Production Installation and Upgrade Guide

OVERVIEW

Welcome to Contour.

Jama Contour is designed to provide you and your entire team a centralized, light-weight application for managing requirements. This installation guide is written to help you get Contour installed in either an evaluation or production environments.

Installation is relatively straightforward, but we are happy to remotely install and configure Contour for you if you'd prefer. If you run into trouble, give us a call (Technical Support) at 1-800-679-3058 or support@jamasoftware.com Thanks for choosing Contour. Enjoy the freedom of collaborative requirements management.

503.922.1058 | success@jamasoftware.com | www.jamasoftware.com

2 Production Installation Guide

Administrators Guide to Installing Contour on Production Servers

This guide covers all operating systems and is designed for production installations of Jama Contour. In addition, this guide is appropriate for users wishing to evaluate Contour on Linux, Unix or Mac operating systems.

Other Resources

Windows Trial - If your goal is to quickly evaluate Contour on your Windows (32bit) desktop, we recommend the Windows trial, which includes a self extracting installer available at <http://www.jamasoftware.com/contour/trial.php>

Upgrading - If you have an existing version of Contour and are looking to upgrade please follow the [upgrade guide](#).

2.1 Installation Overview

This installation guide is designed to provide everything needed to get up and running though Contour is an enterprise web-application with multiple supported configurations. If you have questions or run into trouble please contact our support team.

Technical Support

support@jamasoftware.com

1-800-679-3058

Installation Overview

1. Java Installation
2. Apache Tomcat Application Server Installation
3. Database Installation
4. Download, unzip and configure Contour
5. Check system administration settings.

2.2 Production System Requirements

Server Requirements

To install and run Contour, you'll need administrative rights to the computer along with the following:

- Hardware
 - Recent CPU, 2.0GHz or higher.
 - 4-8GB RAM recommended for a production server, 1GB RAM minimum if running locally.
 - 100MB disk space for Contour files, additional space for file attachments.
- Operating System
 - Windows 2000, XP, 2003 Server, 2008 Server, Vista, 7.
 - MAC OS X
 - Linux or UNIX
- Software
 - Java JDK 6.
 - Apache Tomcat 6 Application Server.
 - Database.
 - My SQL 5.0, 5.1 & 5.5
 - Microsoft SQL Server 2005 & 2008
 - Oracle 10
 - HSQL - An embedded database included with the standard Contour package. Not recommended for production environments.

Client Requirements

Contour runs in a standard web browser - no client software is required. For best performance, we encourage using the latest supported browser versions listed:

- Microsoft Internet Explorer 7 / 8 / 9.
- Mozilla Firefox 3.x and above.
- Chrome.
- Safari 6.

2.3 Installation Steps

Installation Steps

1. Download and Install Java Developers Kit (JDK) v1.6
2. Download and Install Apache Tomcat 5.5 or 6.0.
3. Download and install MySQL 5.5, SQL Server 2008, or Oracle 10
4. Download, unzip and configure Contour

64bit installs: We encourage 64-bit installations and strongly recommend installing Java 6 and Tomcat 6. Notes are included within this guide specific to your installation.

2.3.1 Java JDK Installation

Contour is a J2EE application and requires the Java Development Kit (JDK) 1.6. The good news is that [you may already have Java installed](#) – if so, you may skip this; otherwise follow these steps to install Java.

Download and Install Java

The Java installation is very straight forward but finding the download can be tricky. The sun website changes often so you may find that the steps below are not exact. (Here is that support number again... just in case: **1-800-679-3058**)

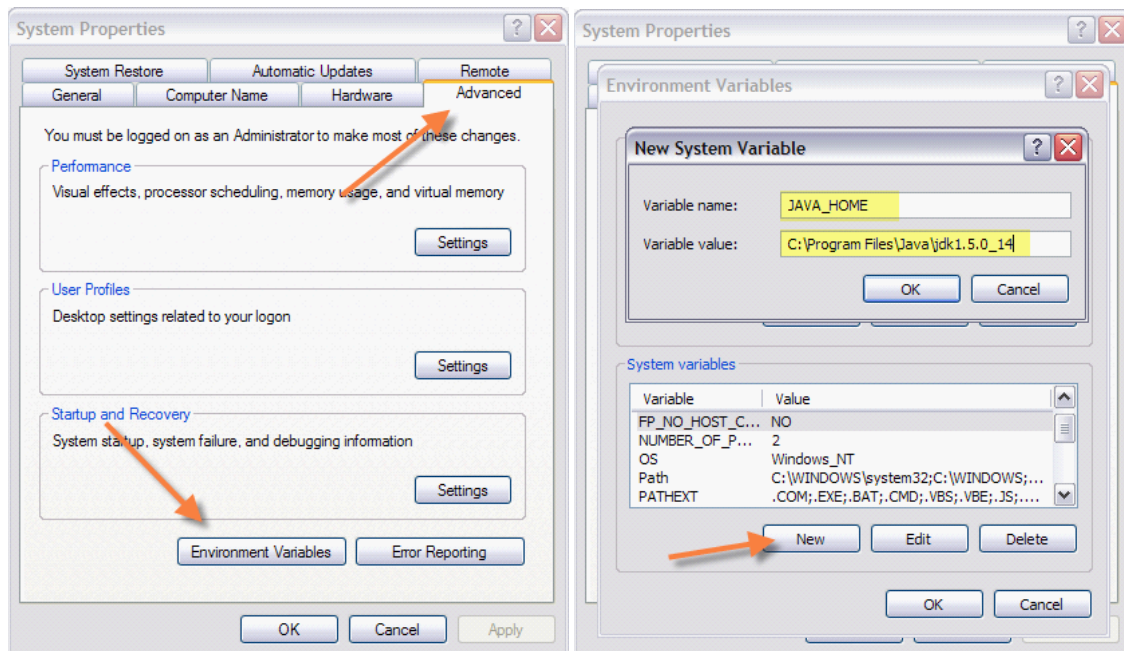
- Download from: <http://java.sun.com/javase/downloads/index.jsp> (If you can't find it do a google search for "Java 1.6 jdk download")
- Select your platform (OS) and language.
64bit systems: You'll want to select the specific 64bit download.
- Check the "I agree to license" checkbox.
- We recommend choosing the Offline installation (if available)
- Install Java on your system.

Set JAVA_HOME SYSTEM VARIABLE

Next, you'll need to create an environment variable that tells Apache Tomcat, the server that is included with Contour, where Java is installed. Unfortunately, Apache can't find Java on its own.

Windows Environments

1. Open your System Properties, press the Windows key + Pause/Break key together OR click Start -> Control Panel -> System.
2. In the left hand pane, select advanced system settings.
3. Select the Advanced tab and click on the Environment Variables button.
4. In the System Variables section, click New.
5. Enter "JAVA_HOME" as the variable name.
6. Enter or paste the path to the root of your java install directory into the Variable Value field the path. Default installations are typically found at "C:\Program Files\Java\{version Name}".
7. Accept the new variable by clicking OK and close the System Properties window.



Linux & UNIX & MAC Environments

Set the JAVA_HOME Environment variable to the path of your Java installation

1. Edit the ".profile" file in your home directory (or corresponding file for your shell).
2. Set the JAVA_HOME environment variable by adding the following line to the file:
"export JAVA_HOME=/Your/Path/To/JavaJDK"
3. Be sure there are no spaces after the end of the directory name.
4. Do not add an extra slash after the directory name.
5. Save changes to the file and run a command script to configure the new environment variables by entering "source .profile".

2.3.2 Tomcat Application Server Installation

This section is for organizations that have opted to install the Contour configuration that does NOT include Tomcat application. For this you will need to download and configure the Apache Tomcat server separately.

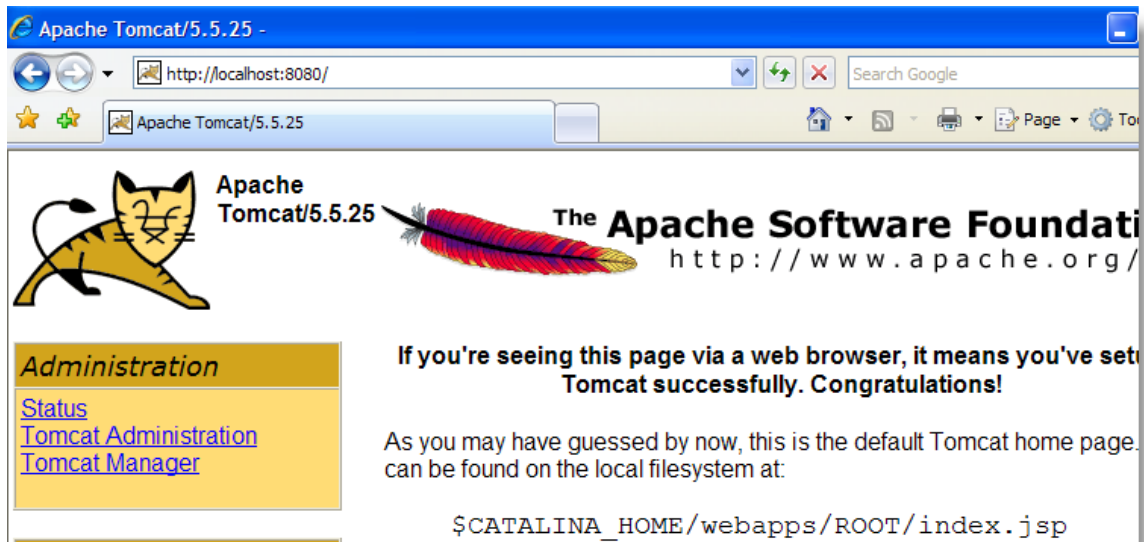
Install Apache Tomcat

1. Download and Install from <http://tomcat.apache.org/download-60.cgi> (Choose from the Core section).

Note: Contour does not currently support Tomcat 7.0

Zip	Tar.gz	Windows Service Installer
<p>For Windows environments</p> <p>Windows 64bit: Select this option</p> <p>Unzip / extract the compressed set of directories to your desired location for Contour.</p> <p>i.e. c:\apache tomcat\</p> <p>To startup Apache Tomcat, locate and run the startup batch file <tomcat dir>/bin/startup.bat</p> <p>When Windows restarts, you will need to restart Tomcat using this script or configure to run at startup.</p>	<p>For Linux, Unix & Mac environments</p> <p>Extract the compressed set of directories to your desired location for Contour</p> <p>To startup Apache Tomcat, locate and run the startup batch file <tomcat dir>/bin/startup.sh</p> <p>When restarting the server, you will need to restart Tomcat or configure to run automatically at startup.</p>	<p>For Windows environments - installs Tomcat as a service which will automatically start Tomcat when Windows starts or reboots.</p> <p>The Apache Tomcat service should start automatically. There is no need to run the startup batch files.</p>

2. Ensure that Tomcat is running properly by opening a web browser to: <http://localhost:8080> and confirm you see the Tomcat welcome page.



Configure Tomcat's memory settings.

Tomcat needs to have its memory settings properly configured so Contour runs smoothly.

Note: Do not copy and paste the following options. Character encoding does not always transfer correctly. Be sure to manually type in all options.

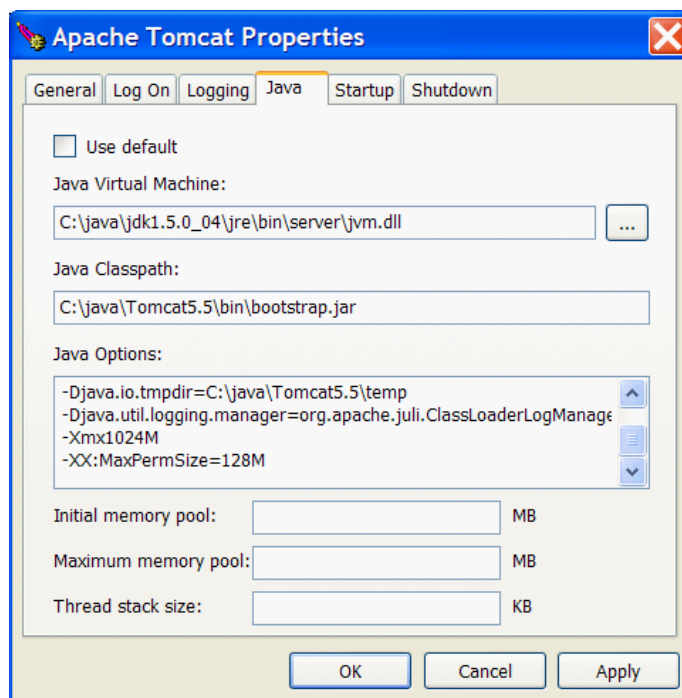
Windows Environments

1. If running Tomcat as a service, Open up the Tomcat Monitor (TOMCAT_HOME/bin/tomcat5w.exe) right click and select run as administrator.
2. Navigate to Configure -> Java -> Java Options and append:
 - "-Xmx1024M"
 - "-XX:MaxPermSize=256M"

64bit: The memory setting is dependent on your available RAM. We recommend maximizing this setting by taking half of what is available. So a 2G system is set to 1024, a 8G could be 4096. The MaxPermSize should stay at 256M.

