TNTConcept 0.21.X Installation Guide

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1   Introduction

This document explains how to update or install TNTConcept, release 0.21.X.

1.1   Glossary of Terms

This document contains certain keywords that must be replaced by a value-dependent environment. These terms are:

- **$TOMCAT6**: Base directory installation of Tomcat 6. For example, it could be c:\tomcat or c:\tomcat6 under Windows.

- **$JBOSS**: Base directory installation of JBoss. For example, it could be c:\jboss.

- **$CONFIG:** Configuration directory for TNTConcept. It is recommended to set it to c:\tntconcept on windows systems and /etc/tntconcept on Unix systems, though its location is fully configurable through the file $TOMCAT6/conf/server.xml.

- **$DB**: Database name. From version 0.2 it is recommended to name the database tntconcept. However, in version 0.1, it was recommended to create the database with the name intraweb. The database name is fully configurable through the file $TOMCAT6/conf/server.xml.

- **$DBUSER**: Database user with access and modify permissions to the $DB database. This user should be created when creating the database during the first TNTConcept installation. The database user name is fully configurable through the file $TOMCAT6/conf/server.xml (but it obviously has to match the one configured in MySQL).

- **$DBPASSWD**: Password for the $DBUSER database user. This password is specified when creating the user $DBUSER in the database creation during the first TNTConcept installation. The password is fully configurable through the file $TOMCAT6/conf/server.xml (but it obviously has to match the one configured in MySQL).

- **$TEMPDIR**: Directory in which the TNTConcept installation file   (tntconcept-web-tomcat-0.21.X-installer-tomcat-0.21.X.tar.gz   or   tntconcept-web-0.21.X-installer-jboss-0.21.X.tar.gz)   has   been extracted.

2   Prerequisites

This release can be installed from scratch or on top of a release higher than 0.2.

If you have the 0.1 release installed and you have no data stored on the application that you wish to keep, it is recommended to install the application from scratch. However, if you have a 0.1 release installed and wish to keep the data, you must first install release 0.2, and only then install release 0.21.X.

Another prerequisite to bear in mind is that from release 0.10 it is necessary to change the server. You can choose either Tomcat 6 or JBoss 4.2.X. Please find below a table showing the compatibility between versions of TNTConcept and servers.

	0,9 or previous	0,10 or higher
Tomcat 5.5	x	
JBoss 4.2.X		x
Tomcat 6		x

(from JDK version 1.6 it is necessary to use JBoss 4.2.3 JDK6)

3   Needed Software

To properly install TNTConcept you will need:

- Java Development Kit, version 1.6.

- Tomcat 6.0.X or JBoss 4.2.3 JDK6.

- MySQL 5.0 or higher (we recommend using 5.1.X).

- MySQL GUI Tools.

4   Installing the Web Application

If you are installing from scratch, please skip paragraph 4.1 and follow the steps in "4.2. Installation". Then continue with chapter 5.

Otherwise, if you are updating an existing installation, please read carefully paragraph 4.1.

4.1 Updating from previous releases

IMPORTANT

If you are updating your application, please note that release 0.21.X can only be applied to an installation of version 0.2 or higher, never to a previous version. See chapter "2. Prerequisites" for further information.

From version 0.7, the way of retrieving properties files has been modified. If you are upgrading from earlier versions, please check paragraph "4.2.7 Configuring the application".

4.1.1 Needed information

If you are upgrading from a 0.9.X or previous release of TNTConcept you probably have a Tomcat5 server installed and running, and a MySQL database with all your information. You must therefore consult the file $TOMCAT5\conf\server.xml and note down the following information to be able to configure your new Tomcat 6 or JBoss 4.2.X server (highlighted in **red**):

```
<Context path="/tntconcept" docBase="tntconcept">
  <Manager pathname=""/>
  <Environment name="TNTConceptConfigDir" type="java.lang.String" value="$CONFIG"/>
  <Resource name="jdbc/TNTConcept" auth="Container" type="javax.sql.DataSource"
      maxActive="100" maxIdle="30" maxWait="10000" driverClassName="com.mysql.jdbc.Driver"
      username="$DBUSER" password="$DBPASSWD"
      url="jdbc:mysql://localhost:3306/$DB?autoReconnect=true"/>
</Context>
```

4.1.2 New properties

In the file **$CONFIG/autentia.properties** some new properties have been included:

- schemaSecurityMatrix: File name of the XML Schema validation for the application security configuration file (securityConfiguration.xml). This property should not be changed.

- ValidateSecurityMatrixXML: Boolean value that indicates whether to proceed (true) or not (false) to the validation of the XML security settings (securityConfiguration.xml). By default this value is set to true, but you can disable the validation changing its value to false.

  NOTE: If the validation is active and the file does not meet the schema validation, the application will not start. The validation schema has been adapted to the current file, so there should be no problem in carrying out the validation.
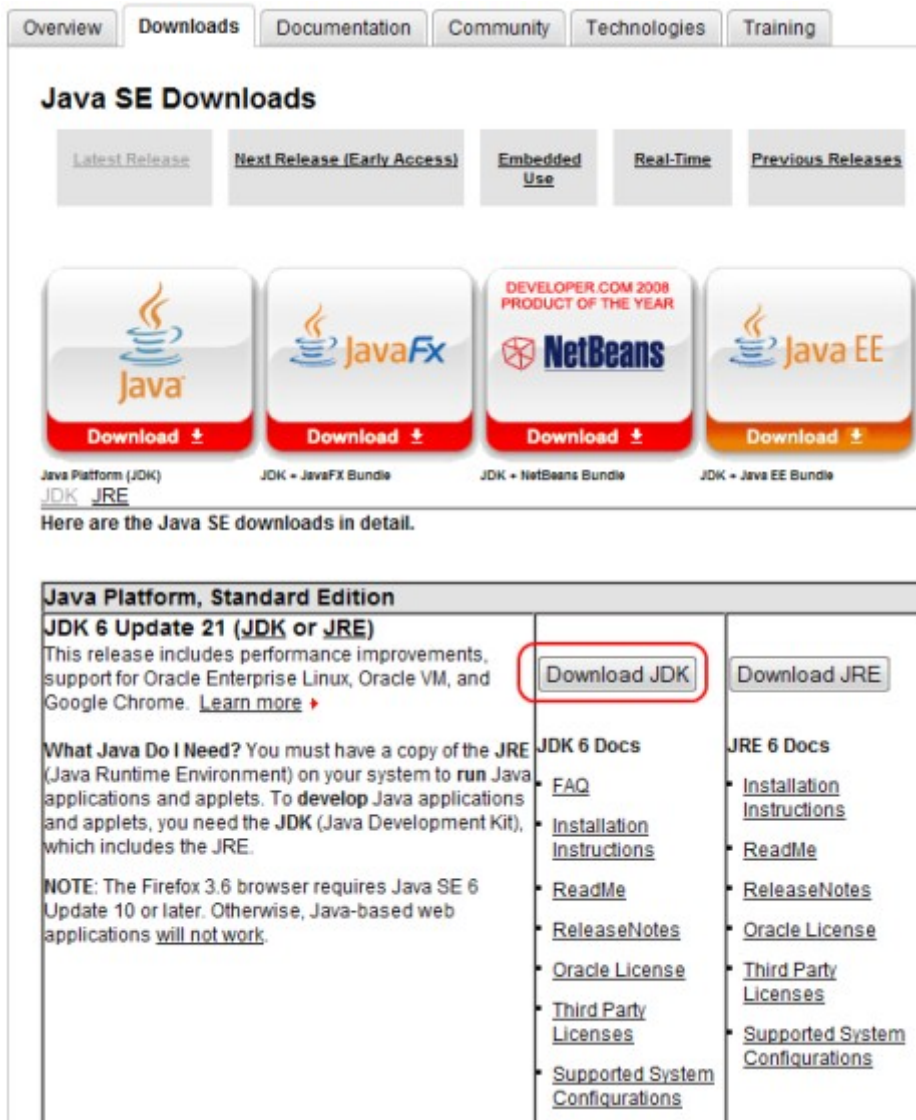
4.2 Installation

Extract the installation file (tntconcept-web-tomcat-0.21.X-installer-tomcat-0.21.X.tar.gz or tntconcept-web-0.21.X-installer-jboss-0.21.X.tar.gz) in a directory on your machine ($TEMPDIR).

If you have JDK 1.6, MySQL 5.X and MySQL GUI tools already installed, you can skip to paragraph 4.2.4 (though we recommend checking the MySQL Server instance configuration, in paragraph 4.2.2.1).

If you don't, we will subsequently describe the detailed installation under Windows.

4.2.1 Downloading and installing Java Development Kit 1.6

Download and install from: http://www.oracle.com/technetwork/java/javase/downloads/index.html the latest version of JDK 6.

4.2.2 Downloading and installing MySQL

From: http://dev.mysql.com/downloads/mysql/ you can download version 5.X

Run the installation file:

choose typical setup
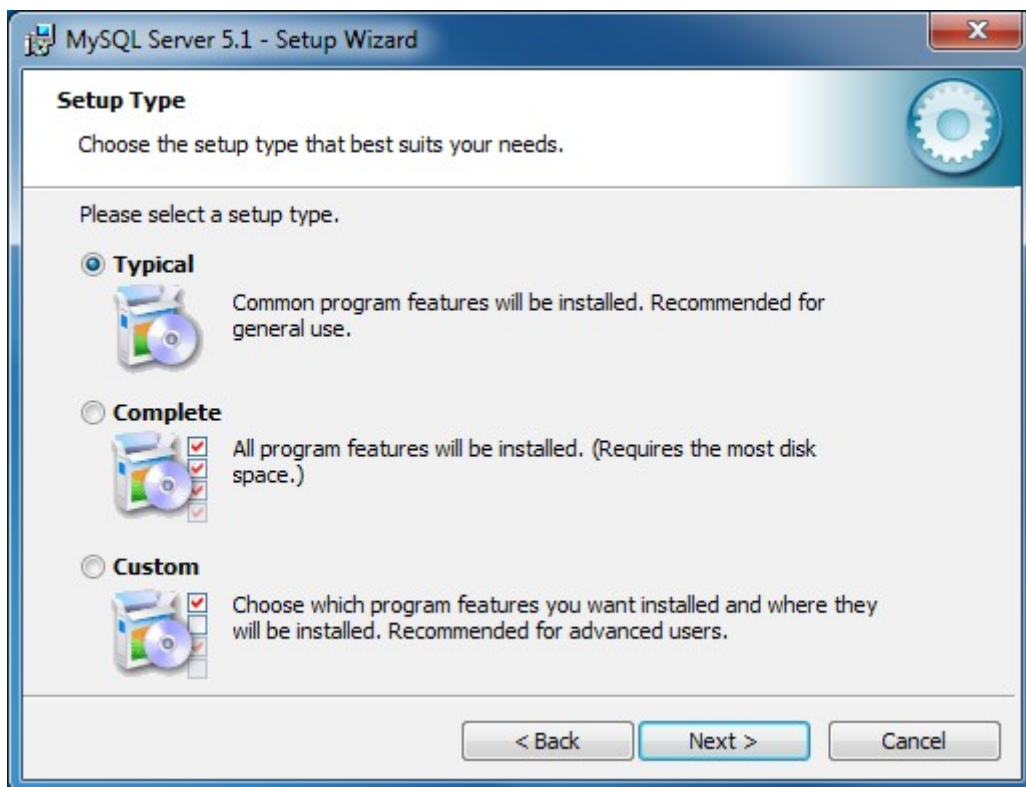
and, once the installation has finished, check the "Configure the MySQL Server now" box
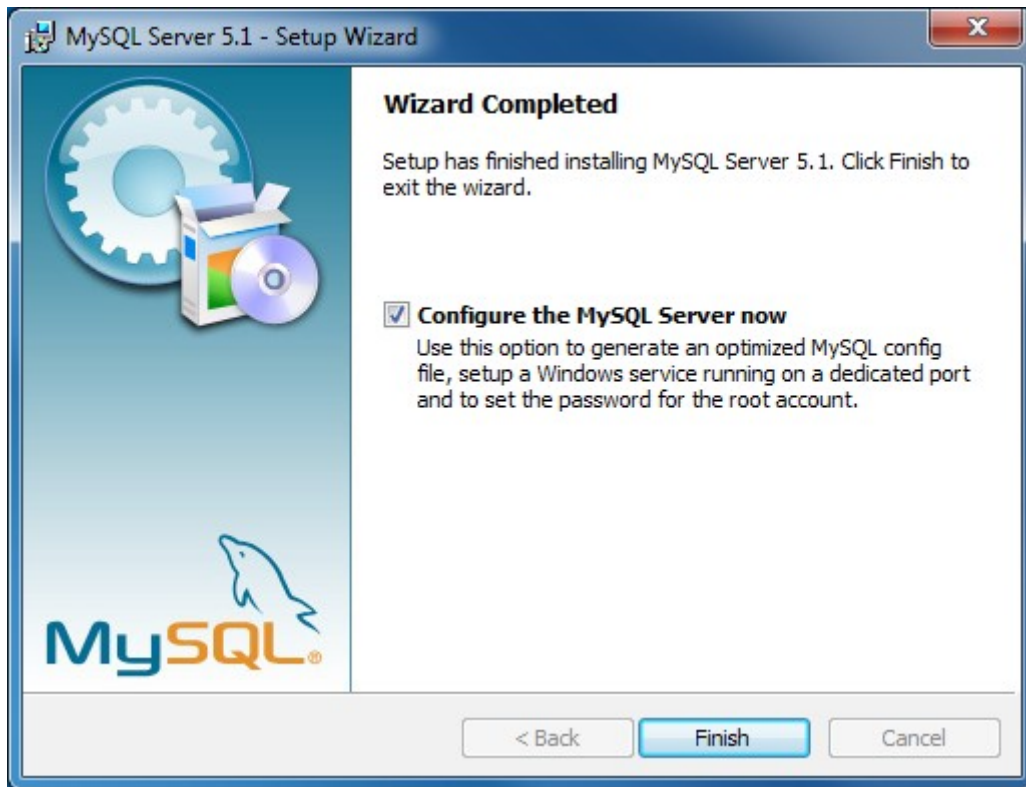
(you may also configure the MySQL Server instance at a later time, by running the MySQL Server Config Wizard).

