

# CRA 5.2

## INSTALLATION GUIDE



## REVISION HISTORY

Name	Date	version	Summary of changes
Viatcheslav Kuravskiy	22.05.2015	0.1	Created the guide based on installation guide for CRA 4.8
Andreas Kiedaisch	17.11.2015	0.2	Update regarding enterprise console

## REVIEW HISTORY

Reviewer Name	Doc Version Reviewed	Date Sent for review	Date Review Filed	Approved/Rejected (with Reasons)

**Note** It is the author's responsibility to send this document out for review, making entries into columns 1-3

**Note** It is the reviewers' responsibility to complete columns 4-5 and return the reviewed document to the author

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## ABOUT THIS DOCUMENT

### INTENDED READERSHIP

This document is intended for assisting in the sizing, administration and maintenance of CONVERIS Research Analytics Servers.

Good knowledge of the Linux environment is expected.

### IN THIS GUIDE

This installation guide walks through a typical setup of a CONVERIS Research Analytics server and includes required commands for the Linux command line interface

This document does not cover in-depth topics of the Apache webserver, nor of the PostgreSQL database, as these are widely used and extensive documentation can be found on the Internet.

## CHAPTER 1 HARDWARE AND SOFTWARE REQUIREMENTS

### STANDARD SERVER SIZING

Thomson Reuters does not support split server environments for Research Analytics. Please follow the below specifications as minimum requirements.

#### CONVERIS Server Specifications

CPU: 2 to 4 CPU cores (> 2.4 Ghz per core)  
RAM: 8 GB (or above)  
Disk: 50 GB

### SOFTWARE REQUIREMENTS

Operating System:	RHEL 6.5 (or alternative Linux distribution)
Database server:	PostgreSQL 9.1 (provided in bundle)
Application Server:	Tomcat (provided in bundle)
Web Server:	Apache 2 (with mod_jk)
Java Environment:	Oracle Java JDK 7 (provided in bundle)

## CHAPTER 2 FIREWALL RULES

### SERVICES RUNNING ON THE SERVER

TCP/22 (SSH):	Access for Thomson Reuters for Remote Assistance (see list of IP's below)
TCP/80 (Apache):	User console of Research Analytics
TCP/8080 (Tomcat):	User console (Access is not required)
TCP/8088 (Tomcat):	Enterprise Console (Administrative web interface)
TCP/8023 (Tomcat):	Internal access (Apache to Tomcat via AJP)
TCP/5432 (PostgreSQL):	Internal access only (Used internally by Research Analytics)

### ACCESS FROM THOMSON REUTERS:

Thomson Reuters may need to access for remote assistance or during the implementation phase of your project. Access from Thomson Reuters will originate from the following IP Addresses:

159.220.74.5	Web Access
159.220.74.6	Web Access
163.231.6.110	SSH Access and other Protocols

### OUTGOING REQUESTS MADE BY RESEARCH ANALYTICS

Research Analytics needs to access resources of the CONVERIS environment

TCP/80 (HTTP):	CONVERIS Server
TCP/443 (HTTPS):	CONVERIS Server
TCP/5432 (PostgreSQL):	CONVERIS PostgreSQL Database

## CHAPTER 3 INSTALLING CONVERIS RESEARCH ANALYTICS

### THE PROVIDED ARCHIVE BUNDLE

Thomson Reuters provides a complete bundle of CONVERIS Research Analytics as a 'tar.gz' archive. Extracting the archive places the full directory structure below a `cra/` directory. Research Analytics expects to have its root level directory at `/opt/cra`, it is therefore required the archive be extracted in `/opt`.

### THE POSTGRESQL DATABASE

The included PostgreSQL database is located below `/opt/cra/postgresql` and expects to run as the user 'postgres'. Create the user and fix the ownership of the folder recursively:

```
adduser postgres
chown -R postgres:postgres /opt/cra/postgresql
```

### CONFIGURATION OF SINGLE SIGN ON WITH CONVERIS

Edit the file `applicationContext-webservice-sso-security.xml` to be found in the directory `/opt/cra/server/biserver-ee/pentaho-solutions/system` and point the configuration to your CONVERIS server

```
<property name="serviceURL" value="http://<converis-host>/converis/ws/public/pentaho/{secret}" />
```

### STARTING RESEARCH ANALYTICS

The bundle provided by Thomson Reuters comes with an init script suitable to control each component required to run CONVERIS Research Analytics.

To start all components in the correct order, issue the following command

```
/opt/cra/ctlscript.sh start
```

This script may be used in `/etc/init.d` or referenced any other way by other init or upstart scripts.

*Note: Running the services as 'root' is highly discouraged.*

## CHAPTER 4 THE APACHE2 WEB SERVER

In order to provide the service on ports 80 and 443 (http and https respectively), we recommend installing Apache2 with mod\_jk. To avoid complications with SSL certificates, we also advise configuring SSL connections inside of Apache2.

The installation of the apache2 web server is expected to be general knowledge.

### MOD\_JK

As there is no native package for RHEL based distributions in the yum repositories, please refer to documentation on building the required mod\_jk.so file from source.

The source is available at <http://tomcat.apache.org/> - see references to “Tomcat Connectors”

Debian based distributions provide the package libapache2-mod-jk to be installed via the packet manager.

### Configuration of mod\_jk

Configure mod\_jk with the following settings

```
JkworkerProperty worker.list=biserver
JkworkerProperty worker.biserver.type=ajp13
JkworkerProperty worker.biserver.host=localhost
JkworkerProperty worker.biserver.port=8023
```

Configure the VirtualHost definitions (for http and https) with the following details in order to forward the http and https requests to the GlassFish service:

```
# Set the jk log level [debug/error/info]
JkLogLevel error
JkLogStampFormat "[%a %b %d %H:%M:%S %Y] "
JkOptions +ForwardKeySize +ForwardURICompatUnparsed +ForwardSSLCertChain

JkMount / biserver
JkMount /* biserver
```

These changes require a reload of the apache web service.



## CHAPTER 5 TROUBLESHOOTING

### STARTUP OF POSTGRESQL FAILS

Please check the log file for detailed error messages in `/opt/cra/postgresql/postgres.log`

#### Missing Locale en\_GB.UTF-8

This error mostly shows on Linux installations using a different system language than English.

Depending on the distribution of Linux used, there are different approaches to fixing this issue. There are plenty of resources available on the internet describing how the required locale can be configured or obtained in the Linux distribution being used for this environment.

#### Incorrect Permissions

This issue is known have two different causes.

1. The directory of the PostgreSQL database is not set correctly, or only one its contained files. Correcting the ownership of `/opt/cra/postgresql` and any resources below that directory should fix the issue.
2. When running Research Analytics as any other user than root, the init script provided makes use of the command 'sudo' in order to start the PostgreSQL database as the user 'postgres'. Note that 'sudo' must be configured to grant the executing user of the init script all rights to execute further scripts as user 'postgres'. It is also important that 'sudo' does not make use of the 'requiretty' setting.

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