3. Remove any values entered in 'Initial memory pool' and 'Maximum memory pool' as these will override settings you entered above.
4. Click on OK.

Note: Make sure there are no spaces after each line, otherwise Tomcat will not start.



Configure on Linux / Unix / Mac Environments

1. Set up environment variable CATALINA_OPTS=-Xmx1024M -XX:MaxPermSize=256M.

64bit: The memory setting is dependent on your available RAM. We recommend maximizing this setting by taking half of what is available. So a 2G system is set to 1024, a 8G could be 4096. The MaxPermSize should stay at 256M.

2. Add the following line to .bashrc file in the home directory of the user who runs Tomcat:

```
export CATALINA_OPTS="-Xmx1024M -XX:MaxPermSize=256M"
```

3. Run "% source .bashrc".
4. Restart Tomcat.

2.3.3 Database Installation

Production Installations

For production installations, you'll want to install a supported a database such as MySQL and create a schema for Contour.

Jama supports:

- MySQL 5.0, 5.1 & 5.5.
- Microsoft SQL Server 2005 & 2008.
- HSQL - An embedded database included with the Contour download. Not recommended for production installations.
- Oracle 10.

Contour uses Hibernate which enables support for most all common database platforms. If you are interested in finding out about custom support for other databases, please contact support.

MySQL Installation

MySQL is Jama's recommended database server for Contour.

1. Download and install MySQL 5.5 for your operating system <http://dev.mysql.com/downloads/mysql/>

Note: Contour requires the InnoDB engine to be enabled.

2. Create an empty Contour schema / database. This can be done either from the MySQL command line client or from the downloadable MySQL Administrator. From the command line client after logging in, enter the following statement:

```
create database contour character set utf8;
```

3. Create a user such as "root" or "contouruser" with read/write access to the database contour. The database user and password will need to be used when Contour is configured.

Microsoft SQL Server 2005 & 2008

1. Configure SQL Server 2005 & 2008 for Contour.
 - SQL Server should be operating in the mixed mode for authentication, the option is referred to as SQL Server and Windows Authentication. Microsoft has created a document about how to [change server authentication mode](#).
 - Make sure TCP/IP is enabled for SQL server and you know the port that is configured. The default port is 1433. Here are links to Microsoft documents, [how to enable a network protocol \(TCP/IP\)](#) and how to [configure SQL server to listen on a specific port](#).
 - Create a new login with SQL Server authentication, such as "contouruser".
2. Create a new database called "contour". The name is not important however you will need to

remember it during configuration of Contour if it is different than the default.

3. Add the user you created above, "contouruser", to have db_owner permissions on the new Contour database.

Additionally: Some processes can cause the database to lock users while they are trying to work or log into Contour, perform the following queries to unlock tables permanently:

1. Run the following query (as a user with db_owner role for the database). It will roll back other transactions immediately if there are any.

```
ALTER DATABASE contour SET READ_COMMITTED_SNAPSHOT ON WITH ROLLBACK IMMEDIATE;
```

2. Check to make sure the flag is turned on. 1 means on; 0 means off,

```
SELECT is_read_committed_snapshot_on FROM sys.databases WHERE name='contour';
```

Oracle 10g

1. Install Oracle Server.
2. Download Oracle JDBC driver from: http://www.oracle.com/technology/software/tech/java/sqlj_jdbc/index.html
Note: Please use the latest JDBC driver file: ojdbc5.jar (version 11.2.0.2.0 or above). Tomcat 6 contains an older driver which may cause issues on upgrade. Download the Oracle 11 driver even if you're using Oracle 10.
2. Copy the JDBC driver file into common library folder in your tomcat: "{tomcat}/common/lib".
3. Create a database for Contour, for example "contourDb".
4. Create a user/schema for contour, for example "contour".
5. Grant the following roles to the newly created user "contour".

```
CONNECT  
RESOURCE
```

6. Configure Oracle database during setup:

```
Connection String = jdbc:oracle:thin:@localhost:1521:contourDb
```

```
User = contour
```

```
Password = password
```

Note: If you are moving existing Contour data from another database and using the [XML data import](#), you will need to manually configure the sequence numbers. The default sequence number starts at 1000. After importing data, you will need to query the MAX sequence number and configure it to 1 higher using the following scripts.

```
DROP SEQUENCE HIBERNATE_SEQUENCE;  
CREATE SEQUENCE HIBERNATE_SEQUENCE INCREMENT BY 1 START WITH 1000 CACHE 20 NOORDER
```

2.3.4 Contour Installation

Download Contour Application Software

If you haven't already done so, download the software. If you need the download link please email support@jamasoftware.com or call us at 800-679-3058.

Platform

The windows option is a .zip file while the Mac/Linux is a .gzip file. Select which one best fits your environment.

Unzip download

Note: If you are using the built-in MS Windows unzip tool, make sure you let the unzip process to complete fully before clicking on the Next button. There is a bug within Microsoft's utility that allows you to click Next prior to completion and can corrupt the unzipped files.

Here are some alternative utilities:

- 7Zip For Windows - www.7-zip.org.
- Winzip - www.winzip.com.

Contour Installation

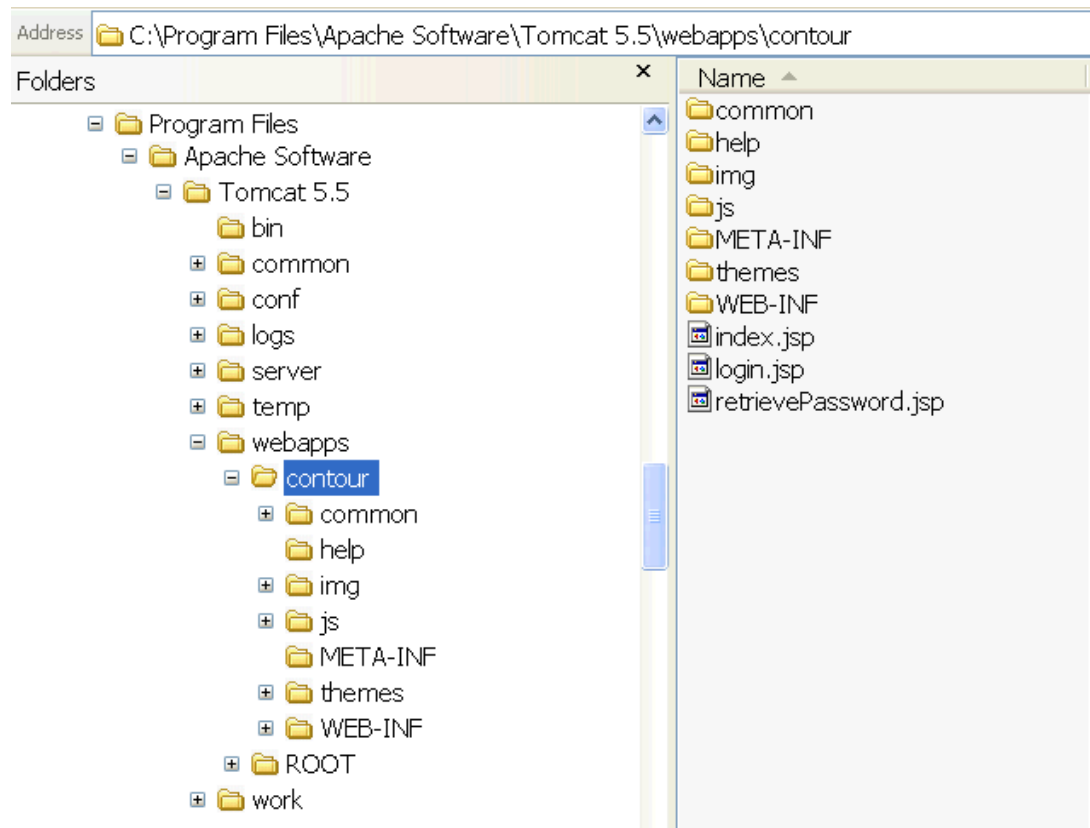
At this point everything is installed that Contour needs. The next steps is to place the Contour application downloaded into the Apache Tomcat webapps directory and start or restart the Tomcat application server.

Find the Contour file that has been unzipped.

Hint: If you unzipped the distribution using the common unzip option that creates a new directory named for the file being unzipped, then make sure you only copy the contents of the unzip directory and not the directory itself. For example: Using the option "Extract to contour\" would result in the directory "c:\contour" being created to contain the contents of the distribution file.

1. Copy the Contour directory (and all sub directories) to your application server under Tomcat's ..\webapps directory.

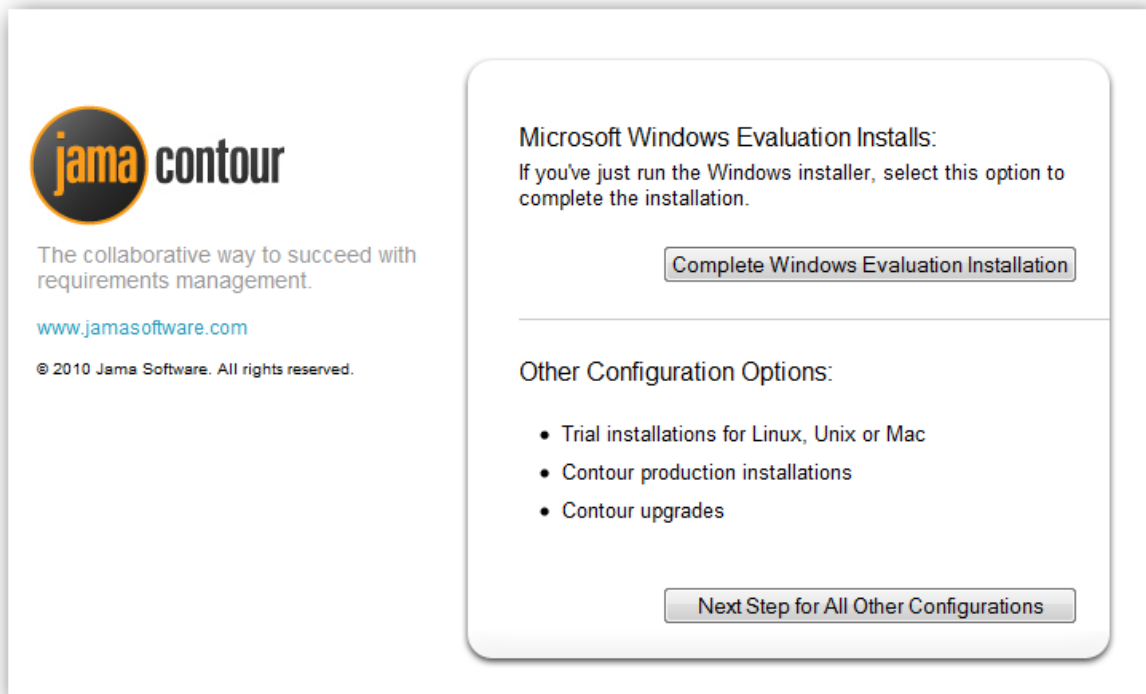
For example: "C:\Program Files\Apache Software Foundation\Tomcat 5.5\webapps\contour"



3. Restart Tomcat.

After Contour has been added to Tomcat and started, open your web browser and enter in <http://localhost:8080/contour> (or the appropriate URL to the server). It may take a minute or two before the Contour configuration page is displayed. If the Contour screens do not show, then check to make sure that the Application server (likely Tomcat) is up running.