4.2.2.1 Configuring the MySQL Server instance
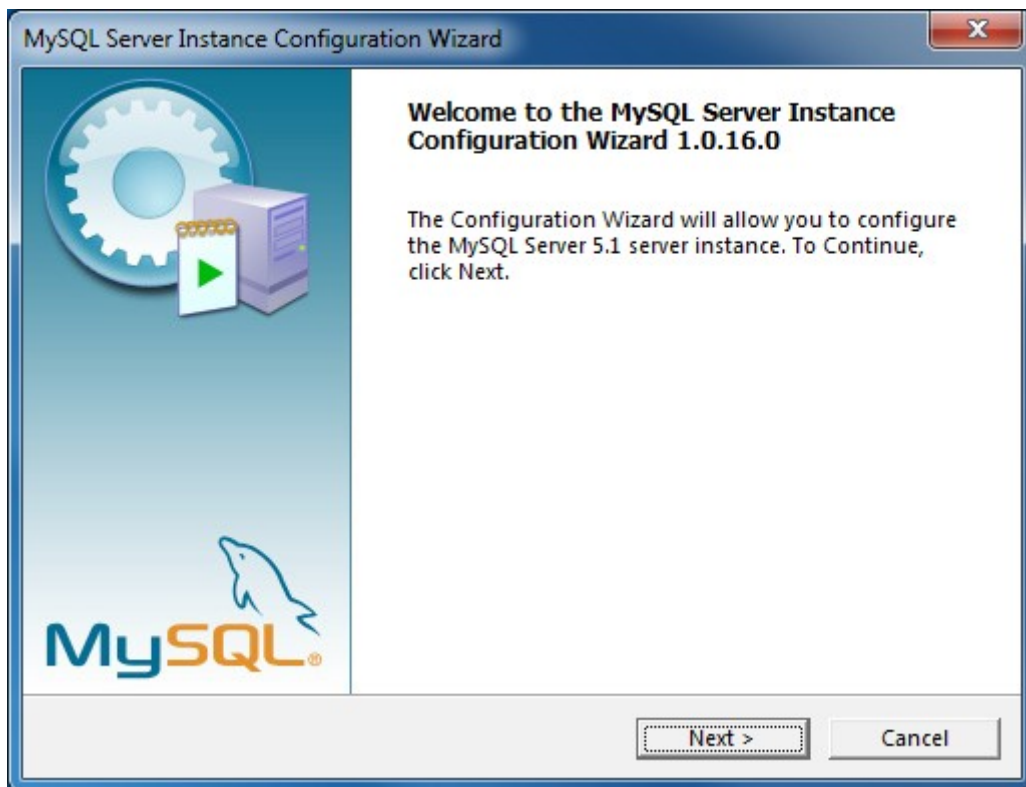
Choose "Detailed Configuration"
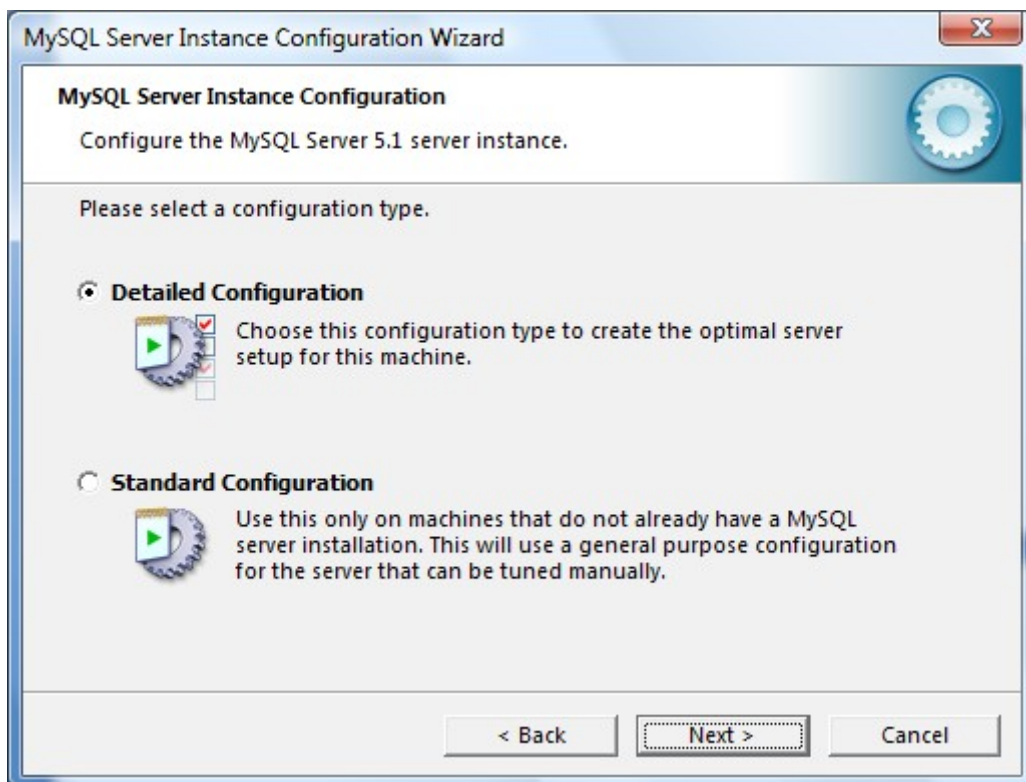
Select "Server Machine"
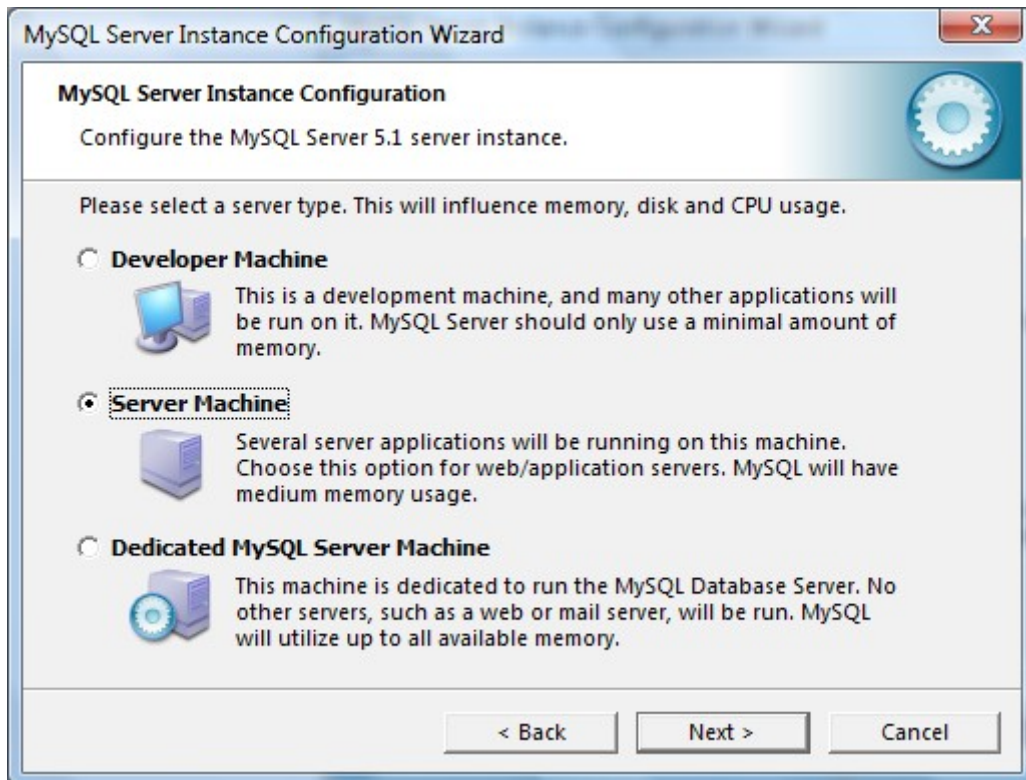
Select "Multifunctional Database"
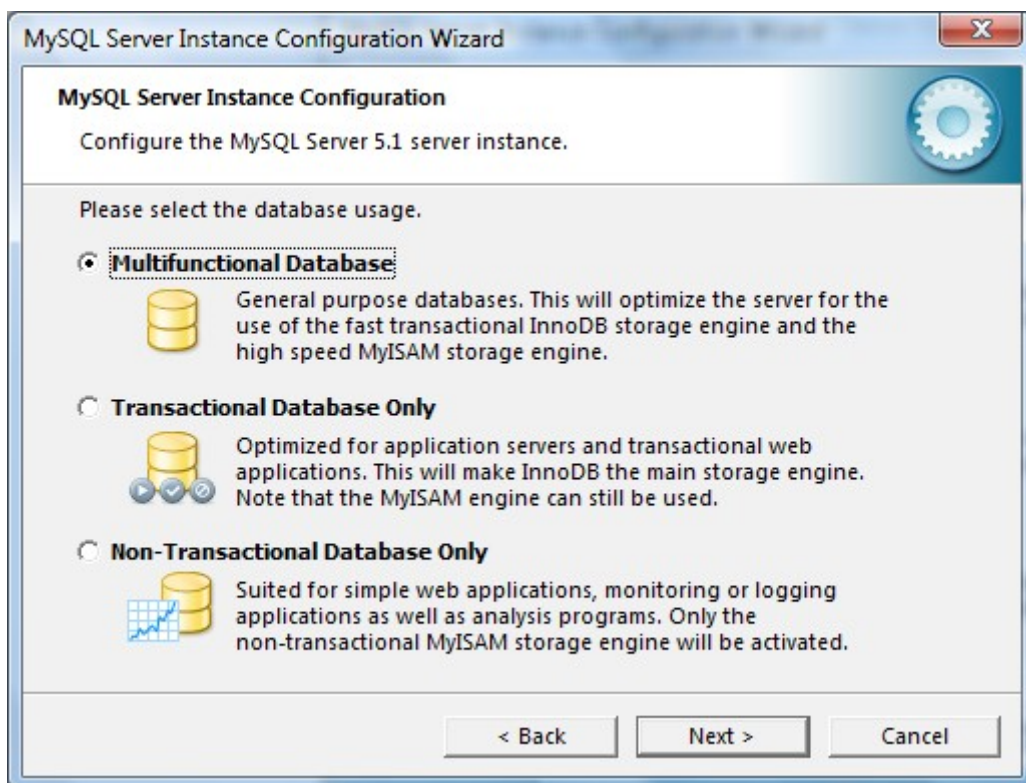
Keep the default options for the tablespace:
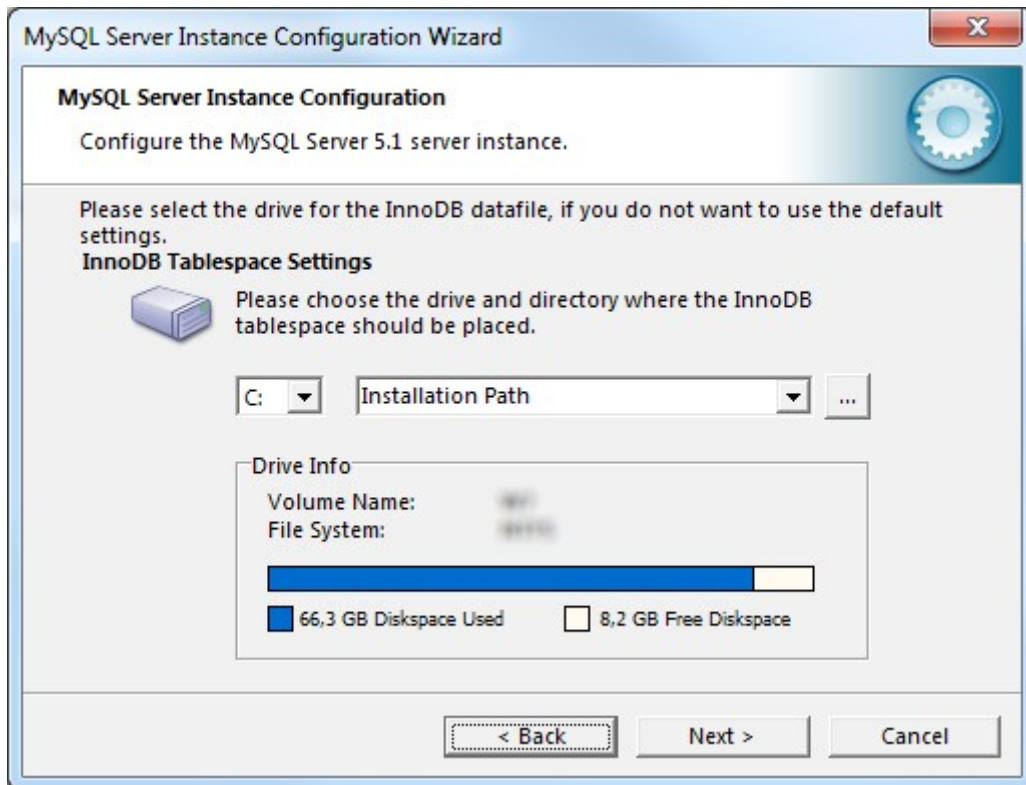
and also for the number of concurrent connections (Decision Support (DSS)/OLAP):
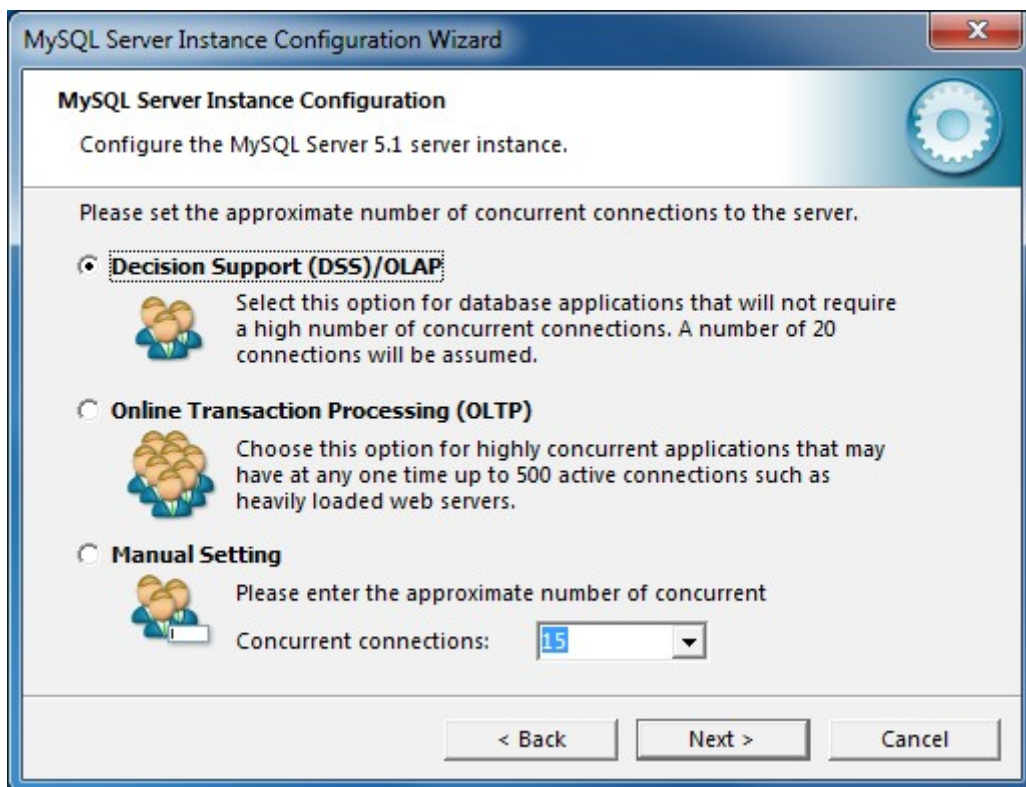
Keep the default port number and add the firewall exception:
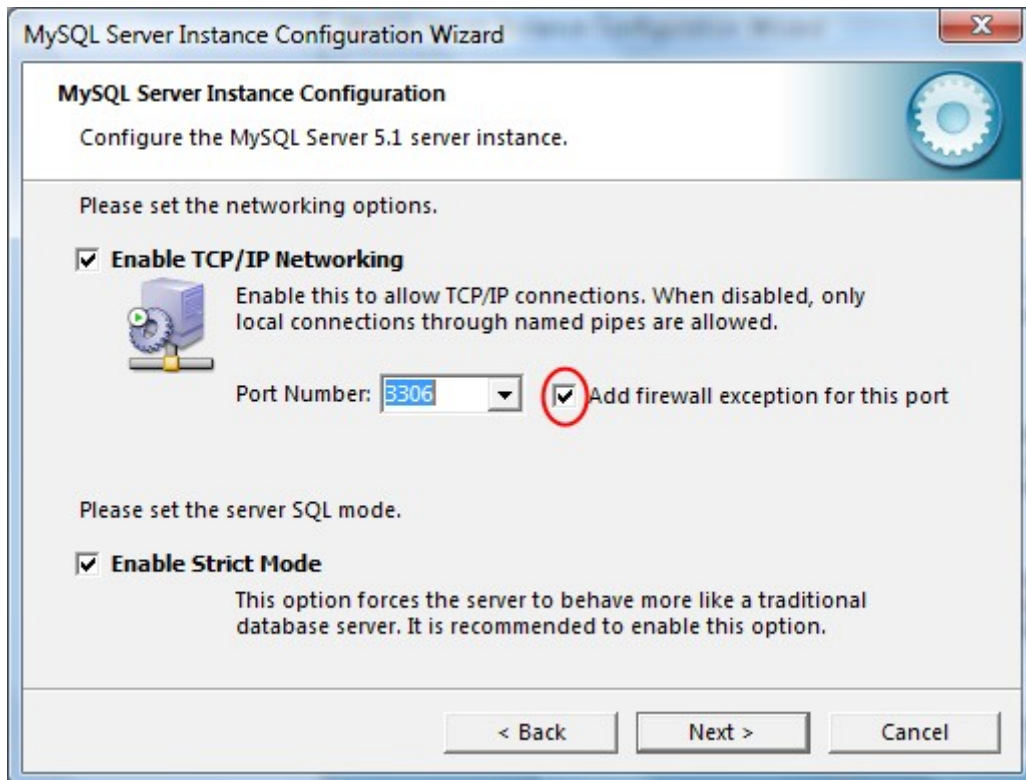
Then select "Manual Selected Default" and choose UTF-8:
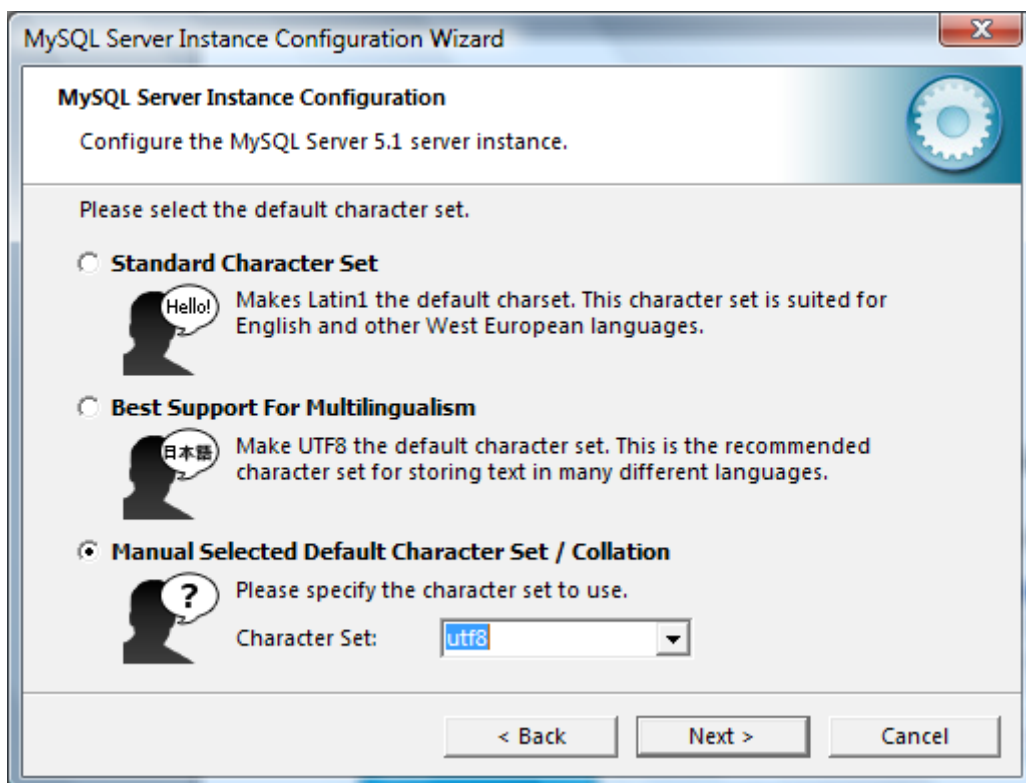
Keep the default option to install as a Windows service:

