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▸Repose ◀ Operations Handbook

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▸Repose ◀ Operations Handbook

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▸Rackspace Cloud ◀

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v1.0

▸Repose ◀

2013-04-29

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Abstract:

This document is intended for systems administrators interested in configuring and installing ▸REstful PrOxy Service Engine ◀.

Revision:

▸2013-04-29 ◀

- I uploaded the document to match Repose's updated xmlns and config. file name

Revision:

▸2012-02-14 ◀

Revision:

▸2012-01-30 ◀

- Clarified current limitation to HTTP logging.

Revision:

▷2012-01-11 ◀

- Initial release.




Chapter 1 : About This Document

The purpose of this handbook is to facilitate the installation of ▷Repose ◀ and offer operation guidelines. This handbook is not a tutorial. It provides basic information that will help you understand ▷Repose ◀, but you must adapt this information to suit your own configuration.



Chapter 2 : Installation Introduction

▷Repose ◀ also offers a quick ▷*non-production* ◀ method of installing ▷Repose ◀ for informational use only. Follow the link to the Repose Sandbox to begin using this method:  ▷ ◀

Below are deployment strategies intended for ▷*production* ◀ use of ▷Repose ◀:

▷Proxy Server (Valve) ◀

The Proxy Server (Valve) deployment strategy runs ▷Repose ◀ as a standalone proxy server which will sit between the requester and the origin service. This deployment strategy runs ▷Repose ◀ on a different port or a different host than the origin service. Proxy Server (Valve) is a .jar file.

▷ ROOT.war ◀

▷Repose ◀ will run inside a third party servlet container (e.g. tomcat or glassfish). This strategy allows ▷Repose ◀ to run on the same container as the origin service.

The ROOT.war artifact is a Web application ARchive (WAR). It contains all the components needed to install ▷Repose ◀ into a running application container. One of these components is a default web.xml that can start up ▷Repose ◀ in the standard configuration model.



Note:



See  [_</link>](#) if installing under Windows



Section 2 . 1 : Prerequisites for Repose



Installation





Before getting started, make sure you have the following installed on your local machine:

- ▷ Java OpenJDK 1.6 (or Oracle's JRE) 
- ▷ Tomcat 7 or higher(or any Servlet Spec 3- Compliant Container)  if running the ROOT.war deployment



Section 2 . 2 : Installing Repose

Repose can either be installed through a Linux package manager (RPM or Debian) or downloaded from GitHub. As previously mentioned, you can choose to install Repose as either ROOT.war in an existing servlet container or the Valve Proxy server. Choose  *one*  of the following installations:

- ▷ Installing ROOT.war From a Linux Package Manager (RPM) 
 - The instructions for installing ROOT.war from RPM are located at  [_</link>](#) RPM installing ROOT.war
- ▷ Installing Valve Proxy Server from a Linux Package Manager (RPM or Debian) 
 - The instructions for installing Valve Proxy Server from RPM are located at RPM Installing Valve Proxy Server.
 - The instruction for installing Valve Proxy Server from Debian are located at Debian Installing Valve Proxy Server.
- ▷ Installing Repose from GitHub 

Repose can be downloaded from ***** and built with Maven. Once built, the following binaries are created for the different installations:

- `ROOT.war` `<` - The `ROOT.war` is built at `project-set/core/web-application/target/ROOT.war`.
- `Valve Proxy Server` `<` - The Valve jar file is located at `project-set/core/valve/target/repose-valve.jar`.



Section 2 . 3 : Paths for Default Installation

Directories

The directories below are provided during the installation process. These directories `>cannot` `<` be customized. You can find these `>Repose` `<` directories by following the appropriate paths:

- Repose Valve jar is installed in `> /usr/share/lib/repose.` `<`
- Repose `ROOT.war` is installed in `>/var/lib/tomcat7/webapps.` `<`
- Repose start up script is in `> /etc/init.d.` `<`

The `>Repose` `<` default config. directory is set to `>/etc/repose` `<` and can be customized in the following methods:

- For the `>` `<`Valve Installation, the config directory can be set with the `>-c` `<` command line option. See Starting and Stopping Repose for more information.
- For the `ROOT.war` Installation, the config directory can be set through the `web.xml` file in the `ROOT.war`. See Starting and Stopping Repose for more information.

The following directories can be customized using the `container.cfg.xml` if you do not want to use the default.

- Repose deployment folder where ear files get exploded is `/var/repose/deployment`.
- Repose ear files are installed in `>/usr/share/repose/filters.` `<`

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****Click to learn more about Repose Directories****

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Section 2 . 4 : Required Configurations for

Deployment

Below are files of the default configuration settings that are a part of this installation. These default files are `required` to run `Repose`.