In the Other Configuration Options select "Next Step"



jama contour

The collaborative way to succeed with requirements management.

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Microsoft Windows Evaluation Installs:

If you've just run the Windows installer, select this option to complete the installation.

Complete Windows Evaluation Installation

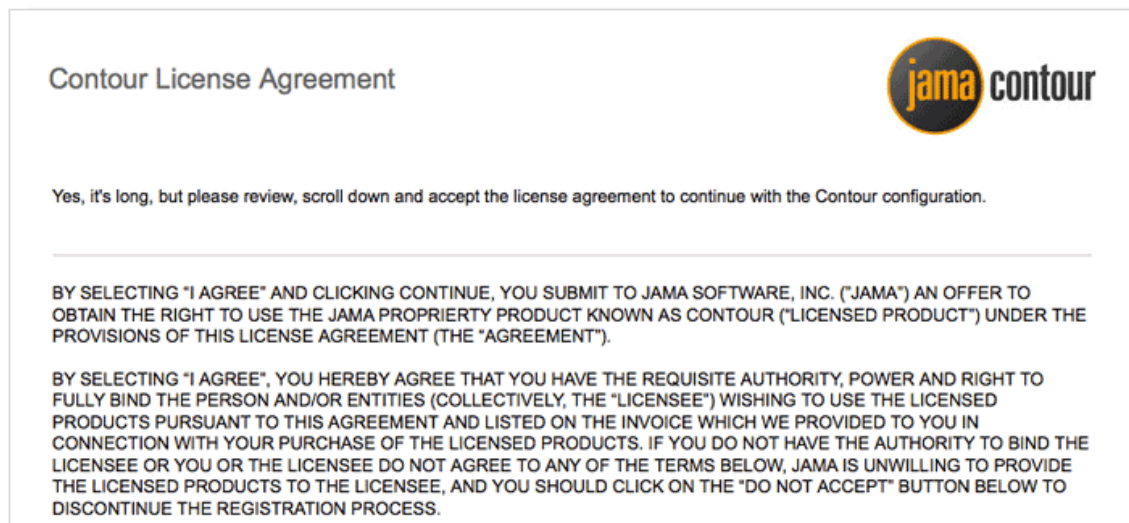
Other Configuration Options:

- Trial installations for Linux, Unix or Mac
- Contour production installations
- Contour upgrades


Next Step for All Other Configurations

License Agreement

Review the license agreement, scrolling down to the bottom of the page and select "Accept" and "Next Step"



Contour License Agreement



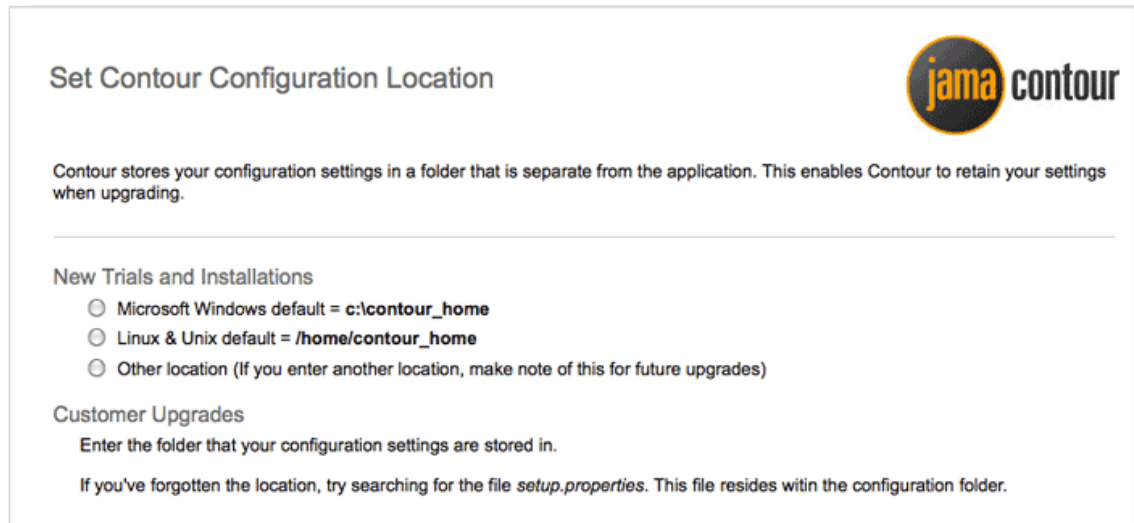
Yes, it's long, but please review, scroll down and accept the license agreement to continue with the Contour configuration.

BY SELECTING "I AGREE" AND CLICKING CONTINUE, YOU SUBMIT TO JAMA SOFTWARE, INC. ("JAMA") AN OFFER TO OBTAIN THE RIGHT TO USE THE JAMA PROPRIETARY PRODUCT KNOWN AS CONTOUR ("LICENSED PRODUCT") UNDER THE PROVISIONS OF THIS LICENSE AGREEMENT (THE "AGREEMENT").

BY SELECTING "I AGREE", YOU HEREBY AGREE THAT YOU HAVE THE REQUISITE AUTHORITY, POWER AND RIGHT TO FULLY BIND THE PERSON AND/OR ENTITIES (COLLECTIVELY, THE "LICENSEE") WISHING TO USE THE LICENSED PRODUCTS PURSUANT TO THIS AGREEMENT AND LISTED ON THE INVOICE WHICH WE PROVIDED TO YOU IN CONNECTION WITH YOUR PURCHASE OF THE LICENSED PRODUCTS. IF YOU DO NOT HAVE THE AUTHORITY TO BIND THE LICENSEE OR YOU OR THE LICENSEE DO NOT AGREE TO ANY OF THE TERMS BELOW, JAMA IS UNWILLING TO PROVIDE THE LICENSED PRODUCTS TO THE LICENSEE, AND YOU SHOULD CLICK ON THE "DO NOT ACCEPT" BUTTON BELOW TO DISCONTINUE THE REGISTRATION PROCESS.

Set Contour Configuration Location

Next, you'll need to select your environment type and enter a directory to store Contour configuration files. This directory is where your unique configuration files and document attachments are stored. Contour will create the directory "contour_home" if it doesn't exist. You'll want to remember this location for upgrades.



Set Contour Configuration Location

Contour stores your configuration settings in a folder that is separate from the application. This enables Contour to retain your settings when upgrading.

New Trials and Installations

- Microsoft Windows default = c:\contour_home
- Linux & Unix default = /home/contour_home
- Other location (If you enter another location, make note of this for future upgrades)

Customer Upgrades

Enter the folder that your configuration settings are stored in.

If you've forgotten the location, try searching for the file *setup.properties*. This file resides within the configuration folder.

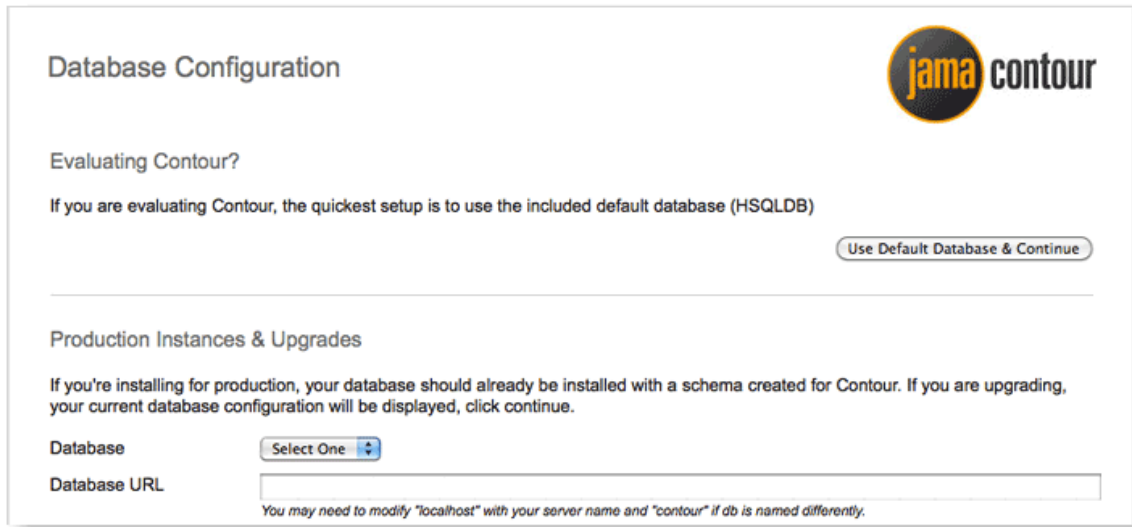
Configure Database

If you are evaluating Contour, click the button Use Default Database & Continue. This will direct Contour to use the embedded database and requires no setup or configuration. If you are using a separate database you will need to configure it here. These steps assume that the database is already installed. If it is not please refer to the [database installation](#) section.


1. Select your database, such as MySQL, from the drop down list.
2. Contour will populate the database URL. Depending on the database configuration, you may need to change the database location or name.

Hint: In the screenshot below, the term "localhost" in the Database URL directs Contour to look for the database on the same server as the Application server. If your database is located on a different server it will be indicated here.

3. Enter the database user name configured during the database installation such as "root".
4. Enter the database user's password.
5. Click on the Continue button.



Database Configuration



Evaluating Contour?

If you are evaluating Contour, the quickest setup is to use the included default database (HSQLDB)

Production Instances & Upgrades

If you're installing for production, your database should already be installed with a schema created for Contour. If you are upgrading, your current database configuration will be displayed, click continue.

Database

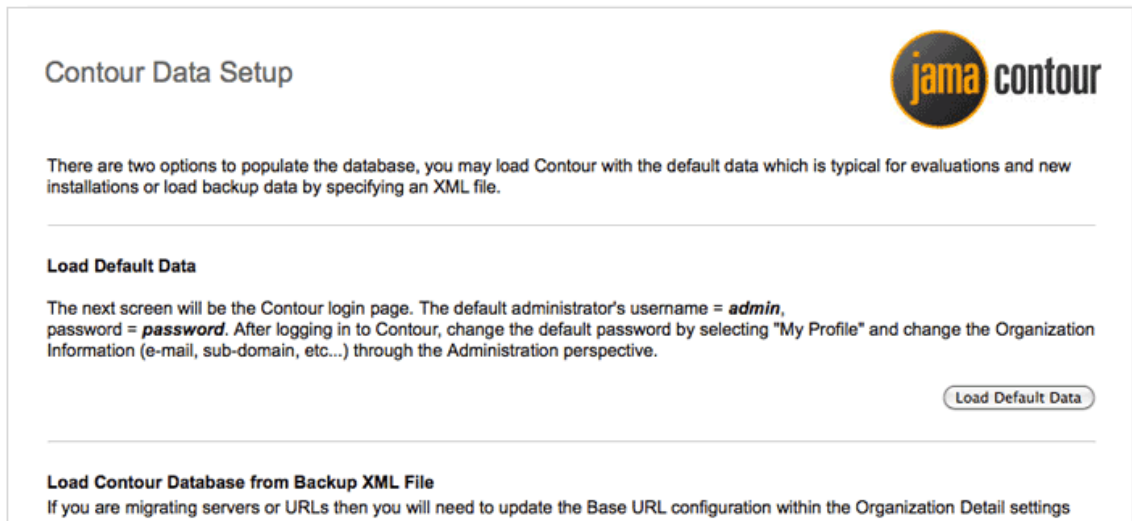
Database URL

You may need to modify "localhost" with your server name and "contour" if db is named differently.


Populate Database

There are two options to load the database, either with the default data provided by Jama or with data from backup file. New installations should click on Load Default Data and Proceed to Login. If you already have a populated Contour database available from a prior Contour installation then refer to the [Configure](#) section available in the Upgrade guide.

1. Determine the location of the backup file.
2. Browse to the location and selected the file or enter in the location when the file is backed up to the Contour server.
3. Click on Load Backup Data and Proceed to Login.



Contour Data Setup



There are two options to populate the database, you may load Contour with the default data which is typical for evaluations and new installations or load backup data by specifying an XML file.