Do not forget to write down the root password:
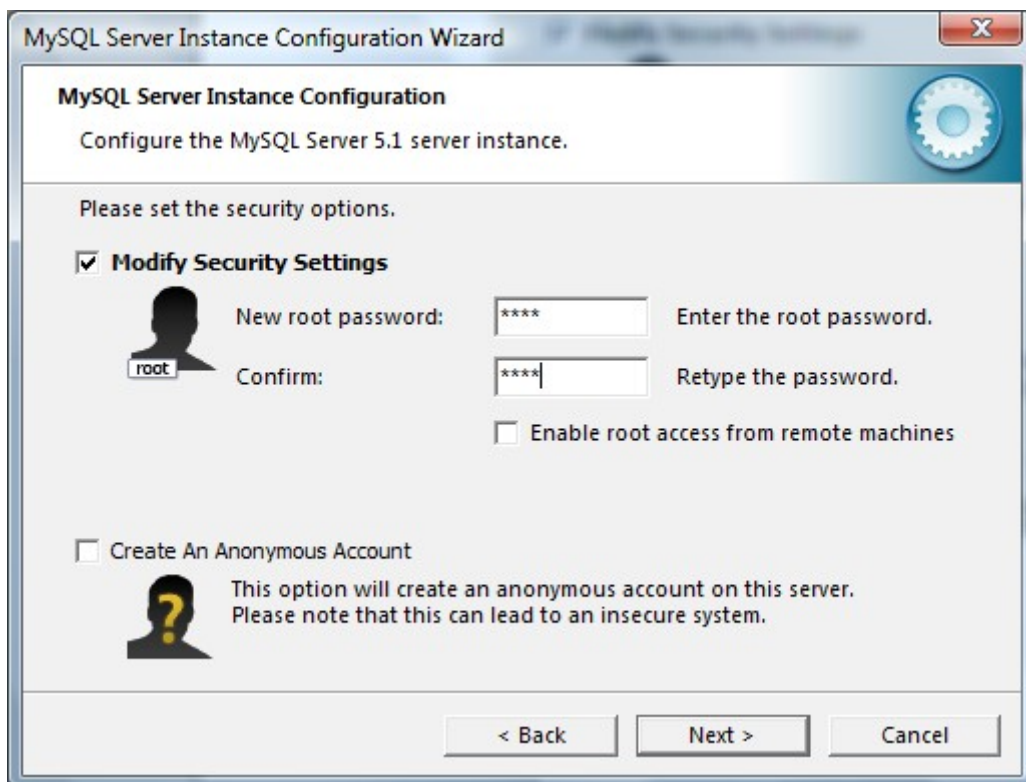
And, finally, click on Execute:
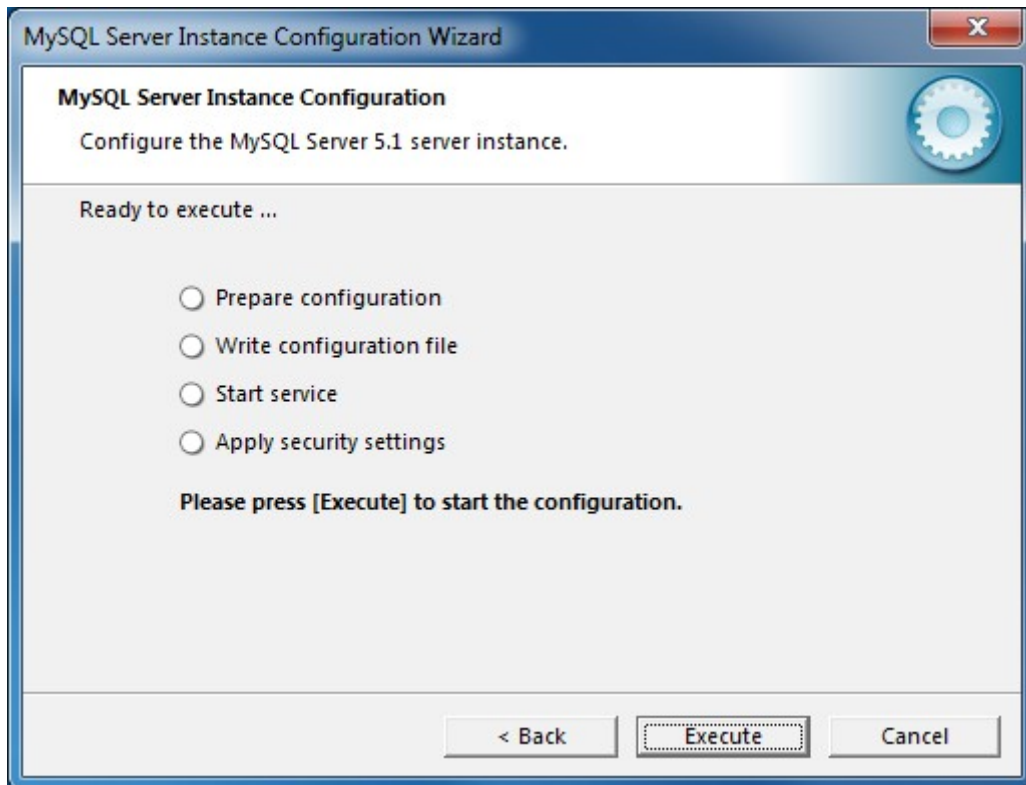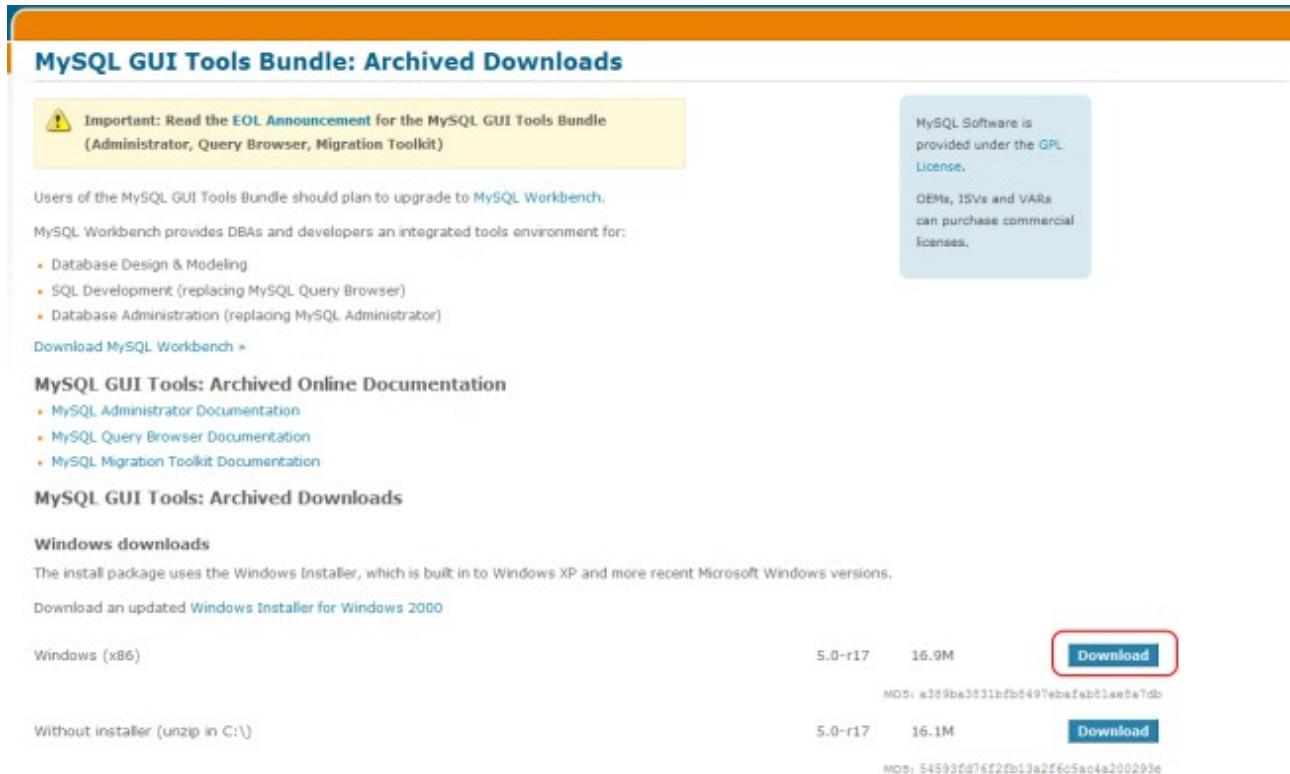
After the execution, you should obtain the following screen:
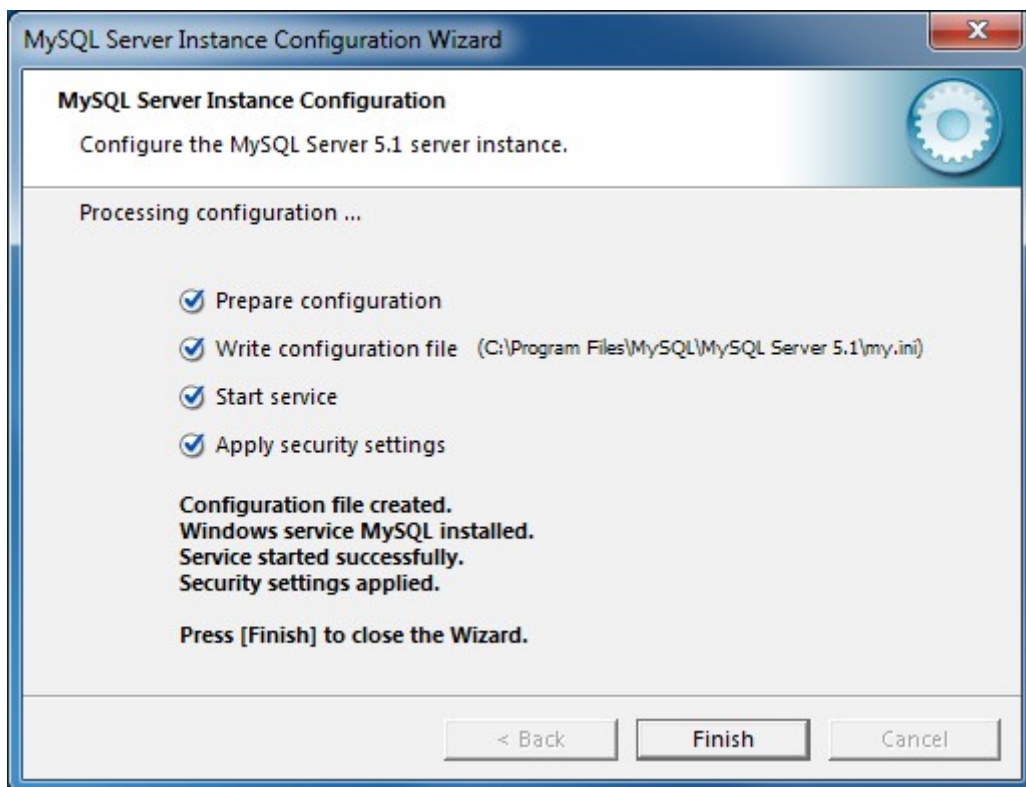
4.2.3 Downloading and installing MySQL GUI Tools

