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## Install the necessary software

Before installing VIVO sure you have the following programs installed on your computer:

- Java (SE) 1.7.x [Java Platform \(JDK\)](#)
  - VIVO has not been tested with OpenJDK
- Apache Tomcat 6.x or 7.x <http://tomcat.apache.org>
- Apache Ant 1.8 or higher, <http://ant.apache.org>
- MySQL 5.1 or higher, <http://www.mysql.com>

Check if you have enabled and ANT\_HOME variables JAVA\_HOME system environment. The configuration of these requirements depends on the operating system you are using. Check the installation guides for each program to make the correct settings.

The following browsers are supported for this release:

- Mac:
  - Chrome 30.0.1599.69 or higher
  - FireFox 3.6.28, 10.0.12, 24
  - Opera 12.02
  - Safari 5.0.3
- PC:
  - Chrome 25.1364.2 or higher
  - FireFox 10.0.12, 24
  - Internet Explorer 8, 9, 10
  - Opera 12.02

## It worked?

You can try installing the programs by typing the following commands:

```
[~] # Java -version java version "1.7.0_25" Java (TM) SE Runtime Environment (build 1.7.0_25-b15) Java
HotSpot (TM) 64-Bit Server VM (build 2325-b01, mixed mode) [~] # Mysql --version mysql View 14.14 Distrib
5.5.36, for Linux (x86_64) using readline 5.1 [~] # Ant -version Apache Ant (TM) version 1.9.1 compiled on
May 15 2013
```

Each of these commands will print versions you have installed. If any of these commands print an error message, you must check the installation.

## Create an empty database and account database



Decide on a database name, user name and password. You will need these values for this step and again when specify runtime properties.

Login to your MySQL server and creates a new database that uses the character encoding in UTF-8 format. In the MySQL command line you can create the database and the user with the following commands substituting values for database, user and password. Usually the computer name is called localhost.

```
CREATE DATABASE CHARACTER SET utf8 for database; GRANT ALL ON * TO for database user @ 'localhost' IDENTIFIED BY 'password.' ;
```

## build LIVE

### Download the source code VIVO

Download the source code from the available links LIVE download with names: rel-1.6.zip or rel-1.6.gz and unzip on your web server. You can download the file from the following link: <http://vivoweb.org/download>

## Specifies the properties of construction

Within the VIVO distribution directory, renames the file build.properties example.build.properties. Edit file to meet your installation, as described in the next section.

These properties are used when compiling VIVO and when deployed within Tomcat. These will be incorporated into LIVE when fully compiled. If you want to change these properties later, you must stop the Tomcat service, repeat step compile and deploy, in the end, you must restart the Tomcat to see these changes.

Windows: To install on a Windows operating system, you must include the letter of the hard drive, you must use the slash "/" and not the backslash "\" in the directory path, for example c: / tomcat

Property Name	vitro.core.dir
Description	The directory where Vitro is located. In the simple installation, it is assigned to ./vitro-core, the current directory.
default	Any
Example value	./vitro-core

Property Name	tomcat.home
Description	The directory where tomcat is installed.
default	Any
Example value	/ Usr / local / tomcat

Property Name	webapp.name
Description	The name of your VIVO application. This is not the name that will be displayed to the user. This name appears in the URL used to access LIVE, and the name of the directory path VIVO within tomcat.
default	Any
Example value	alive

Property Name	vitro.home
Description	It is the directory where VIVO will store the data that are created. This includes uploaded files (usually images) and Solr search indexes. Make sure the directory exists and is writable by the Tomcat server.
default	Any



Example value	/ Usr / local / live / home
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## Compile and deploy

In previous steps, you have defined directory location VIVO, specifying property values in the build.properties file vitro.home. If the directory does not exist, create it now.

In the command line within the VIVO distribution directory, type the following command:

```
ant all
```

VIVO to build and deploy in the Tomcat webapps directory.