Load Default Data

The next screen will be the Contour login page. The default administrator's username = **admin**, password = **password**. After logging in to Contour, change the default password by selecting "My Profile" and change the Organization Information (e-mail, sub-domain, etc...) through the Administration perspective.

Load Contour Database from Backup XML File

If you are migrating servers or URLs then you will need to update the Base URL configuration within the Organization Detail settings

Log In

The Contour login screen will be displayed. To login, the default administrator username and password are:

- User = admin
- Password = password

After logging in, make sure to change the admin user's password by clicking on the My Profile link available in Contour's header.

Congratulations - Install is completed!

2.3.5 Post Installation

The production installation and upgrade guide provides guidance with the Contour server setup and management. Post installation, users will need to begin configuring Contour, modifying organization details, changing authentication methods, creating xml backups, and other features found in the System Administration area.

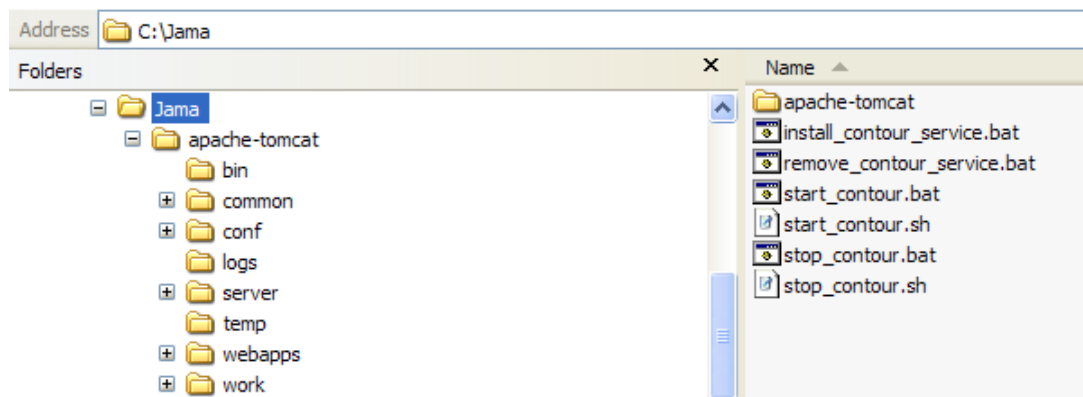
Once Contour is successfully installed be sure to log in to the System Administration and verify your setup is correctly represented in the system information tab.

2.4 Appendix

2.4.1 Uninstalling Contour

To uninstall Contour:

1. Navigate to your Contour directory and execute the file "remove_contour_service.bat".



2. Delete the Contour directory.
3. If you do not intend to reinstall Contour on this machine and want to completely remove all parts

of Contour then delete your Contour home and backup directories if stored in a different location such as "c:\contour_home".

2.4.2 Backing up Contour

We strongly recommend implementing an automated backup solution. The following should be backed up on a regular basis:

1. Database.
2. Contour home configuration directory, the default for Windows is "c:\contour_home".
3. Keep a copy of your custom reports in a separate version control system.
4. Keep a copy of any modified files such as custom email and notification templates, custom rich text editor settings, or custom session settings.

Backup Contour Database

It just takes a few minutes, so we recommend backing up both the database as well as creating an XML backup file.

- **Database** - Make sure you have a current backup of the Contour database using either your automated backup scripts / enterprise backup application / manual backup using your favorite database utility.
- **Database XML File** - We also recommend logging in as root (system administrator) and selecting Tools -> Backup Database and saving the XML backup file in a safe location. This XML file is most useful for migrating between different databases, but can also be used as a backup.

Backup Contour Home Folder

Make a copy of your Contour home folder. This is the location you specified in the first configuration web page when installing Contour. This is a different location from the application server where Contour is installed.

For example, we recommended a location of "c:\contour_backup" for Windows environments.

Backup any Edited Configuration Files

If you've edited any of the configuration files such as the server.xml, web.xml, notification templates, or other files, keep a copy of this file in a safe location so you can copy back after the upgrade. Changes to these files include modified notification messages or specific setting changes such as reducing the time for a floating license session to expire.

These are files modified within the Contour webapp '..\webapps\contour\..'.

Backup Custom Report Files

If you've created any custom report files, you'll want to keep a copy of these outside the \contour folder. The report entries will be retained, you'll just need to copy back the .rptdesign files after the upgrade.

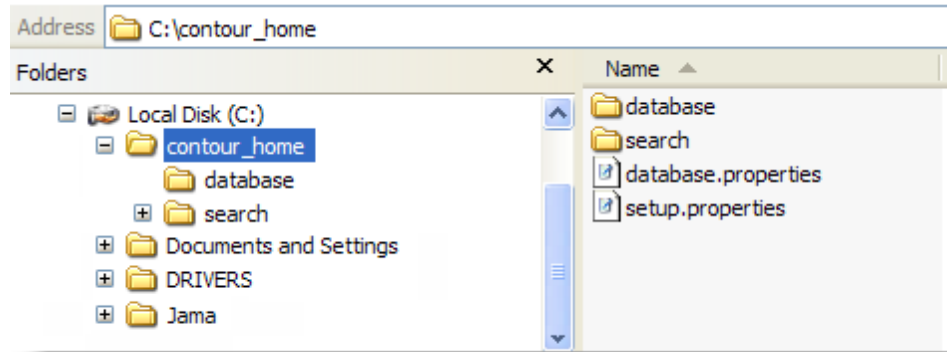
It may be easiest to backup the entire Reports directory "...\webapps\contour\WEB-INF\reports" however you'll likely only want to restore those reports that your organization has created or altered. We occasionally update our default group of reports in response to customer suggestions and we believe

that you'll want to get those updates as well.

2.4.3 Re-run Web Setup Screens

How do I reconfigure Contour or rerun the database configuration screens?

1. Locate your Contour home directory and either delete the file `setup.properties` or edit the file and change the variable `contour.setup` from true to false. The default Contour home directory is "contour_home".



2. [Restart your Application](#) server (likely Tomcat).
3. Open your web browser to Contour URL. If already open then use the browser refresh button.

2.4.4 Resources

Once you're up and running, we encourage you to give us a call to walk through configuring Contour to fit your team's environment. You can reach us for the US 9:00 AM to 5:00 PM PST at (800) 679-3058 and from Europe 9am - 5pm GMT at +44 (0)1926 410656. We are also available at support@jamasoftware.com.

Visit the Support and Community collaboration site – <http://support.jamasoftware.com>.

Support Contacts – <http://www.jamasoftware.com/support>

2.4.5 How do I know if Tomcat is installed?

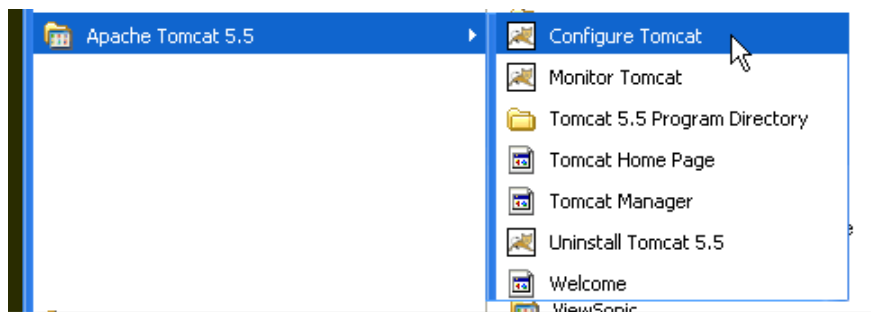
You may already have Tomcat installed. It's worth checking because you can't run two at the same time without some crazy configuring of Tomcat. Tomcat could be installed in different places depending on how the installation was done but there are a couple of places to check.

Here is a list of ways to check

Location

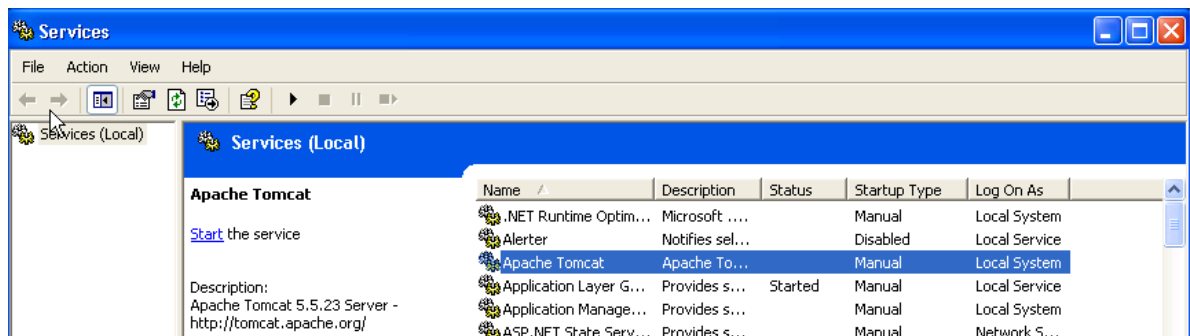
The default installation is C:/Program Files/Apache Foundation/Tomcat

Start program files



Services

Start --> Control Panel --> Administrative Tools --> Services



2.4.6 How do I know if Java is installed?

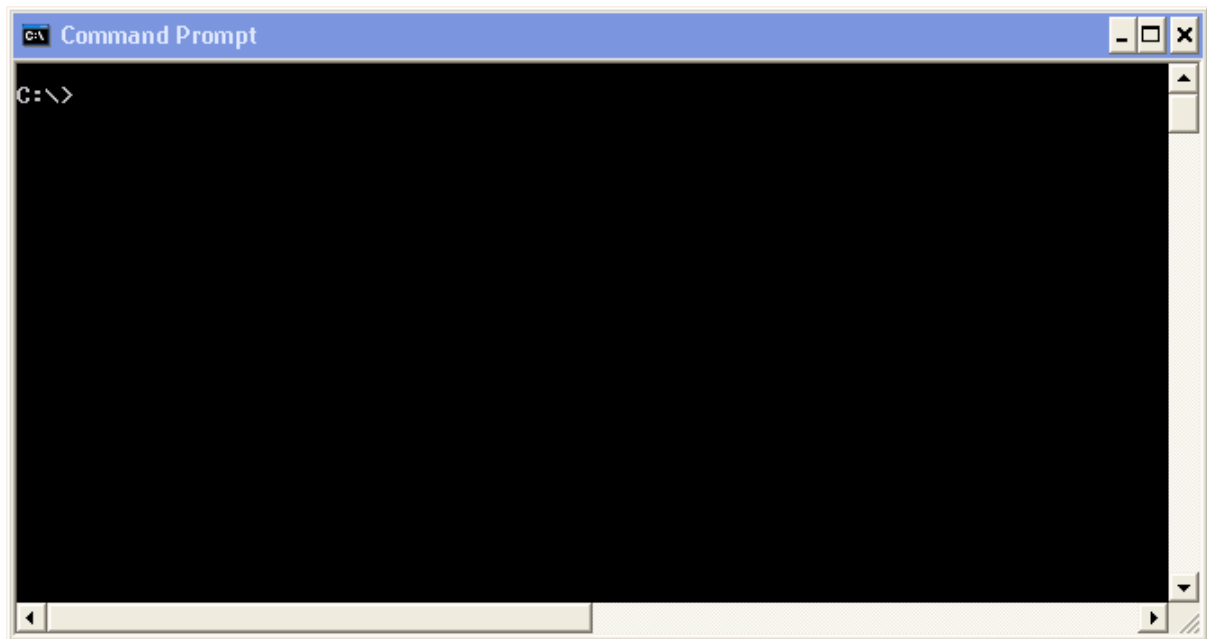
Contour and the Apache Tomcat web server is based on Java. Before you install Java it may be worth checking to see if it is installed. Note that installing Java again will not mess anything up.