Download from: http://dev.mysql.com/downloads/gui-tools/

Install the tools with the default options (complete setup):
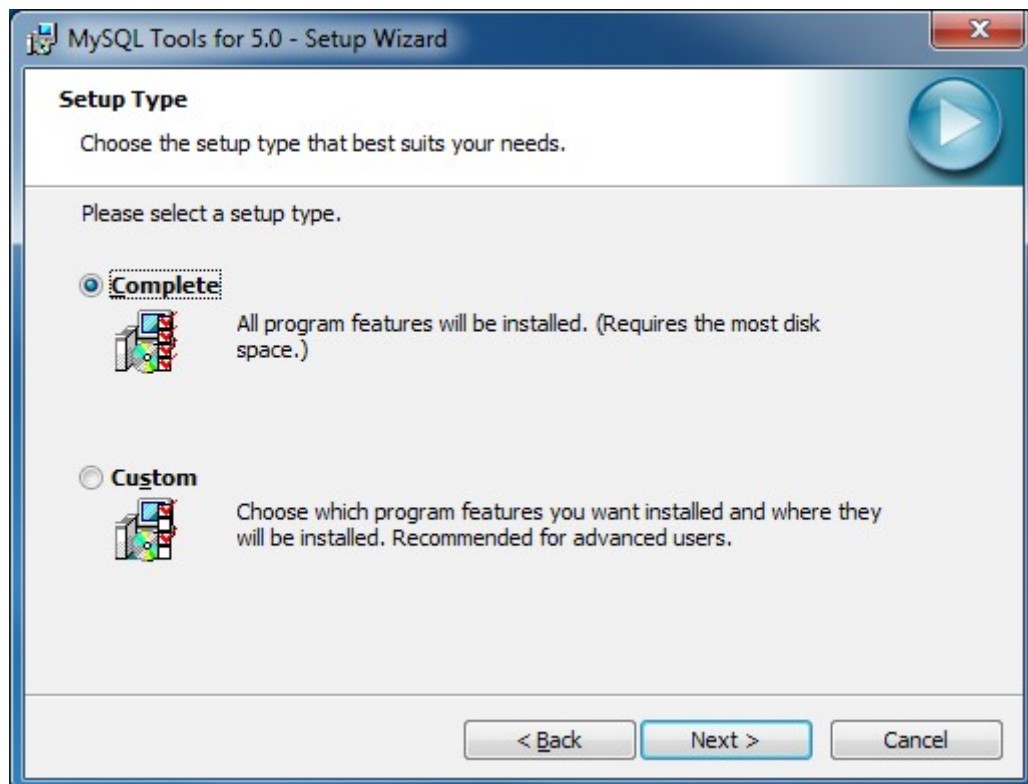
4.2.4   Downloading and installing the server

You must choose between Tomcat 6 and JBoss 4.2.3 JDK6 (JBoss 4.2.X version compatible with JDK 1.6).

Again, we will describe the Windows installation process.

4.2.4.1 Downloading and installing Tomcat 6

Download from the Apache web page: http://tomcat.apache.org/download-60.cgi the latest Tomcat 6 version:

Download the Windows Service Installer and run it.