The build script can run up to five minutes, and create more than 100 output lines, the process includes several steps:

- Collect files distribution source directory.
- Compile the Java source code.
- Running unit tests.
- Prepare the Solr search engine.
- Vivo deployed to Tomcat and Solr.

## It worked?

If the outgoing message is successful, then the construction has been completed successfully. Proceed to the next step.

**BUILD SUCCESSFUL**

Total time: 1 minute 49 seconds

If the output ends with an error message, building failed. Find the fault of the error, correct the problem, and run the script again.

**BUILD FAILED**

Total time: 35 seconds

Construction output may include warning messages. Java compiler can warn of outdated code. Unit tests can produce warning messages, and some tests can be ignored if you do not produce consistent results. If the output ends with a success message, these messages will be ignored.

## run LIVE

### configuring Tomcat

#### Assign parameters JVM

VIVO copy small sections of your base RDF data within memory to serve web requests quickly (the copy in memory and the database remains in sync when editing).

VIVO may require more memory than it has assigned Tomcat by default. Like many facilities Tomcat, the file or setenv.bat setenv.sh in Tomcat bin directory is a convenient place to allocate memory settings instead. If this file does not exist within Tomcat directories, you can create it.

For example:

**setenv.sh**

```
export CATALINA_OPTS = "- Xms512m -Xmx512m -XX: MaxPermSize = 128m"
```

This tells tomcat to assign an initial value of 512 megabytes, 512 megabytes maximum value, and a space of 128 megabytes to PermGen. Lower values may be insufficient, especially for small installation tests.



## Set safety limits

Vivo is a multithreaded web application that can require more wires than are allowed in the default configuration of your Linux installation. Make sure your system can support the required number of threads by editing the following lines in the file `/etc/security/limits.conf`:

```
apache hard nproc 400 tomcat6 hard nproc 1500
```

## Configure URI encoding

LIVE handled properly for international characters, you have to configure Tomcat under standard UTF-8 characters.

Edit the `conf / server.xml` file and add the following attributes for each element Connector:

URIEncoding = "UTF-8"

```
<Server ...>      <Service ...>      <Connector ... URIEncoding = "UTF-8" />      ...      </
Connector>      </ Service> </ Server>
```

Some versions of Tomcat bring this attribute included as default.

## Be careful when creating elements of context

Each Web application in the distribution of VIVO (VIVO and Solr) includes a file "context fragment" containing information for the Web application deployment.

Tomcat allows these fragments override it by adding elements of context Context context the `server.xml` file. If you decide to do this, make sure the new context item includes the necessary deployment parameters from context chunk replaced.

Look at the section titled Live Running behind an Apache Server for an example replacement snippet LIVE context.

## Runtime Properties

In the process of building VIVO, specifically in the compilation and deployment, a file called `example.runtime.properties` in the home directory LIVE (specified by `vitro.home` in the `build.properties` file) was created, rename this file at runtime `.properties` and edit the file according to your installation, as described below.

These properties are loaded when you start VIVO. If you want to change these properties at a later date, you need to restart Tomcat for the changes to take effect. No need to repeat step compile and deploy.

Windows: To install on a Windows operating system, you must include the letter of the hard drive, you must use the slash "/" and not the backslash "\" in the directory path, for example `c: / tomcat`

## basic properties

These properties define some fundamental aspects of the installation of VIVO. Many sites will need to modify these values.

Property Name	Vitro.defaultNamespace
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De scri ption	<p>The RDF default namespace for this installation.</p> <p>VIVO installation RDF makes its resources available for harvest using linked data.</p> <p>Requests for RDF resource URI redirected to HTML or RDF as that specified by the customer. To make this possible, the default namespace VIVO must have a certain structure and start with a public web address VIVO installation. For example, if the web address VIVO facility is <a href="http://vivo.example.edu/">http://vivo.example.edu/</a> the namespace must be assigned to <a href="http://vivo.example.edu/individual">http://vivo.example.edu/individual</a> in order to support linked data. Similarly, if LIVE is installed in <a href="http://www.example.edu/vivo">http://www.example.edu/vivo</a> the namespace must be assigned to <a href="http://www.example.edu/vivo/individual">http://www.example.edu/vivo/individual</a></p> <p>* The namespace must end with "individual /" (including the slash).</p>
default	Any
Example value	<a href="http://vivo.midominio.edu/individual/">http://vivo.midominio.edu/individual/</a>