In Windows, open a command prompt window:

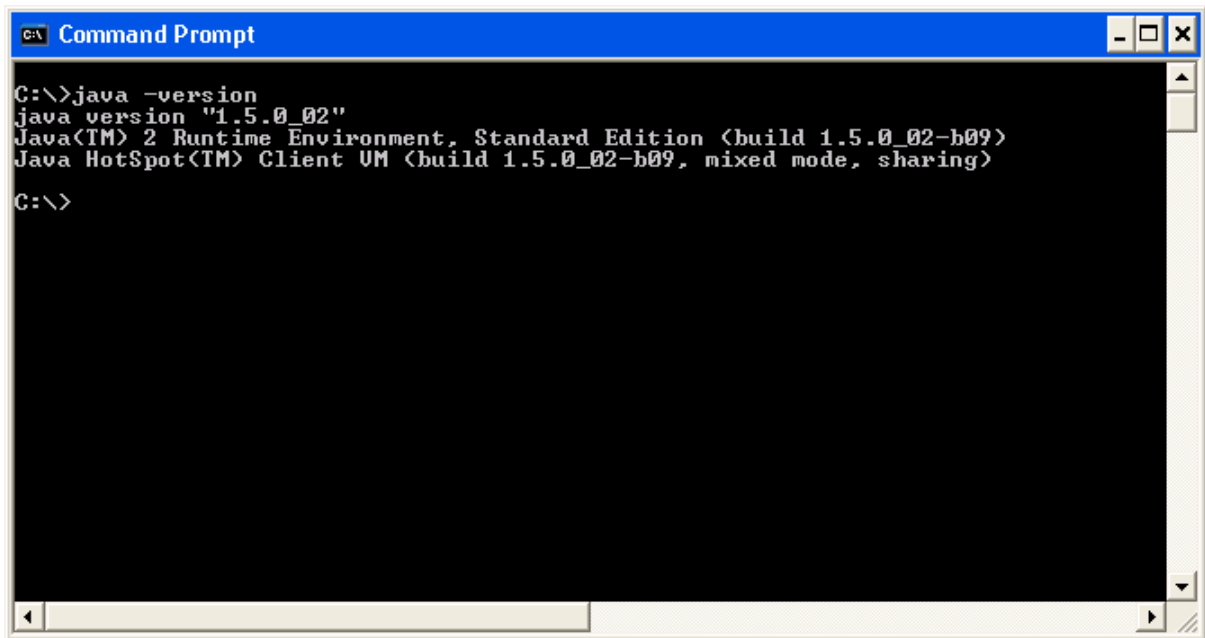
Start --> Run --> "Cmd" and hit enter

Note: For Mac OS and Linux installations, open a terminal window

You should end up with this window or something close.



At the prompt type `java -version`



```
C:\>java -version
java version "1.5.0_02"
Java(TM) 2 Runtime Environment, Standard Edition (build 1.5.0_02-b09)
Java HotSpot(TM) Client VM (build 1.5.0_02-b09, mixed mode, sharing)

C:\>
```

If you see this you are in good shape. The actual version number may be greater than what you see here. (1.6.x)

2.4.7 Running on a Apache Proxy Server

Apache Proxy server will need to have the following setting for Contour to work properly:

```
ProxyPreseverHost On
```

3 Upgrading Contour

These instructions are for upgrades only. If you are new to Contour, you'll want to follow the [installation guide](#).

Note: Please consult the [Release Notes](#) for specific information on the latest changes in Contour. The release notes contain a general overview of new features, system functionality that is changing, a list of fixed defects, and/or other informative notes.

Now, let's [Get Started!](#)

3.1 Getting Started

Download and unzip the distribution file (NOT the file with Tomcat) into a temporary location. Windows users should check that their distribution file's extension is ".zip" while Linux/Unix/Mac should have a file with the extension "tar.gz".

If you are using the built-in MS Windows unzip tool, make sure you let the unzip process fully complete before clicking on the Next button. There is a bug within this utility that allows you to click Next prior to completion and can corrupt the unzipped files. Contact us if you need the link to download the application files.

Here are some alternative unzip utilities:

- www.7-zip.org – Recommended
- www.winzip.com

Migrating a Contour Installation - moving from an evaluation to production environment

A quick note on the Contour application that comes with Tomcat already bundled. This is useful in getting people up and running quickly, however it is recommended if you are running Contour in a production environment to migrate to an Application server that was installed independently from Contour. We still recommend Tomcat, and there is very little difference between the one included in the download and what you'd get downloading and installing separately, but having it installed manually gives you more control over server management.

Here are the steps to making the move:

1. [Backup](#) any necessary Contour resources. If you are also moving to a new database then please review the section on [restoring the database from XML](#).
2. [Uninstall Contour](#). This will remove the Windows service if installed and direct you delete the application directory. The suggested directory was "C:\Program Files\Contour". Do not remove the Contour home directory "contour_home" that contains the system configurations since these will be reused with the new install.
3. Complete the instructions to [install an Application Server](#).
4. To reinstall Contour you will likely be able to follow the [upgrade instructions](#) when the Application server is located on the same machine as the original Contour installation. If it is a different server then you should reference the steps for [installing Contour](#).
5. When you keep the prior install's database, then the database.properties file available within the existing contour_home directory will take care of configuration.

3.2 Upgrade

Backup Contour Resources

Before you begin the upgrade process we recommend [backing up Contour](#).

Stop Apache Tomcat

The steps to shut down Tomcat is the same whether you installed it packaged with Contour or separately. Only the name of the service might be different.

1. Make sure that the users of any other applications that rely on this Tomcat server are aware that you will be shutting down the server to upgrade Contour.
2. Windows users should open the Administrative Tools -> Services. Linux/Unix/Mac users will stop the server via the terminal or Services Manager.
3. Find either a service with the name Tomcat, Apache Tomcat or Contour.

Note: If there are multiple instances of the listed names and you are unable to determine which server Contour is working with please contact your administrator or contact [Jama Support](#). If you do not have

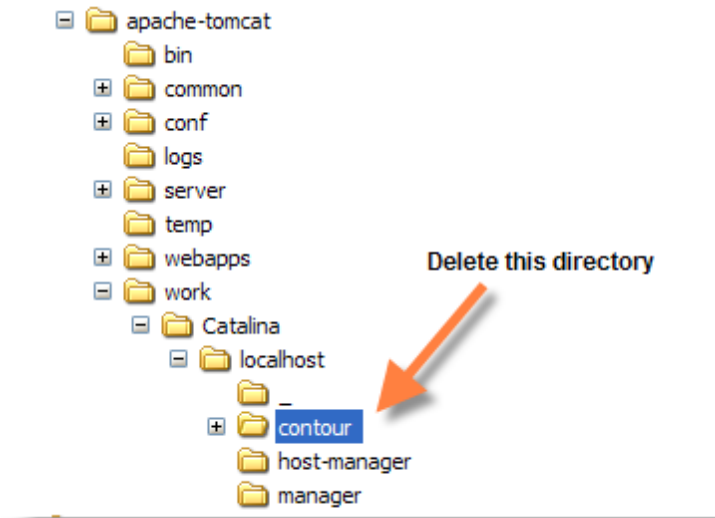
any references to Tomcat or Contour then it is likely that Contour was not installed as a service and Tomcat is not running and you can proceed.

4. Stop the server.

Delete the cache directory

Tomcat caches files to help performance. To ensure that Tomcat is using the latest Contour files the cache needs to be deleted.

1. This file is located in Tomcat's cache directory for Contour.
`/TOMCAT_HOME/work/Catalina/localhost/contour`
2. Delete the directory titled "contour" within the parent directory. Tomcat will recreate this upon restart.



Hint: If you are unable to delete the cache directory then Tomcat is still running.

Delete the Contour index directory

Contour indexes data to improve performance. Delete this index ensure a clean new index during startup.

1. Stop the application server (Apache Tomcat) if it is not already stopped.
2. Locate the directory "Search" within your existing Contour home directory.
3. Delete the "Search" directory.

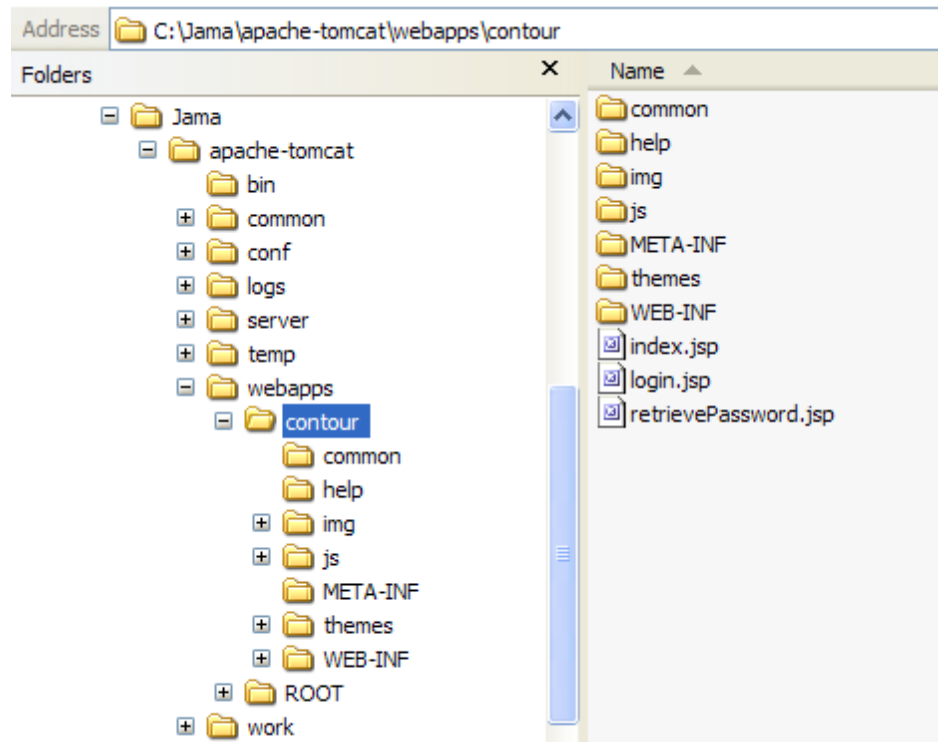
Upgrade Contour

Replace the Contour folder that exists in Tomcat's `/webapps` folder with the newly downloaded and unzipped folder.

1. You can back up the old Contour directory if you'd like, but make sure you move it out of the `webapps` directory completely. Just renaming the directory to something like "contour_old" is not enough.

Note: It's important that you don't end up with two instances of Contour under the webapps directory even if named differently. While it is possible to run two instances of Contour under one server there are additional considerations. Feel free to contact us if this is desired.

2. Move the newly contour directory extracted from the .zip to the /webapps directory. It is a good idea to make sure there isn't a Contour directory within the /webapps directory first since copy and replace may leave files behind that are not needed with the latest release.



Replace Custom Files and Reports

If you have custom report files, or any customized files, copy these back to their location within the / contour application folder.

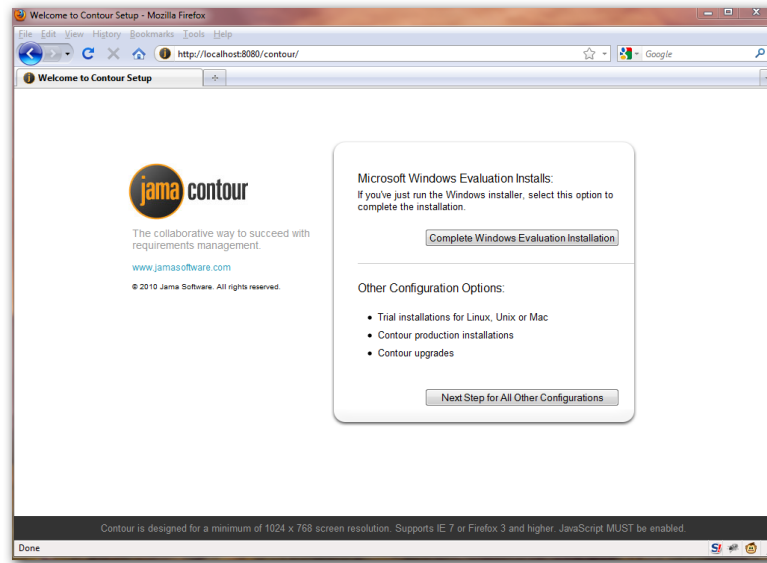
Start Application Server

You are done with moving files. On to configuring your new Contour release.