Choose normal installation:
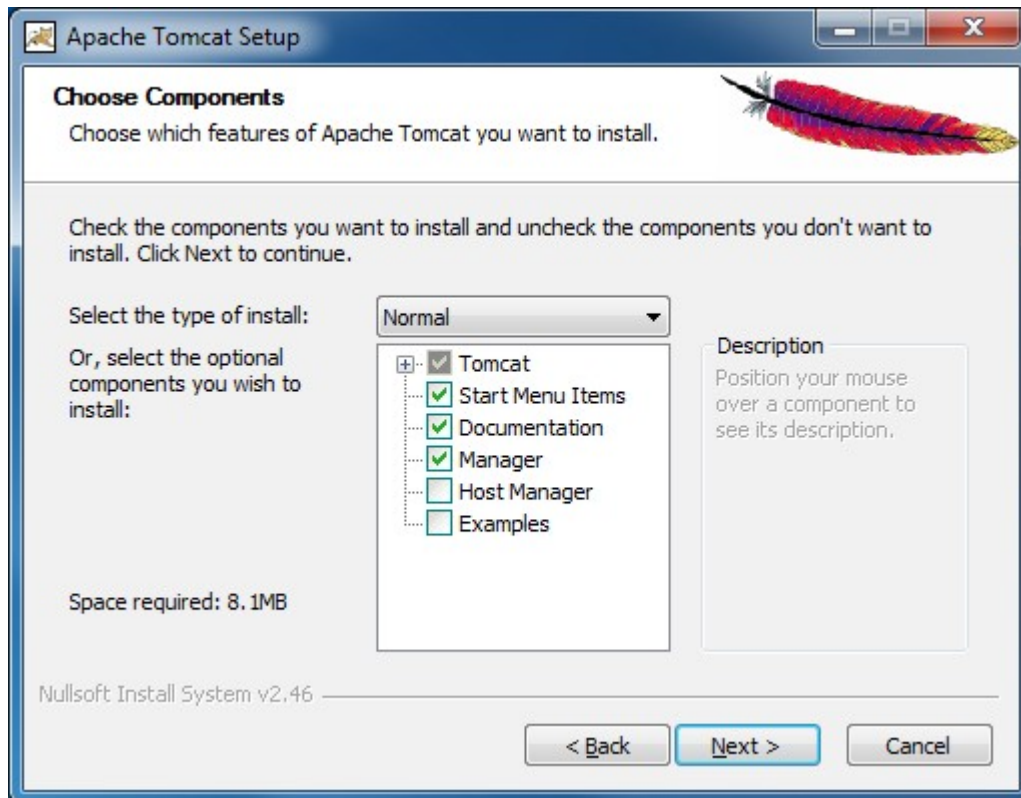
And install in c:\tomcat (using this directory is not compulsory, it is just a recommendation):
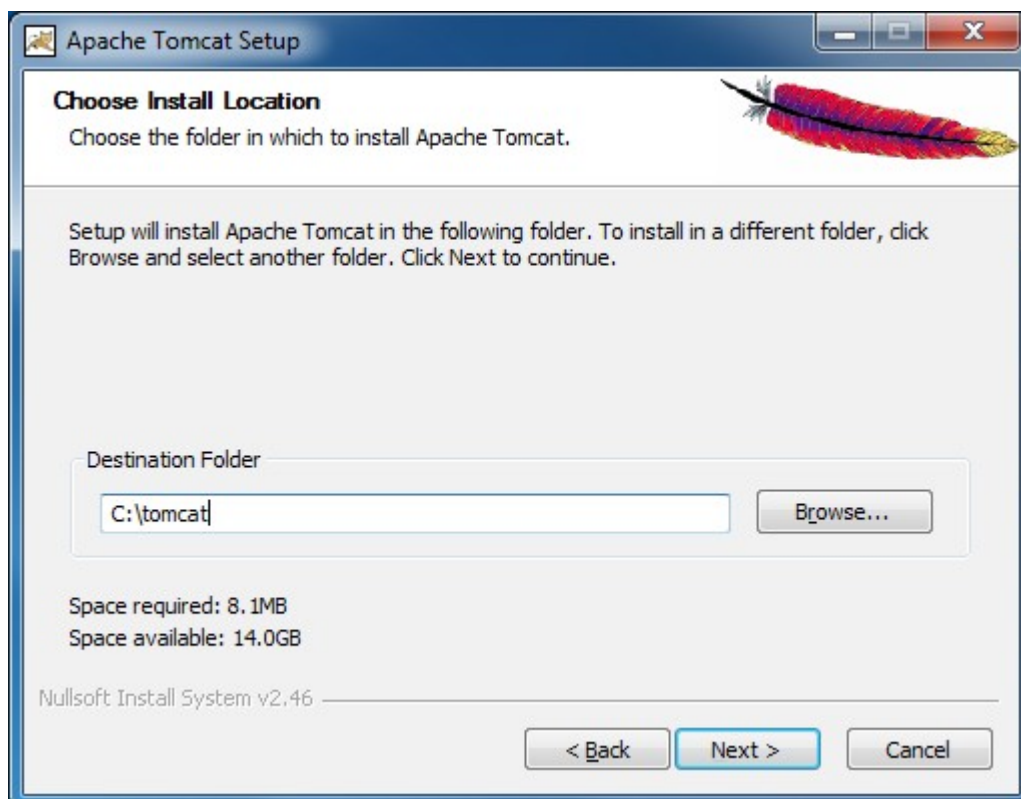
Choose login and password for admin:
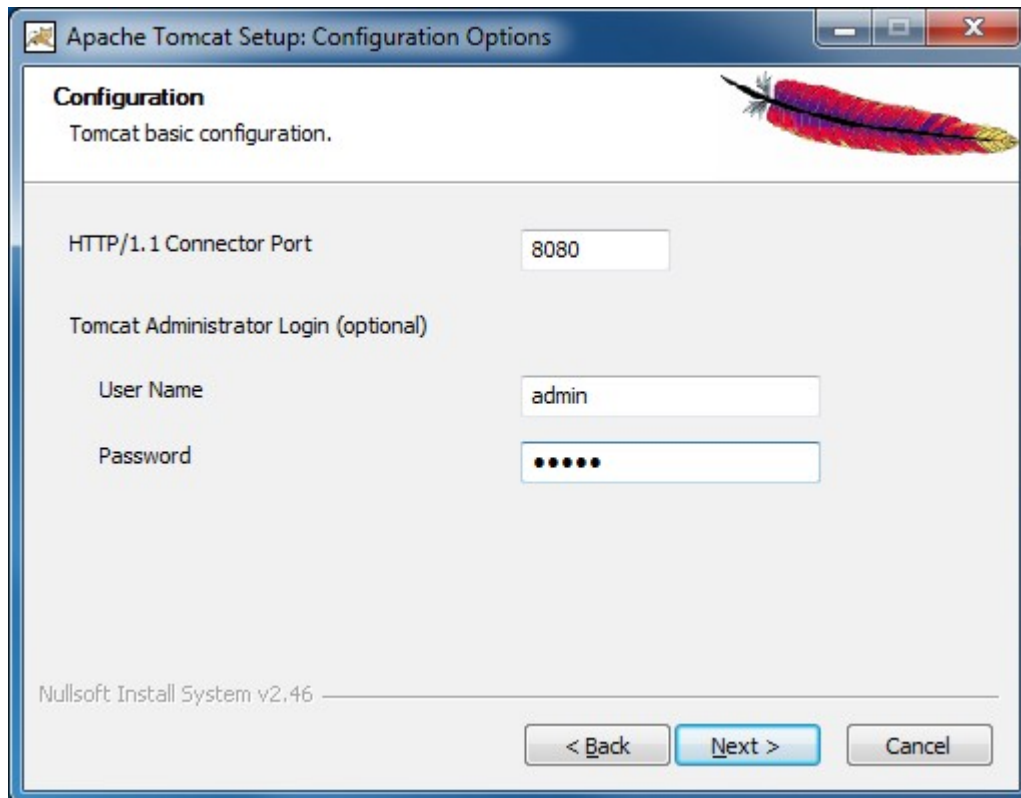
and choose your installed Java version (the wizard will offer it by default):
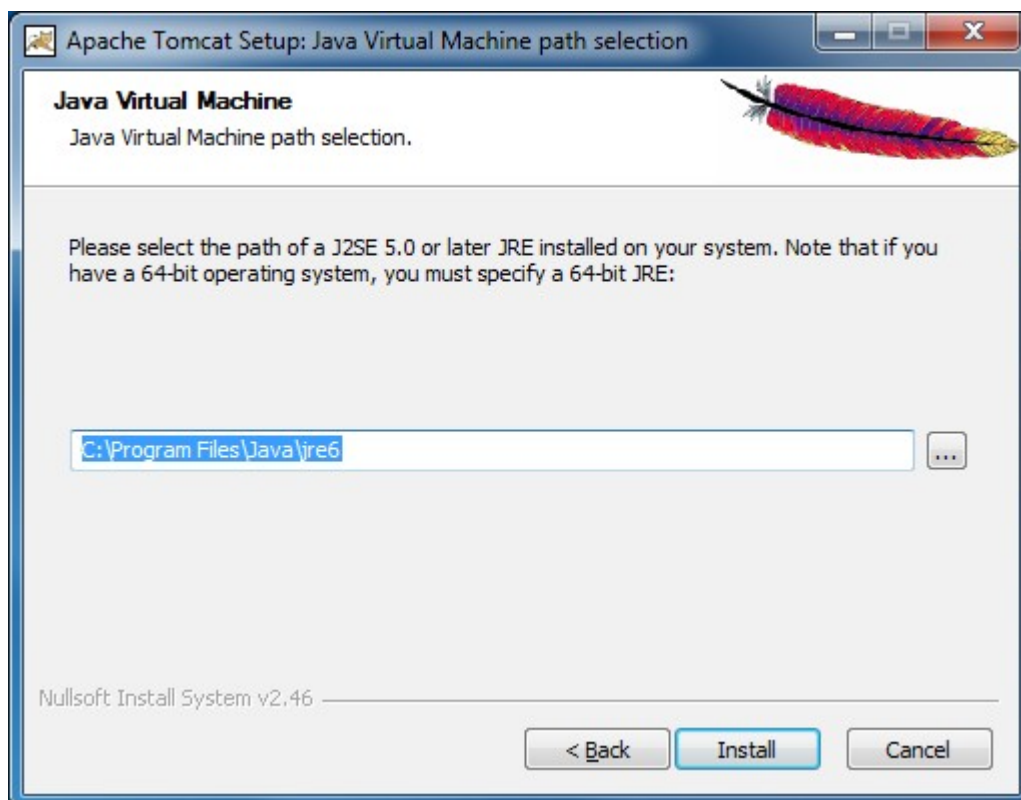
The installation will create a Windows service (Apache Tomcat 6) to start or stop the Tomcat server.

To manage this service, use the *Administration Tools* in the *Control Panel* (in Windows7 they are found under *System and Security*).

4.2.4.2 Downloading and installing JBoss Application Server 4.2.3 JDK6

In http://labs.jboss.com/jbossas/downloads/, select 4.2.3:

and choose GA-jdk6:

Browse Files for JBoss.org

File/Folder Name	Platform	Size	Date ↓	Downloads	Notes/Subscribe
Subdirectory (view all files)					
▼📁 JBoss		299.5 MB	2008-07-18	457,292	📶 🗒
▼📁 JBoss-4.2.3.GA		299.5 MB	2008-07-18	457,292	📶 🗒
📄 jboss-4.2.3.GA.zip.SHA-256		64 Bytes	2008-07-18	2,375	📝
📄 jboss-4.2.3.GA.zip.MD5		32 Bytes	2008-07-18	3,673	📝
📄 jboss-4.2.3.GA.zip		99.5 MB	2008-07-18	211,894	📝
📄 jboss-4.2.3.GA-src.tar.gz.SHA-256		64 Bytes	2008-07-18	1,274	📝
📄 jboss-4.2.3.GA-src.tar.gz.MD5		32 Bytes	2008-07-18	1,810	📝
📄 jboss-4.2.3.GA-src.tar.gz		100.4 MB	2008-07-18	32,560	📝
📄 jboss-4.2.3.GA-jdk6.zip.SHA-256		64 Bytes	2008-07-18	2,032	📝
📄 jboss-4.2.3.GA-jdk6.zip.MD5		32 Bytes	2008-07-18	4,141	📝
📄 jboss-4.2.3.GA-jdk6.zip		99.7 MB	2008-07-18	197,533	📝

Once the file is downloaded, extract it in your file system. For example, in c:\jboss.

4.2.5 Creating the initial database

Once the MySQL server is installed , you can create the database that TNTConcept will use.