<b>Property Name</b>	<b>rootUser.emailAddress</b>
Description	<p>Specifies the email address of the primary user account of the VIVO application. This user will have a temporary initial password: rootpassword. You will be prompted to create a new password at first logon.</p> <p>Note: The primary user account has access to all data and all operations LIVE. Data views can be amazing when the main user. It is better to create a site administrator account for use in each administrative task.</p>
default	Any
Example value	<a href="mailto:vivoAdmin@midominio.edu">vivoAdmin@midominio.edu</a>

<b>Property Name</b>	<b>VitroConnection.DataSource.url</b>
Description	Specifies the JDBC URL for your database. Changes the end of the URL with the name of your database (If this is not "live").
default	Any
Example value	<a href="#">jdbc: mysql: // localhost / live</a>

<b>Property Name</b>	<b>VitroConnection.DataSource.username</b>
Description	Change the user name that matches the authorized user you created for MySQL.
default	Any
Example value	username

<b>Property Name</b>	<b>VitroConnection.DataSource.password</b>
Description	Change the password match which gave high in MySQL.
default	Any
Example value	features Password

<b>Property Name</b>	<b>email.smtpHost</b>
Description	Specifies an SMTP service that the application will use to send email (optional). If this is left empty, the contact form will be hidden and disabled, and users will not be notified of changes in their accounts.
default	Any



Example value	smtp.servidor.edu
<b>Property Name</b>	<b>email.replyTo</b>
Description	Specifies an email address which will appear as the sender on notifications via e-mail users (optional). If a user answers the notification, this address will receive the answer. If an email address is invalid user, this address will receive the error message. If this is left empty, users will not be notified of changes in their accounts.
default	Any
Example value	<a href="mailto:vivoAdmin@midominio.edu">vivoAdmin@midominio.edu</a>

## Connecting the Solr search index

VIVO and search index are currently two different web applications and simple installation puts the two in the same instance of Tomcat. Still, you have to tell the VIVO application how to get to the Solr Web application.

<b>Property Name</b>	<b>vitro.local.solr.url</b>
Description	<p>The URL in the context of Solr used in local search VIVO. You should consist of:</p> <p>servername scheme + + + port + vivoweb_app_name "solr"</p> <p>In the standard installation, the context of Solr will be on the same server as VIVO, and the same instance of Tomcat. The route has to be webapp.name LIVE (specified below) + "solr"</p>
default	Any
Example value	<a href="http://localhost:8080/vivosolr">http://localhost:8080/vivosolr</a>

## additional properties

The runtime.properties file can accept many additional properties, but are not needed for this simple installation. If you choose any of the installation options, you'll probably need to configure some of these properties.

## start Tomcat

Many of the facilities running Tomcat can be started the following files startup.sh or startup.bat in the Tomcat bin directory. Start Tomcat and go to your browser to <http://localhost:8080/live> to test the application.

Note that Tomcat may require several minutes to start VIVO.

When you start VIVO, some diagnostic tests run. If a problem is detected VIVO home page redirect to the home page status describing the problem. You can stop Tomcat, correct the problem and proceeds to step compile and deploy. If the problem is not serious, the start status page can provide a link to "continue" which will allow VIVO use despite problems.

If the start was successful, you will see the homepage of VIVO.

If tomcat does not start, or the VIVO application is not visible, check the files in the Tomcat logs directory.

Error messages can be found in [tomcat] /logs/catalina.out [tomcat] /logs/vivo.all.log or [tomcat] /logs/localhost.log.

Remember that Tomcat must have permissions to read and write files, and files in the root directory of VIVO. This means you have to use a particular script or particular user account to start Tomcat.