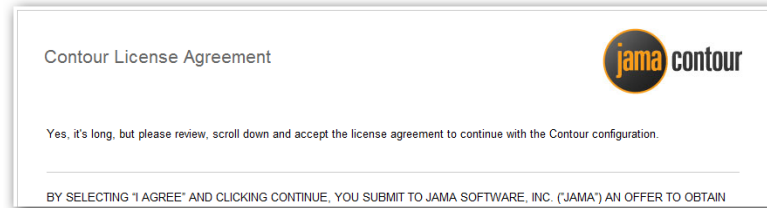
3.3 Configure

Open your browser to <http://localhost:8080/contour> (assuming the default port)

1. The first screen allows you to begin your upgrade.



2. The next screen displays the Contour license agreement; review and accept.



3. From the Set Contour Configuration Location screen, enter the location for your contour configuration home directory. This is likely "c:\contour_home" and was specified when you originally setup Contour.

Set Contour Configuration Location

Contour stores your configuration settings in a folder that is separate from the application. This enables Contour to retain your settings when upgrading.

New Trials and Installations

- Microsoft Windows default = c:\contour_home
- Linux & Unix default = /home/contour_home
- Other location (If you enter another location, make note of this for future upgrades)

Customer Upgrades

Enter the folder that your configuration settings are stored in.

If you've forgotten the location, try searching for the file *setup.properties*. This file resides within the configuration folder.

Customer Re-configuration

If you are reconfiguring contour, the folder location is auto-populated.

- I'm Reconfiguring Contour

Contour configuration folder location:
E:\Program Files (x86)\Contour\contourHome

Next Step

- Contour will display the current database configuration, no changes are needed. Click on the continue button to proceed.

Database Configuration

Evaluating Contour?

If you are evaluating Contour, the quickest setup is to use the included default database (HSQLDB)

Use Default Database & Continue

Production Instances & Upgrades

If you're installing for production, your database should already be installed with a schema created for Contour. If you are upgrading, your current database configuration will be displayed, click continue.

Database: HSQL

Database URL: jdbc:hsqldb:file:E:\Program Files (x86)\Contour\contourHome\database\contour
You may need to modify "localhost" with your server name and "contour" if db is named differently.

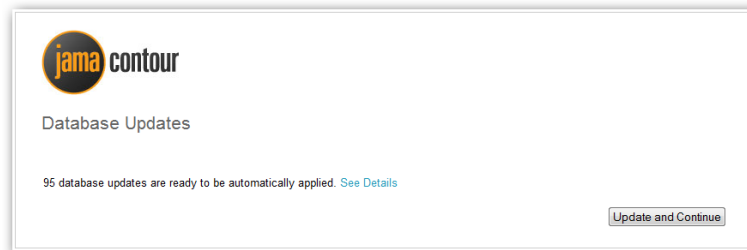
Database User Name: sa

Password:

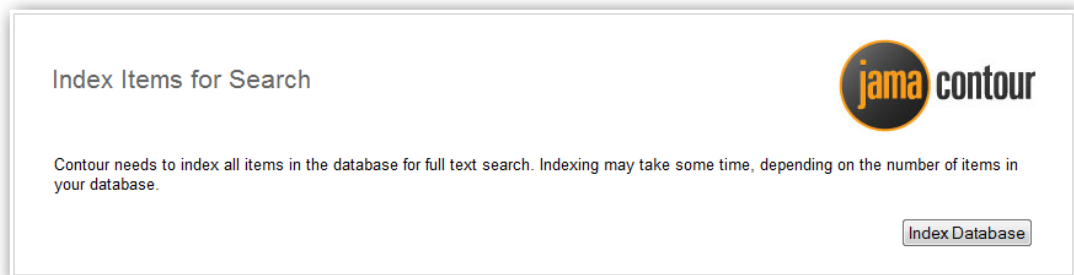
Next Step

Note: If you don't see your correct database information, it's likely you didn't specify the correct contour home folder location as your previous installation. You can use the browser's back button to confirm it is set correctly.

- Contour will now update your database with any patches. If you are curious about what is going on click on the Show Details button for a peek.



6. Click on Index Documents which may take several minutes depending on the size of your database and number of file attachments. This task can also be performed by logging in as the system administrator (root user).



Congratulations - Upgrade is completed!

3.4 Restore Database from XML

If something didn't work as planned, or you wind up moving servers or changing the contour_home location, you may need to use the backup XML file to populate your database.

Before you do this, you'll need to delete the old database and create a new empty database to receive the backup data.

HSQL Embedded Database

1. Locate the database directory (the database is file based) within your Contour configuration location.

For example, c:\contour_home\database.

2. Make sure the database directory is empty or deleted so that when you re-run the Contour configuration it will create the new database and populate it with backup data.

Hint: We recommend moving the entire database folder to a backup location. You can delete it if you are confident you don't need your data or have other backups.

MySQL, SQL Server 2005 & 2008, or Oracle 10g

From your database's admin tool:

1. Rename or drop the Contour database
2. Create an empty Contour database.

If you are unsure about any of these steps please revisit the steps to [install a database](#).

MySQL Command Line

MySQL command line client the following commands can be used:

```
DROP DATABASE CONTOUR;  
  
create database contour character set utf8;
```

4 Rally Connector



The Rally Connector helps bridge the gap between product teams and stakeholders working in Contour and development teams working in Rally. Author, relate, collaborate and report on high level requirements in Contour before passing them to Rally to be estimated, tasked out and assigned to a release!

4.1 Getting Started

Overview

The Rally Connector is a behind the scenes job that runs based on a schedule defined by the administrator. When the job runs it looks for items in Contour that match the synchronization criteria specified by the administrator and for each item either creates a new associated item in Rally or Contour or synchronizes an existing one based on previous synchronizations.

Common use cases for the Rally Connector

Contour to Rally

Product teams love Contour for its ease of use and intuitiveness when authoring requirements. For agile teams, these requirements may be in the form of epics and stories and they can author, relate, review, gain approval and create high level reports around these items in Contour. Once the stories are approved and ready for development, the connector will pass them over to Rally where the development team can further decompose them, assign estimates and plan for a release. The estimate, planned release and status of the item in Rally can all be passed back into Contour so the product teams and management are kept up to date.

Rally to Contour

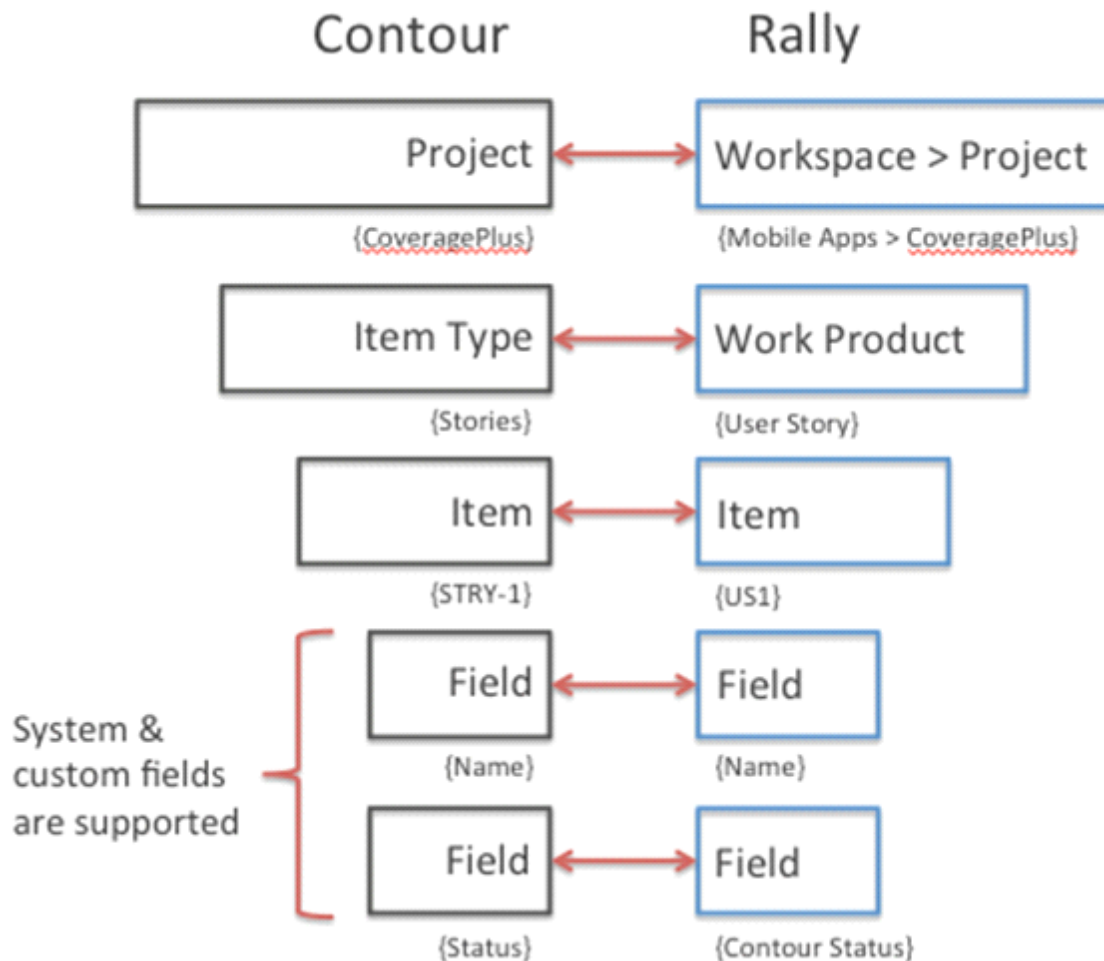
Contour's Review Center is a perfect complement to Rally. If a team working in Rally wants to discuss, review, approve and track decisions related to their user stories, the connector can pass these into Contour where collaboration around them can occur in Review Center. Status updates on the items can be passed back into Rally so the teams there know when consensus has been reached or a decision has been made so that development work can progress.

How long will it take to setup?

30 Minutes for the initial configuration. Each additional item type or location mapping should only take 5-10 minutes.

How customizable is the synchronization?

The connector is very flexible and the diagram below provides an example of a single synchronization definition. The connector allows you take any Contour item type (epic, story, requirement) and use it to create a user story in Rally. Rally supports multiple "work items" (user stories, test cases, defects, tasks) but the connector currently only integrates with user stories. As you can see, individual fields on the Contour item are mapped to individual fields on the Rally user story and for each field you can define which direction to synchronize. For more details on the mapping rules see the [field mapping section](#).



4.2 System Set up

In order for the synchronization to work there are some important pre-configuration steps. This document assumes the following versions or greater are installed.

- Contour 3.4 or above.
- Rally API version 1.27 or above.

4.2.1 Contour Pre Configuration

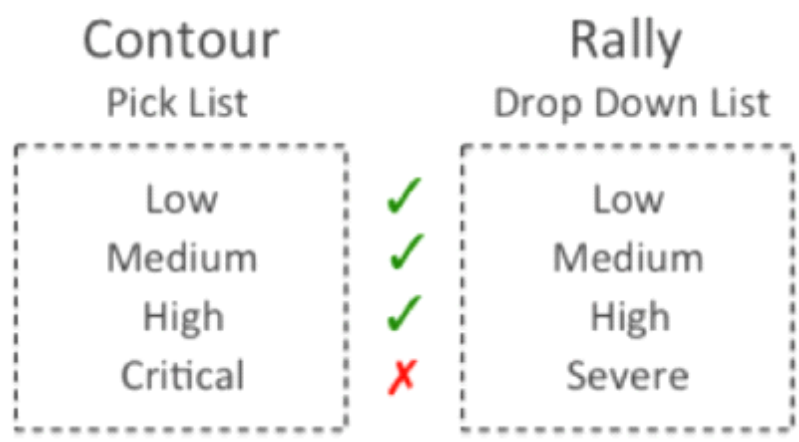
This section will help guide you through the necessary pre-configurations in Contour.

License

The Rally Connector requires an additional license to be activated. Please contact sales@jamasoftware.com to request a trial license. The Rally Connector is activated by default for evaluations.