To do it, run the **MySQL Administrator** tool, that will request the root password previously set:
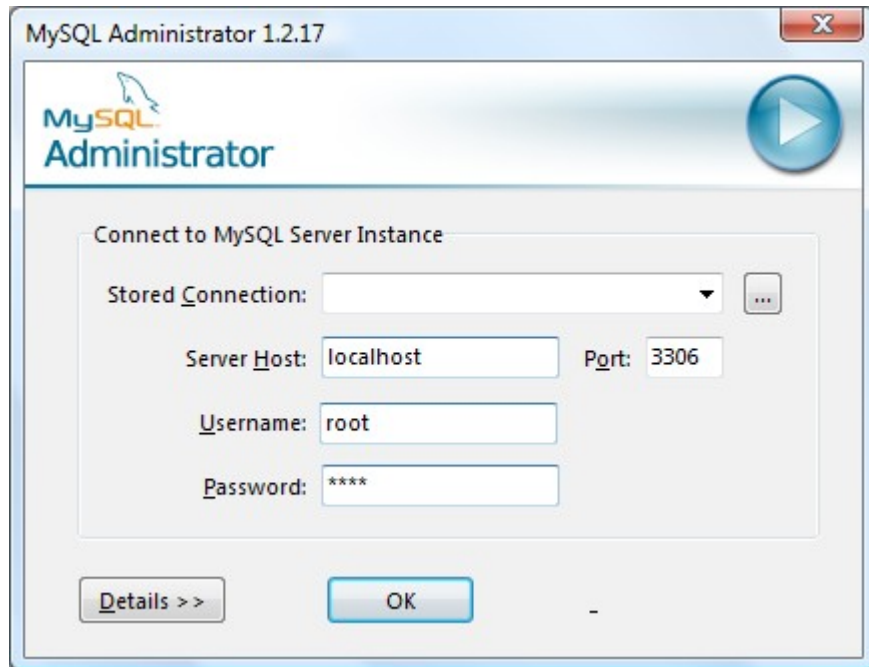
In the schema list (click on *Catalogs* and place the cursor in the lower left window), right click and choose create new schema:
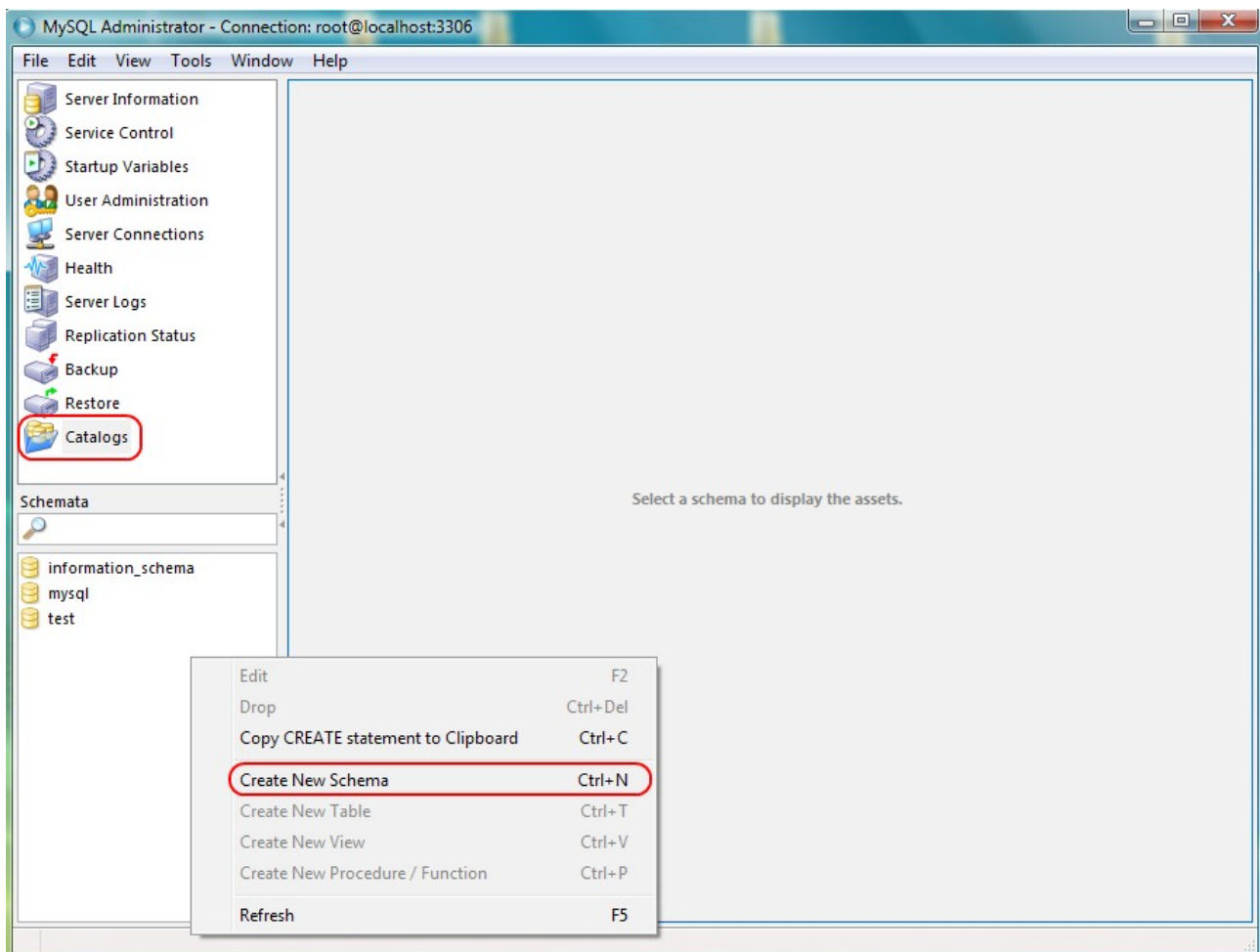
and name it "tntconcept" (you can choose any other name, but this will match the remaining configurations):
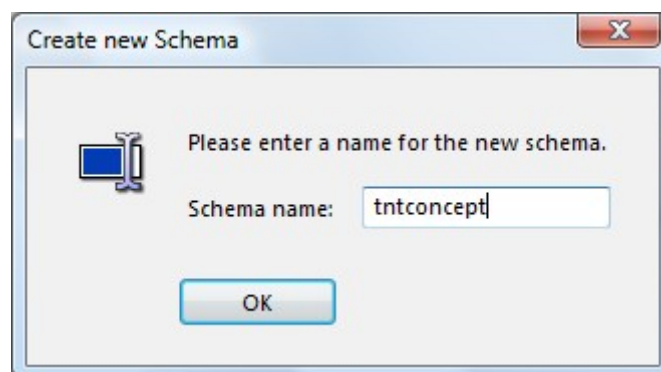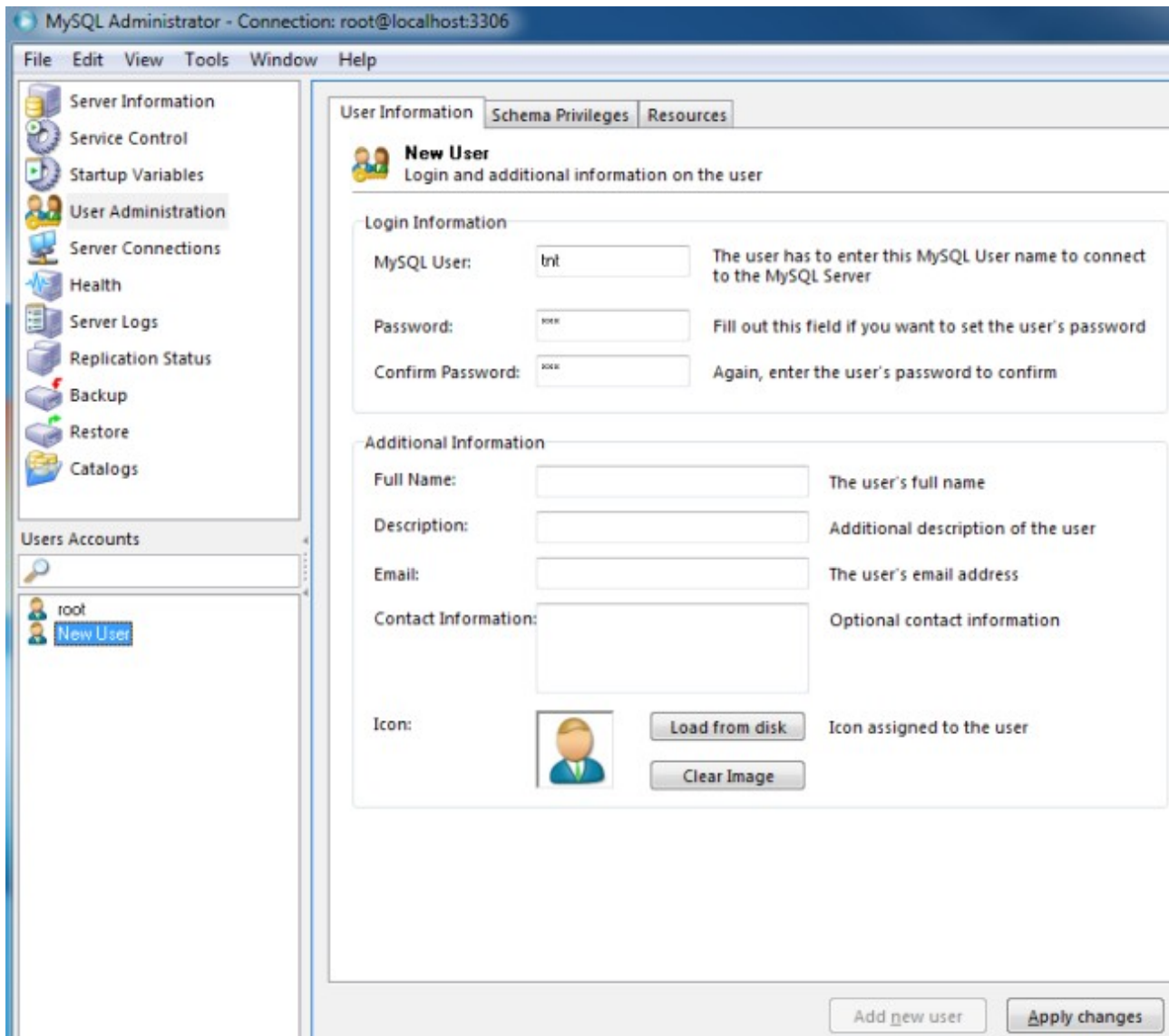
Then, click on *User Administration* and, again using the pop-up menu choose *Add new user* to create the user that will use the application:
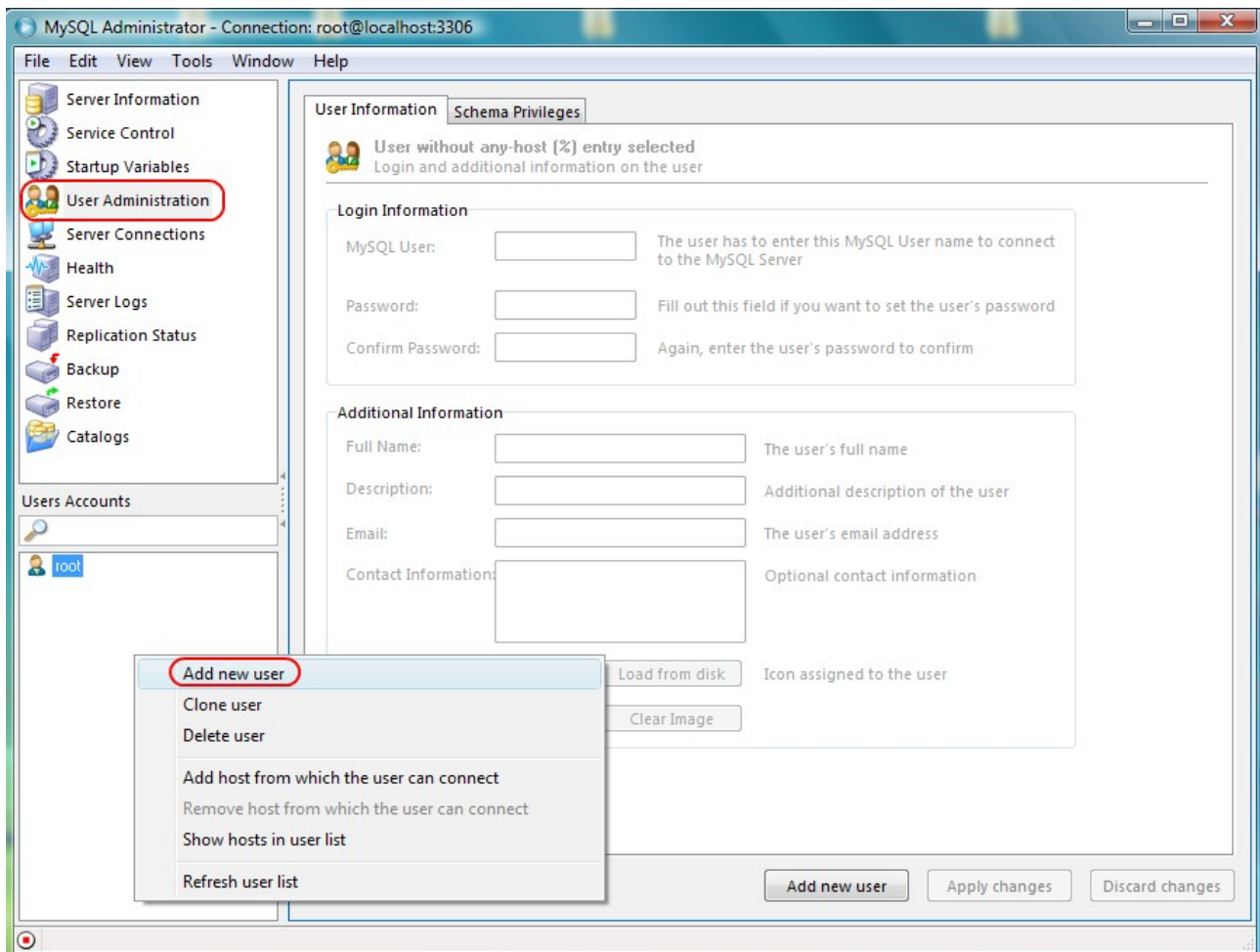
You will now need to give it a name and assign a password to it. In this guide, we will use "tnt" and "tnt" (please note that it is not strictly necessary to create a new user. If you want, you can skip these steps and move directly on to the MySQL Query Browser execution, using root. Nevertheless, the remainder of the document will assume the creation of the tnt user).