- Edit the default `system-model.cfg.xml` that is provided by the installation to point to your origin service.
- Edit the default `container.cfg.xml` that is provided by the installation to make sure Repose knows where to look for component artifacts and where to deploy them.

Click [***here***](#) to learn more about Repose Configurations



Important:

To START or STOP Repose using Valve proxy Server follow: `****`

To START or STOP Repose using a ROOT.war Configuration follow: `****`

▼
Section 2 . 5 : Testing Repose

Send a request to verify that Repose is running: `curl localhost:8887 -v` Verify Response returns response code 200, and that the "Via" header containing the string "Repose" shows which version of Repose you are running.

For example, part of your response should be in the following form:

```
HTTP/1.1 200 OK
Content-Type: text/plain
Via: 1.1 Repose (Repose/2.7.1-SNAPSHOT)
x-request-id: somevalue
```

Repose is running successfully when you send the above request and you are able

to run the end service.



Tip:

Please look at the log files that are generated during the Starting of Repose to debug if you experience any issues.



Chapter

3 : Filters

Repose can load Java Servlet Filters and process the requests and responses traveling between the client and server. A `<Filter>` is an HTTP message interceptor that provides a specific piece of business functionality. A filter contains Repose specific named reference. A `<Filter Chain>` is a sequence of filters that will intercept the request from the first filter of the sequence to the last enumerated filter in the sequence.

>How To Add Filters <

You can add filters to Repose using the System Model Configuration File. See the `system-model.cfg.xml` example below. The filter name used in the `system-model.cfg.xml` are defined in `** web-fragment.xml**`



System Model Configuration File

 `samples/repose-translation-system-model.cfg.xml`

 `<?xml version="1.0" encoding="UTF-8" standalone="yes" ?>`

```
<system-model xmlns="http://docs.rackspacecloud.com/repose/system-model/v2.0">
  <repose-cluster id="repose-service">
    <nodes>
      <node id="proxy-n01" hostname="localhost" http-port="8088" />
    </nodes>

    <filters>
      <filter name="translation" />
    </filters>
    <destinations>
```

```
<endpoint id="mocks" protocol="http" hostname="50.57.189.15" port="8080" root-path="/" de
</destinations>
</repose-cluster>
</system-model>
◀
```



Chapter 4 : Further Information

▸ More About Directories ◀

Upon successful completion of the Repose installation the following default directories are made accessible. These default directories are described below:

Default Directory Model

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Directory	Description
Artifact Directory	<p>Stores all the artifacts that Repose has been configured to use.</p> <p>Default Location: ▶ /User/share/repose/filters ◀</p>
Configuration Directory	<p>Stores all of Repose's XML configurations in this directory. The ROOT.war deploy assumes this directory is located in ▶/etc/repose ◀. Repose only supports file system configuration locations. Default Location: ▶ /etc/repose ◀</p>
Deployment Directory	<p>Default location: ▶/var/repose/deployment ◀</p> <p>Repose uses the deployment directory to copy deployed versions of the artifacts it has been configured to use. Define a deployment directory as a writable location.</p>
Logs	<p>This stores System logs and HTTP logs.</p>
Operating System User and Group Configuration	<p>Dedicate a User and Group to Repose to improve isolation and selection of Repose's permissions. Be sure the Repose User and Group can write to the file system as well as read configurations stored in the file system.</p>



Note:

All consumable artifacts meant for deployment through Repose must conform to the Java Platform,Enterprise Edition (JEE6) specification for Enterprise ARchive (EAR) files.

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► More About Configurations ◄ The following table lists the configuration files that are required for Repose installation and a description of the required file.

Required Configuration Files

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Filename	Description
System Model	The System Model configuration outlines the entire deployment layout for the service cluster. Repose must be aware of this in order to configure itself and correctly coordinate routing if necessary. The System Model also lets Repose know where the other Repose nodes reside. Using this information, Repose can coordinate its own clustering to help load balance or share data among nodes that share common filters.
Container	The container tells the system where to look for component artifacts and where to deploy them.

 chapters/afterword.xml



Chapter 5 : Afterword

The information in this document is provided in good faith but without any warranty. Although we have tested the sample code included here, results on your system may be different.

We hope you enjoy using ►Repose ◄!



Section 5 . 1 : Feedback


synch human-readable contact info here with feedbackemail in pom.xml, telling HashOver whom to notify about comments (HashOver doesn't work until PHP works on the openrepose.org server)

If you find errors in this document or have suggestions about how to improve it, please let us know. You can contact the document maintainer directly at rose.coste@rackspace.com ◄.





Section 5 . 2 : References

In the  [Repose bibliography](#), we've listed, summarized, and linked to reading material that explains [Repose](#) and related ideas. To understand [Repose](#) more completely, you may wish to examine our bibliography at <http://wiki.openrepose.org/display/REPOSE/References>.