Pick Lists

"Pick Lists" in Contour and "Drop Down Lists" in Rally are synchronized based on string equality. In the diagram below a Contour Pick List and a Rally Drop Down List contain the same values except for Critical vs Severe. During synchronization these values will not update in either direction. The synchronization job will log a warning message in the log file when it fails to match a value.



Field Mapping Recommendations

There are several Rally fields that are useful to track in Contour. In order to synchronize these fields they need to first exist in Contour. When the connector is activated for a given item type, three fields will automatically be added to your Contour items.

- **Rally Key:** This is the "Formatted ID" from Rally. These are unique per Rally workspace (ie: US27).
- **Rally URL:** This is the link to the individual Rally item.
- **Last Updated in Rally:** This is the date the item was last modified in Rally.

All three of the above fields will be "read-only" in Contour and will only be updated one-way, from Rally into Contour. There may be other fields you want to pull from Rally and into Contour. You will need to manually create these as custom fields in Contour before they can be mapped to Rally. Some examples:

- **Rally Status:** The Rally status field is specific to Rally and is used as part of it's workflow process. The status values should not be updated from Contour. However, it is useful to have the status of the Rally item reflected in Contour for visibility into the development process. In Contour, add a new text field (string) called "Rally Status".
- **Assigned to:** This is another example where it makes sense to have each system manage its own field. We recommend creating a new text field (string) called "Rally Assignee" in Contour.
- **Release:** Releases in Contour and Rally can also be mapped. If the releases match exactly, and either system can update them, one field can be synchronized between the two systems. Otherwise, send the Contour release to a custom Rally field and the Rally release into a custom Contour field. This would be useful if your product team in Contour sets a "target release" but then your development team in Rally sets an "actual release" and you want to track both. In this case, create a custom text field (string) in Contour called "Rally release".

4.2.2 Rally Pre-Configuration

Before the Rally Connector can be activated in Contour it will be necessary to do some pre-configuration in Rally.

Enable Web Services

The Rally web services API must be enabled to allow the connector to function.

1. From within Rally navigate to Setup > Subscription.
2. Ensure that “Web Services Enabled” is set to true.

Field Mapping Recommendations

There are several Contour fields that can be useful to track in Rally. In order to synchronize these fields they need to first exist in Rally. Note that custom fields in Rally are workspace specific, so you will have to create them in each workspace that the connector will be integrating with. Here are some recommended fields to create in Rally:

- **Contour ID** – The Contour item ID (eg: CP-REQ-7) can be mapped to a custom field in Rally. Create this field in Rally using the “string” field type.
- **Contour URL** - A direct link to the Contour item can be mapped to a custom field in Rally. Create this field in Rally using the “string” field type (not “web link”).
- **Assigned to:** We recommend creating a new text field (string) called "Contour Assignee" in Rally. This will allow Rally users to see who is responsible for the Contour item. The same can be done for “Contour Creator”.

4.3 Synchronization Configuration

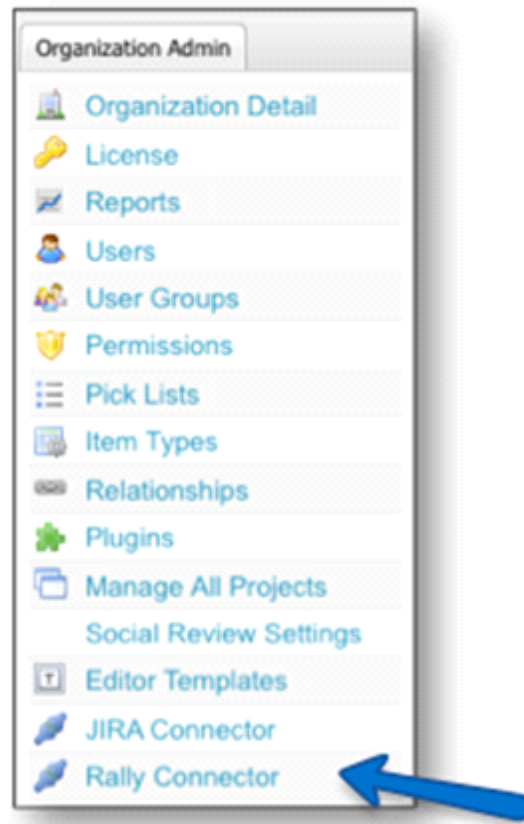
This section will walk you through configuring the Rally connector in Contour. The basic steps are:

1. [Create a Connection](#) - This is the connection between your Rally and Contour environments.
2. [Map a Project](#) - Multiple projects can be synchronized.
3. [Map an Item Type & Location](#) - Multiple item types and locations can be synchronized for each project.
4. [Map Fields](#) - For each item type & location mapping, fields can be individually synchronized.

4.3.1 Create a Connection

The connection points Contour to Rally so the two applications can communicate.

1. Select Rally Connector Note: If you don't see this link you will need to install the Rally Connector license. Contact sales@jamasoftware.com for a trial.



2. Click on the Edit Settings button.

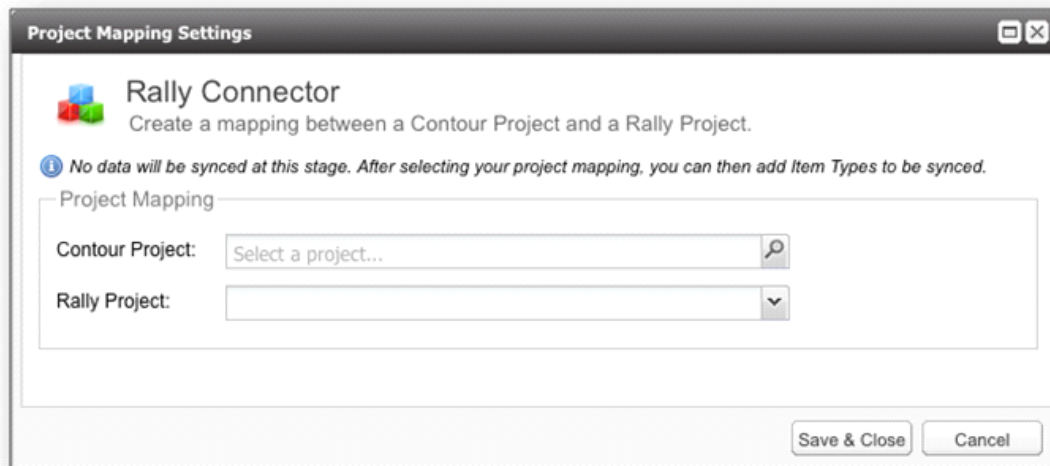
Rally URL	This is the URL used to access your Rally instance.
Rally User	The Rally user that will be associated to the actions the connector takes in Rally. This user must have administrator access to the workspaces in Rally that you will be integrating with.
Rally Password	The password for the specified Rally user.
Contour User	The Contour user that will be associated to the actions the connector takes in Contour. This user must have organization admin permissions or the job will not run and will be removed from the schedule with appropriate message in log file.
Synchron	There are two options for defining the schedule.

ization Schedule	<p>1. Simple Scheduling is an interval defined in minutes. We recommend timing to be as infrequent as seems feasible.</p> <ul style="list-style-type: none"> • 60 minutes (1 hour) is good if you need frequent updates. • 720 minutes is a 12 hour interval which ensures the synchronization happens at least daily (the advanced options below allow for more control on the timing). <p>2. Advanced Scheduling allows the use of a cron string to specify complex scheduling. Example cron strings:</p> <ul style="list-style-type: none"> • "0 0 12 * * ?" Launch at 12pm every day. • "0 0/5 14 * * ?" Launch every 5 mins starting at 2pm and ending at 2:55pm, every day. • "0 15 10 ? * 6L" Launch at 10:15am on the last Friday of every month.
Enable Synchron ization	Ensure that "Synchronization enabled for this organization" is selected. This will allow the connector to run in the background at the pre-defined schedule.
Test Connecti on	Click this to test your connections settings.

4.3.2 Map a project

Once a connection has been established the option to synchronize a project will be available.

1. Click on the Add Project Mapping button.
2. Select the Contour Project and the corresponding Rally Workspace & Project combination.



3. Click the Save & Close button. You should now see the mapped project.

The screenshot shows a table titled "Mapped Projects" with a header row and one data row. The header row has columns for "Contour Project", "Rally Project", "Sync", and "Actions". The data row shows "CoveragePlus" mapped to "Workspace 1 : Widget Pro" with a sync status of "✓" and actions "Stop Sync | Delete". An "Add Project Mapping" button is visible in the top right corner.

Contour Project	Rally Project	Sync	Actions
CoveragePlus	Workspace 1 : Widget Pro	✓	Stop Sync Delete

4.3.3 Map an Item Type

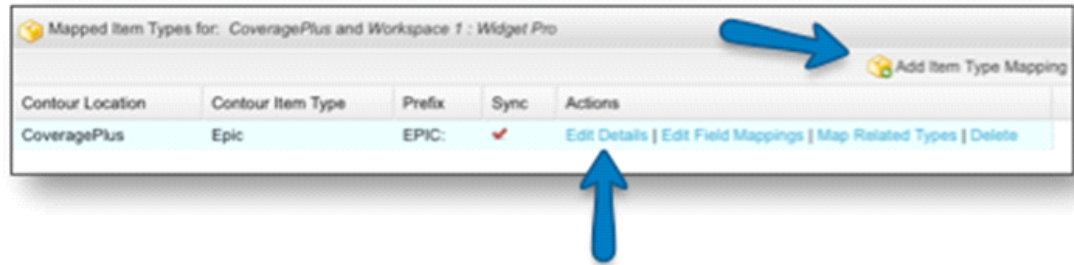
Once the projects have been mapped, you can map individual Contour item types to the Rally user story work item.

1. Click on the row that contains the target project:

The screenshot shows the same "Mapped Projects" table as above, but with a large blue arrow pointing upwards to the "CoveragePlus" row, indicating it is the target project for the next step.

Contour Project	Rally Project	Sync	Actions
CoveragePlus	Workspace 1 : Widget Pro	✓	Stop Sync Delete

2. Click on the Add Item Type Mapping button. To edit an existing mapping, click on the “Edit Details” link available in the appropriate row:



3. Enter or update the mapping settings:

Item Type Mapping Settings
? □ ×

Rally Connector

Create a mapping between a Contour Type and a Rally Type.

Map Contour Type to Rally Type

Contour Location:

CoveragePlus

🔍

Contour Type:

Epics

▼

Synchronize Comments:

Bi-directional

▼

Items Sent from Contour to Rally

Do not send items from Contour to Rally

Send all items of this type

Send only items that match this search query:

status:approved

Enable this mapping

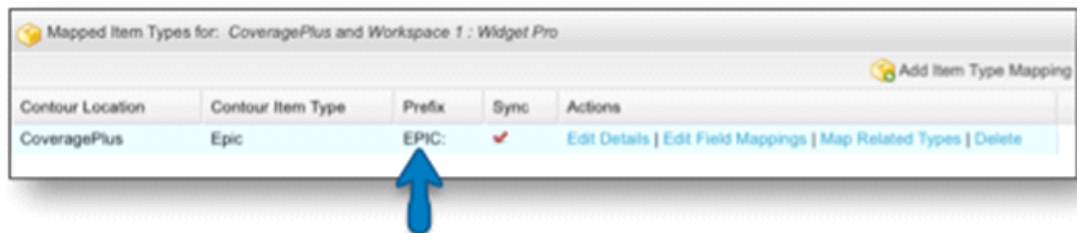
Save & Close

Cancel

Contour Location	Select the project level in order to send ALL items of a given type to Rally. Select an individual set to limit the items that will be sent to Rally to one Contour location.
Contour Type	Select the Contour item type that will be synchronized to the Rally user story work item.
Synchronize Comments	Choose whether comments in Contour sync to Rally, comments in Rally sync to Contour, all comments sync bi-directionally, or comments do not sync at all.
Items Sent from	Choose whether to send all items or only items that meet certain criteria. The Lucene search syntax can be used

Contour to Rally	<p>to create a query that only synchronizes certain items. More information on how to use the Lucene syntax in Contour can be found in the User Guide under Search. Some example queries include:</p> <ul style="list-style-type: none"> • status:"Approved" • flag1:true • status:"Approved" AND flag1:true
Enable this mapping	Turn the synchronization for this item type on / off.