Once done, click on *Apply Changes:*

In the *Schema Privileges* tab chose the "tntconcept" schema previously created, and move all privileges on the right list to the left list using the corresponding button. Apply the changes.
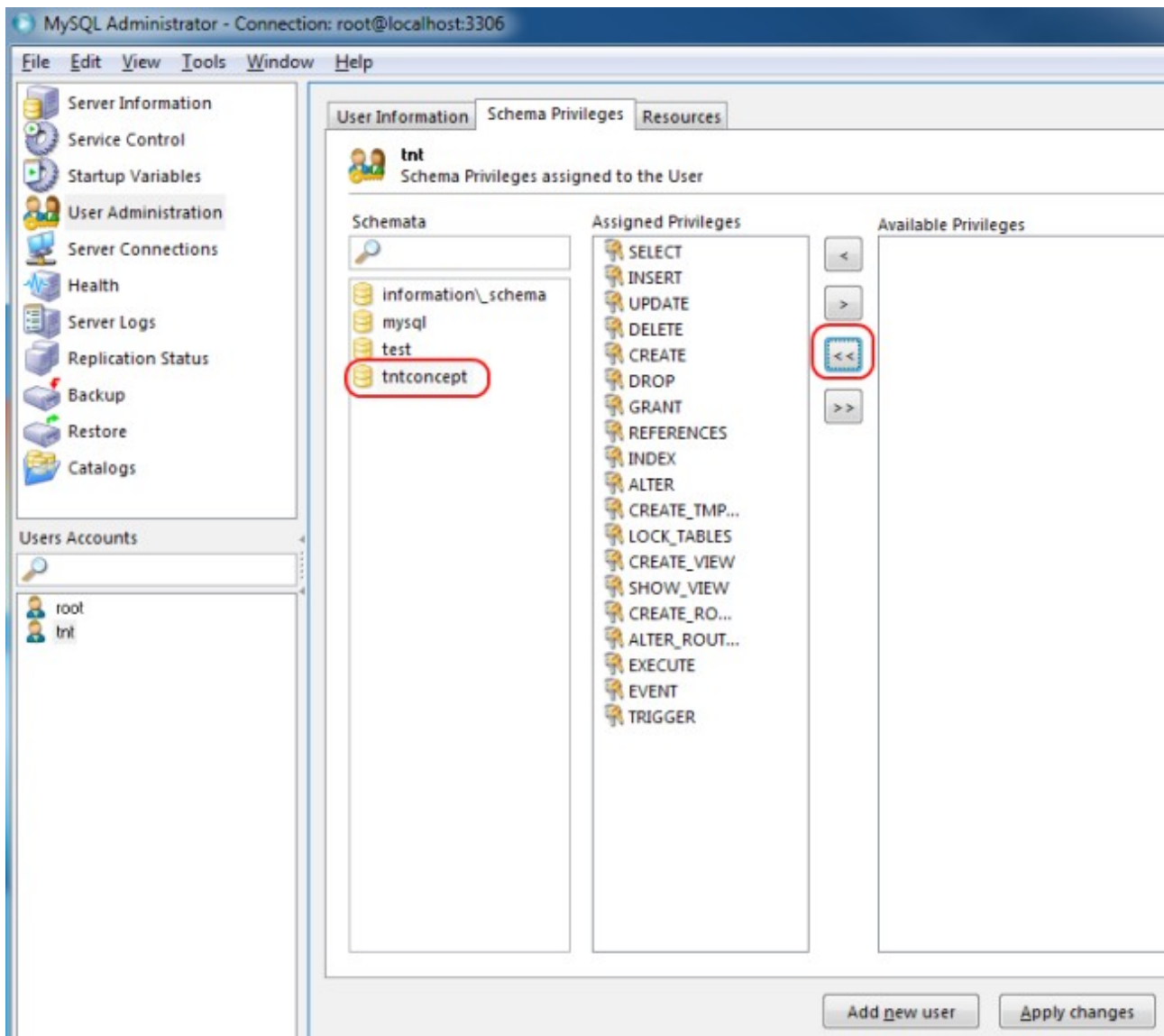
Close the MySQL Administrator application and run **MySQL Query Browser**.

Access the "tntconcept" database as "tnt" user:
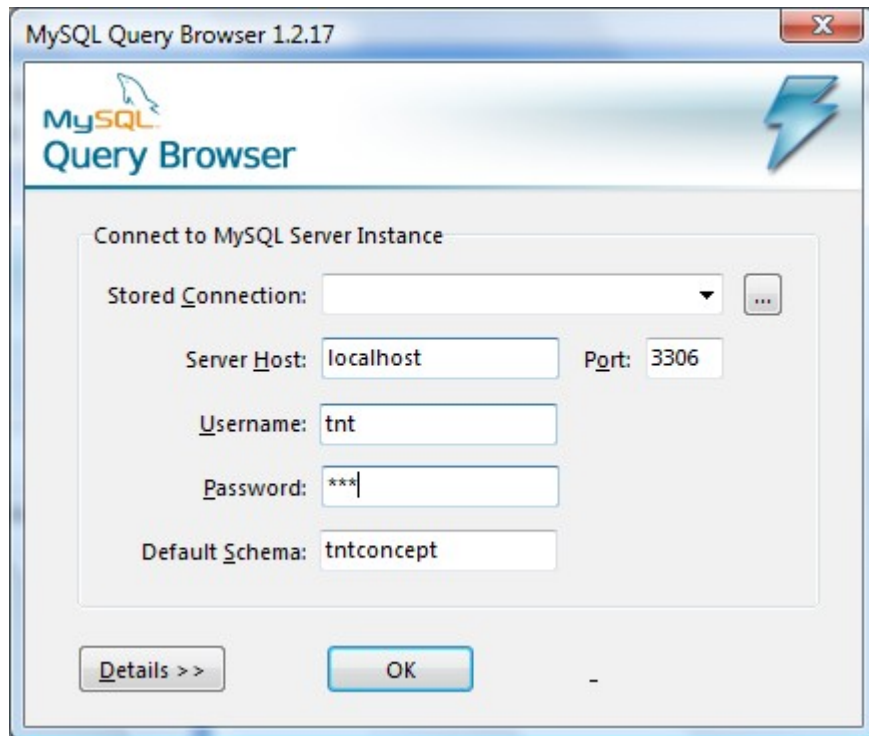
And run the database creation script enclosed in the application installation.