- Click the Save & Close button.
- Optionally, select a prefix that will be prepended to the name field of your Contour items when they are inserted into Rally. Because items are inserted into Rally as the underlying work item type of "User Story", you can differentiate items like epics from user stories by adding this prefix. For example: "Epic: This is the name from Contour" and "Story: This is the name from Contour". For more information, see Rally's help guide on breaking down stories (<http://www.rallydev.com/help/use-story-heirarchies>).



Note: At this point, even though the item type is mapped, only the basic default field mappings have been applied.

4.3.4 Map Item Fields

Once the Contour Item Type(s) have been mapped, you can configure the individual field mappings.

Contour Field	Rally Field	Sync Mode	Conflict Resolution	Clear Mapping
ID	Contour ID	One Way: From Contour		Clear
Name	Name	Bi-directional	Use Contour	Clear
Status	Schedule State	One Way: Into Contour		Clear
Assigned				Clear
Actors				Clear
Primary Flow	Description	Bi-directional	Use Contour	Clear
Preconditions				Clear
Postconditions	Notes	One Way: From Contour		Clear
Design Doc				Clear

1. Click on the Edit Field Mappings link from the appropriate Item Type mapping row.
2. For every field that you want to map, pair the Contour field in the left most column with it's matching field in Rally via the drop down menus in the second column.

Note: Contour does not distinguish or validate between types of fields so it's important to know the field type in each system. For example, the mapping screen will allow you to map a text field in Contour to a numeric field in Rally but this will fail when the synchronization process runs and an error will be output to the log file.

3. Select the Sync Mode for each field mapping:

On Creation Only – The field value will be transferred when the item is first inserted from one application to the other but will not be updated upon subsequent synchronizations. As an example, use this option if you want to send a field from Contour to Rally and then allow it to be updated in Rally without affecting the original Contour item.

One Way: From Contour - Selecting this option will only send the field value and any future updates to it from Contour to Rally. Any changes to the Rally field will be overwritten upon the next synchronization to reflect what's in Contour.

Note: If this option is selected we recommend making the Rally field read-only to avoid confusion.

One Way: Into Contour - Selecting this option will only send the field value and any future updates to it from Rally to Contour. Any changes to the Contour field will be overwritten upon the next synchronization to reflect what's in Rally

Note: If this option is selected we recommend making the Contour field read-only to avoid confusion.

Bi-directional - Selecting this option will synchronize changes made in either system with the other. If a change is made in both systems, the Conflict Resolution setting will be used to determine which change takes precedence.

4. Select the Conflict Resolution for each of the mapped fields that have a Sync Mode of Bi-directional. This option specifies which system's data will be used when an Item has been updated in both systems between syncs.

Use Contour - Contour's data will always be used when changes have been made in both systems between syncs.

Use Rally - Rally's data will always be used when changes have been made in both systems between syncs.

5. Click the Save & Close button.

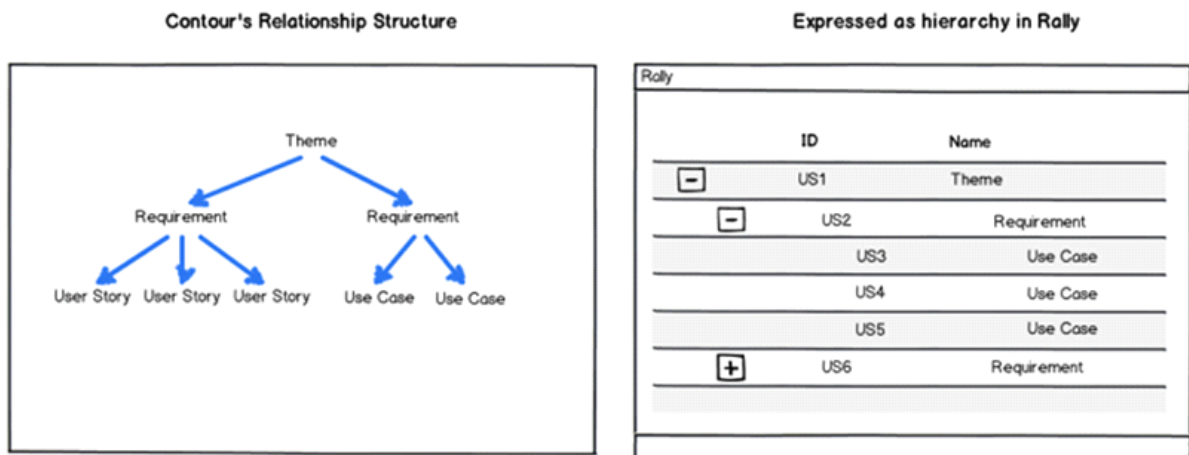
Default Mapped Fields

When a Contour item type is mapped to Rally, Contour creates several system fields that are necessary for the synchronization. Because these fields are necessary and are predefined they appear in the form as read only.

- **Rally Key:** This is the "Formatted ID" from Rally (ie: US157).
- **Rally URL:** This is the link to the individual Rally item.
- **Last Updated in Rally:** This is the date the item was last modified in Rally.

4.3.5 Map Related Items

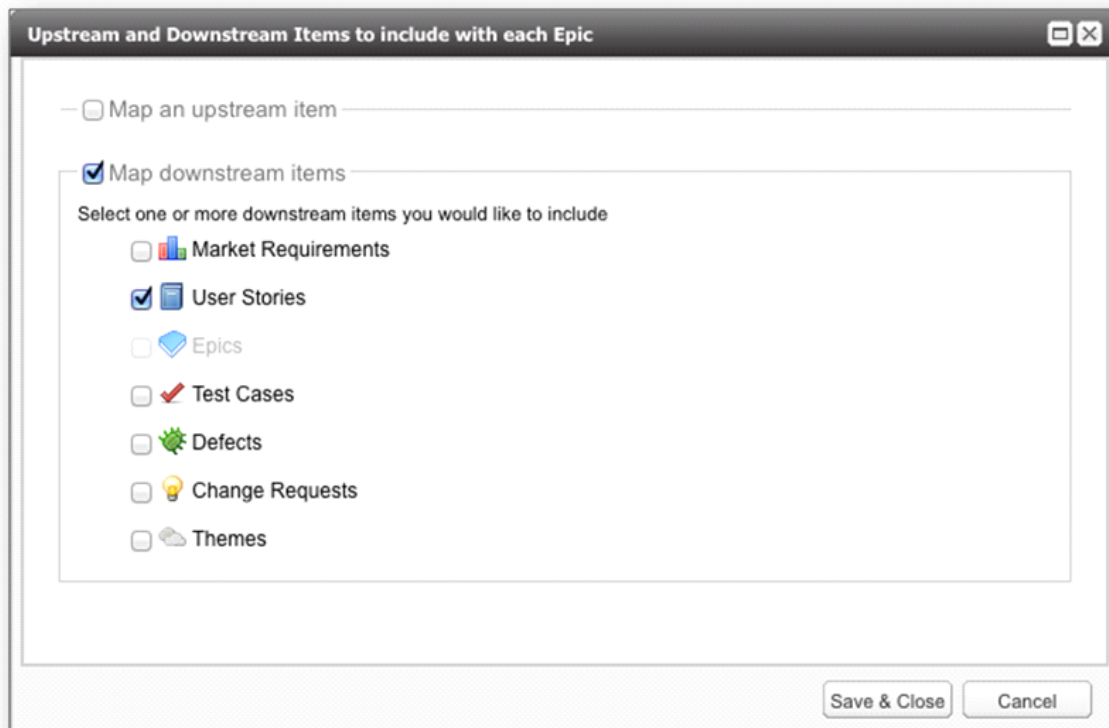
In addition to the "primary" item type originally mapped, you can also map related Contour items. As an example, if you send stories from Contour to Rally you can also send Epics in Contour that are upstream of those stories. Contour's relationship structure will be expressed as hierarchy in Rally. Below is a visual representation of this relationship.



1. Click on the Map Related Types link from the appropriate Item Type mapping row.

2. You will have the option to select one upstream Contour item type and multiple downstream Contour item types.

Note: Some item types may be greyed out if they are already being used as part of another item type mapping for this project.



3. Click on Save & Close.

4.4 Working with Synchronized Items

Congratulations! At this point you have configured both Contour and Rally and the synchronization mappings are all in place....now what?

At this point users can create and edit items in Contour and watch them appear in Rally. Users in Rally can update the items, or add comments, and have confidence that the users in Contour will be kept up to date.

If you do run into any issues check our FAQ's or contact us directly.

www.jamasoftware.com/support.

4.5 FAQ

- Q: I don't see the Rally Connector in the Org Admin view. A: The Rally Connector is only available in Contour 3.4 and above and requires an additional license to be activated. Please contact sales@jamasoftware.com to request a trial or to purchase.

- ❑ Q: I added items in Contour, why are they not showing up in Rally?A: Check the connector settings to ensure that your new items conform to any search query that may have been applied. Next check that the sync is enabled. Finally look to the sync schedule, there is a chance that the sync has not run since your new items were entered. If you need them immediately you can click on the Synchronize now button from the main Rally Connector tab.
- ❑ Q: Can I create items other than User Stories in Rally?A: Rally supports multiple “work item” types, including user stories, tasks, defects and test cases. At this point, the integration only supports user stories on the Rally side.
- ❑ Q: Can I change the field mappings after they have been set?A: Once a mapping has been configured and the synchronization has run there are some considerations when modifying the setting. There are three scenarios where field mappings could be modified. Changing any mappings will trigger a complete re-synchronization to ensure changes are reflected.❑❑Remove or clear a mapping: If you later alter a mapping from any field in Contour to point to a different field in Rally the next synchronization will update based on the new settings.❑❑Modify a direction of a mapping: The new settings will be used for the next synchronization. Because the fields had been mapped before, they should be synchronized. If a change happens the synchronization engine will sync them based on the new settings.❑❑Modify which fields a mapping points to: This is the most drastic change as it is mostly likely to result in a situation where the fields don't match. The synchronization engine during its next run will now synchronize the fields based on its current configuration ignoring the previous configuration. When finished, all fields will be synchronized based on the new configuration.
- ❑ Q: What happens if I disable the sync process?A: Nothing will change in the normal process of working with items in either system. Contour will maintain the synchronization values for each item and its associated item in Rally. This is useful if the synchronization is reactivated, as it will simply pick up where it left off.
- ❑ Q: How do I remove a mapping?A: You can delete an item type mapping or entire project mapping from the main Rally configuration screen. Additionally, using the “Clear Synchronization Date” option will remove ALL of the mappings as well as any values in the system-created fields (Rally Key, Last Sync, etc).
- ❑ Q: What happens when a Contour item that is being synchronized is deleted?A: The Rally item is now simply disconnected from the synchronization but will not be removed.
- ❑ Q: What happens when a Rally item that is being synchronized is deleted?A: The Contour item is now simply disconnected from the synchronization but will not be removed.
- ❑ Q: Why are only some fields synchronizing?A: Make sure the fields you're attempting to update are NOT Read Only. If there are selection lists involved, double check that the Contour pick list values match the Rally options exactly (keep an eye out for accidental spaces). If you're still having problems, try creating and mapping a custom field (and pick list if needed) in the destination application. Contact support@jamasoftware.com for additional troubleshooting steps.
- ❑ Q: Can I synchronize attachments?A: Due to API limitations, the connector is not able to synchronize attachments at this time. This capability is being considered for a future release.
- ❑ Q: I'm not seeing images in my Rally item.A: The connector supports sending images from Contour rich text fields into Rally. However, because the images reside within Contour, the user viewing the Rally item needs to have an open, authenticated session in Contour.
- ❑ Q: Something is wrong. How do I troubleshoot the problem?A: First check the connection:❑❑1. Log in as a user with Administration rights❑❑2. Click on the Rally Connector link❑❑3. Edit the connection settings❑❑4. Run the “Test Connection”❑❑If this works run the synchronization and then check the log file. Events that occur during Rally Connector synchronization job executions are

written to a separate log file named `contour-integrationsync.log` and can be found under the `<TOMCAT_HOME>/logs/contour` directory. ☐☐ Contact support ☐☐ support@jamasoftware.com