To do it, choose *New Script Tab* in the *File* menu:
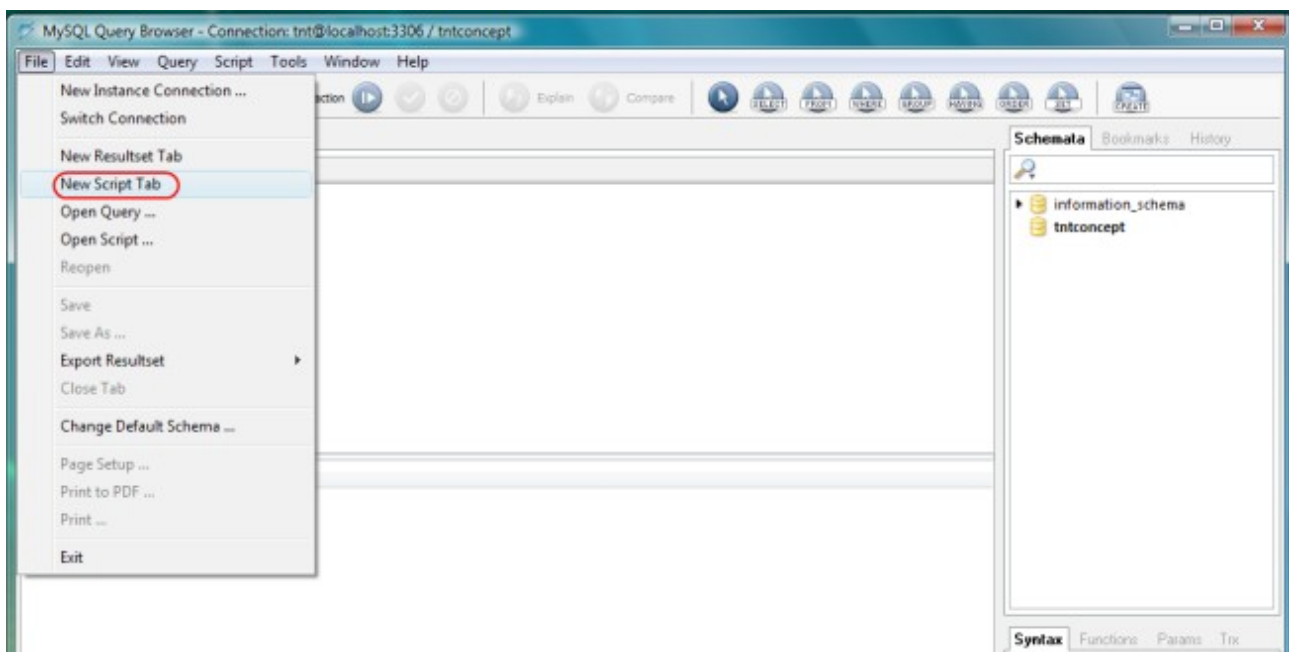
And in the new tab, paste the contents of the script $TEMPDIR/sql/mysql/createTables.sql. Click on *Execute*:
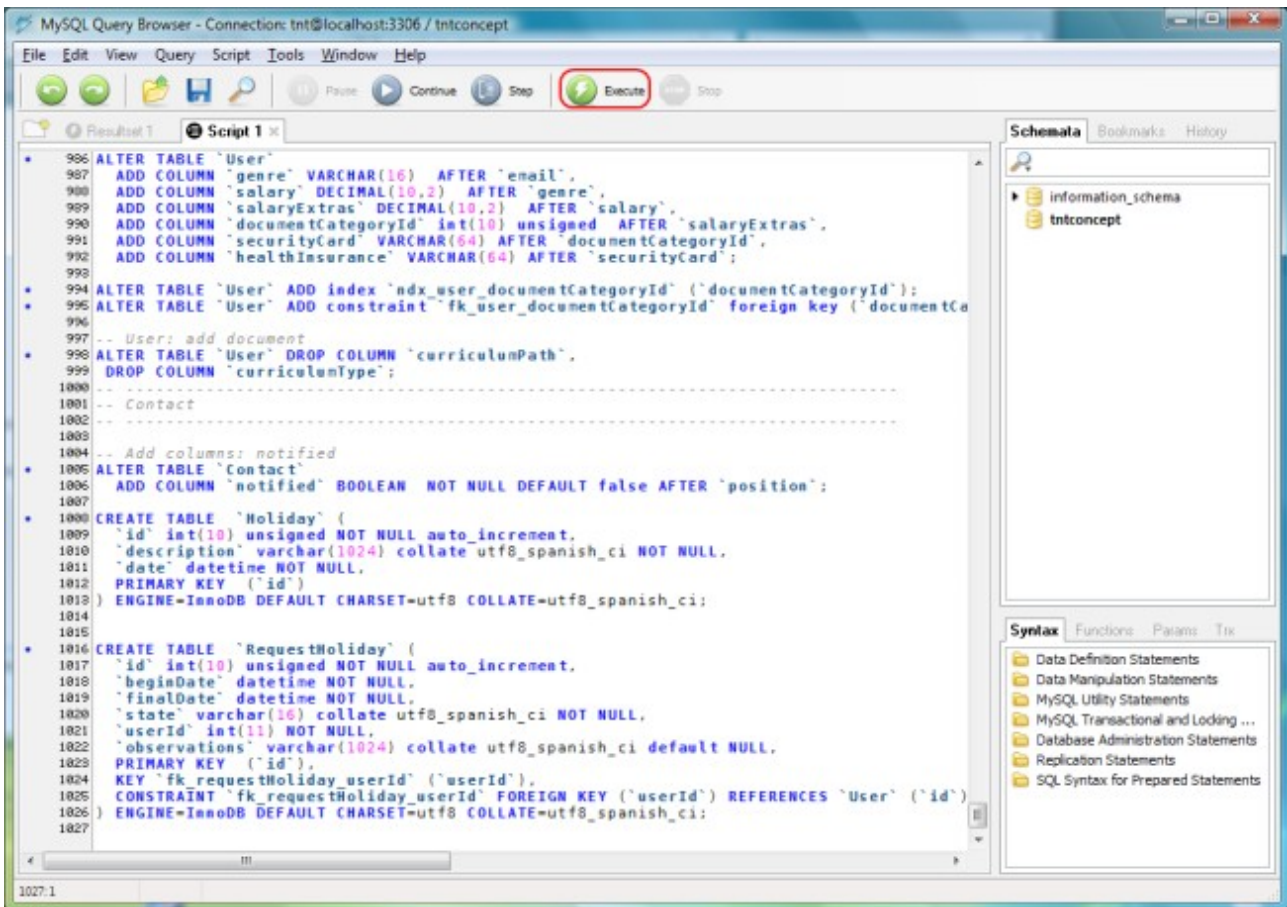
This completes the database installation. You can now close the MySQL Query Browser application (exit without saving the script).
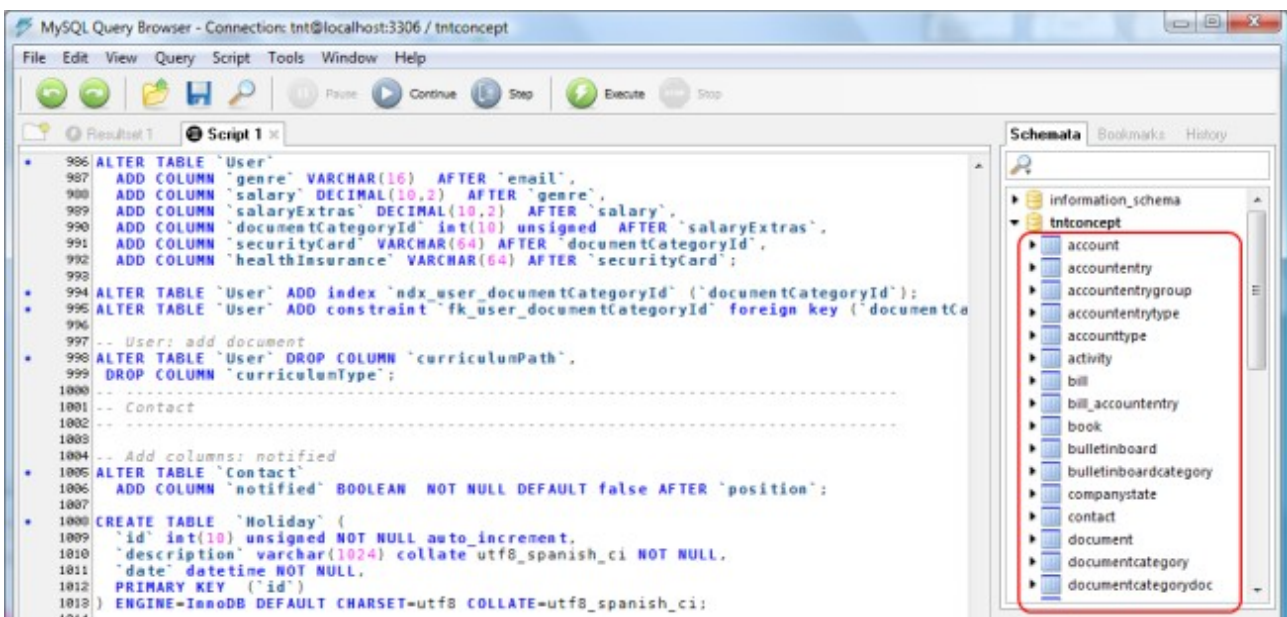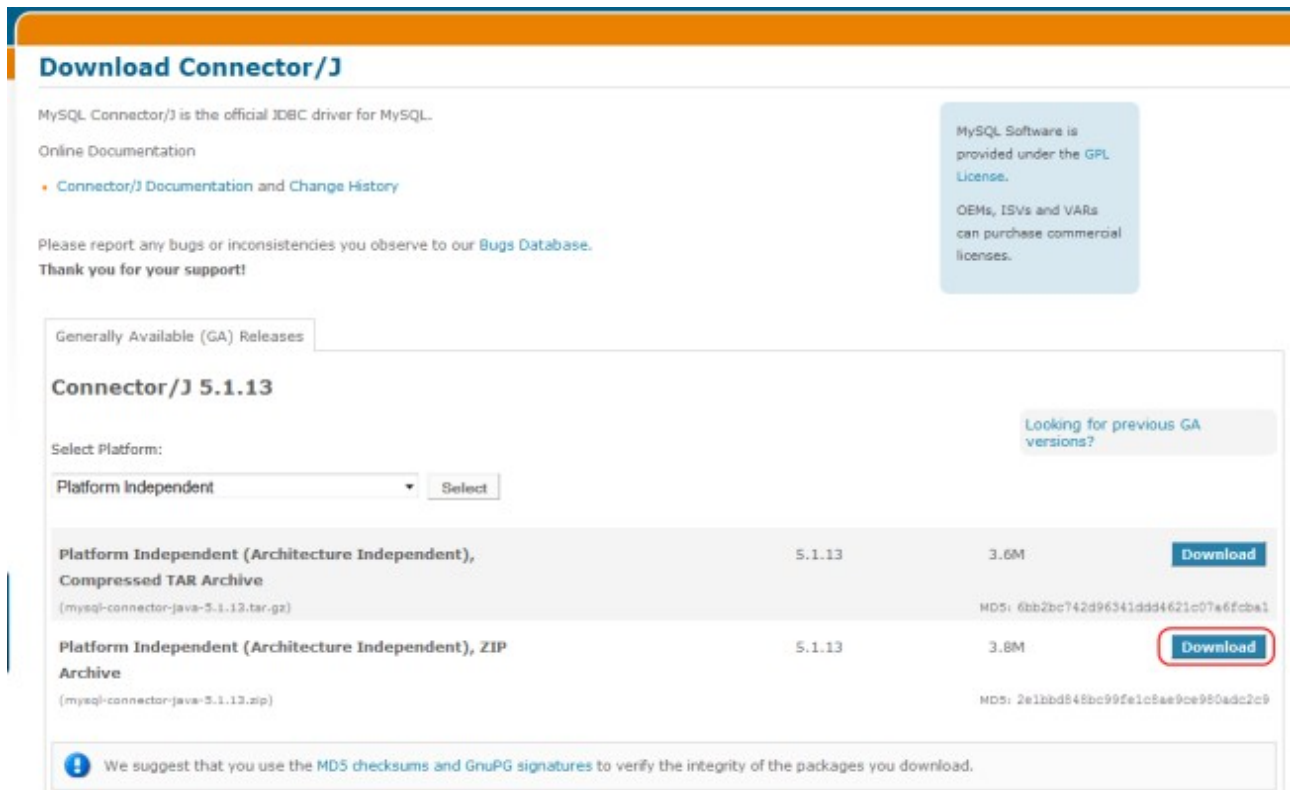
4.2.6 Installing TNTConcept on the server

As indicated before, you may opt between a Tomcat 6 server or a JBoss 4.2.3 server. We will describe below the configuration steps for each server (remember that you will need to download the TNTConcept installation package that matches the chosen server).

In both cases, you will need a database driver JAR file (JDBC driver) to connect to MySQL.

Said file can be downloaded from MySQL website: http://dev.mysql.com/downloads/connector/j/

Sometimes it may come included in the MySQL distribution, depending on the operating system. A copy of this file (mysql-connector-java-5.1.X-bin.jar) is also included in the installation file, under the $TEMPDIR/lib directory.

4.2.6.1 Tomcat 6 configuration

Copy the $TEMPDIR/app/tntconcept.war provided in the installation file in the $TOMCAT6/webapps directory.

You will need to configure the web application context in Tomcat, so that it will know how to access the database and the application configuration directory. To do so, please modify the $TOMCAT6/conf/server.xml file.

Open the file and define a new web application context using the following XML fragment, to be placed within the virtual host, just before the label </Host>:

```
<Context path="/tntconcept" docBase="tntconcept">
  <Manager pathname=""/>
  <Environment name="TNTConceptConfigDir" type="java.lang.String" value="$CONFIG"/>
  <Resource name="jdbc/TNTConcept" auth="Container" type="javax.sql.DataSource"
        maxActive="100" maxIdle="30" maxWait="10000" driverClassName="com.mysql.jdbc.Driver"
        username="$DBUSER" password="$DBPASSWD"
        url="jdbc:mysql://localhost:3306/$DB?autoReconnect=true"/>
 </Context>
```

</Host> CAUTION! Please make sure to keep the </Host> label after the context

You have to replace the values in **red** with the correct values in your installation (if you are doing an update please read section 4.1.1). Regarding the value of the TNTConceptConfigDir ($CONFIG) context variable , it is advisable to use /etc/tntconcept in Unix systems and c:/tntconcept on Windows, but you may point it to any other directory.

The database name ($DB) must be replaced by the real name of your database. For example, if you installed version 0.1, the database will probably be called intraweb. For all other versions it is recommended to call the database tntconcept.

In this guide's example, the file would look as follows:

```
<Context path="/tntconcept" docBase="tntconcept">
  <Manager pathname=""/>
  <Environment name="TNTConceptConfigDir" type="java.lang.String" value="c:/tntconcept"/>
  <Resource name="jdbc/TNTConcept" auth="Container" type="javax.sql.DataSource"
        maxActive="100" maxIdle="30" maxWait="10000" driverClassName="com.mysql.jdbc.Driver"
        username="tnt" password="tnt"
        url="jdbc:mysql://localhost:3306/tntconcept?autoReconnect=true"/>
 </Context>
```

Additionally, you will need to copy the MySQL connector JAR file to $TOMCAT6/lib.

4.2.6.2 JBoss configuration

Copy the $TEMPDIR/app/tntconcept.war provided in the installation file in the $JBOSS/server/default/deploy directory.

You will need to create a datasource to access the database. To do it, copy the $TEMPDIR/jboss/tntconcept-ds.xml file to $JBOSS/server/default/deploy and edit it:

```
<datasources>
        <local-tx-datasource>
                <jndi-name>jdbc/TNTConcept</jndi-name>
                <connection-url>jdbc:mysql://localhost:3306/$DB</connection-url>
                <driver-class>com.mysql.jdbc.Driver</driver-class>
                <user-name>$DBUSER</user-name>
                <password>$DBPASSWD</password>
        </local-tx-datasource>
</datasources>
```

replacing the values highlighted in **red** with the correct values from your environment (if you are doing an update please read section 4.1.1).

In this guide's example, the file would look as follows:

```xml
<datasources>
        <local-tx-datasource>
                <jndi-name>jdbc/TNTConcept</jndi-name>
                <connection-url>jdbc:mysql://localhost:3306/tntconcept</connection-url>
                <driver-class>com.mysql.jdbc.Driver</driver-class>
                <user-name>tnt</user-name>
                <password>tnt</password>
        </local-tx-datasource>
</datasources>
```

The server also needs to know which is the application configuration directory. Please copy the $TEMPDIR/jboss/tntconcept-service.xml file to $JBOSS/server/default/deploy and edit it:

```xml
<server>
    <mbean code="org.jboss.naming.JNDIBindingServiceMgr"
            name="jboss.tests:service=JNDIBindingServiceMgr">
       <attribute name="BindingsConfig" serialDataType="jbxb">
          <jndi:bindings
               xmlns:xs="http://www.w3.org/2001/XMLSchema-instance"
               xmlns:jndi="urn:jboss:jndi-binding-service:1.0"
               xs:schemaLocation="urn:jboss:jndi-binding-service:1.0 resource:jndi-binding-service_1_0.xsd">
             <jndi:binding name="TNTConceptConfigDir">
               <jndi:value type="java.lang.String">$CONFIG</jndi:value>
             </jndi:binding>
          </jndi:bindings>
       </attribute>
       <depends>jboss:service=Naming</depends>
    </mbean>
</server>
```

modifying the value in **red** to point to the configuration directory (if you are doing an update please read section 4.1.1).

It is advisable to use /etc/tntconcept in Unix systems and c:/tntconcept on Windows, but you may point it to any other directory.

In this guide's example, the file would look as follows::

```
<server>
  <mbean code="org.jboss.naming.JNDIBindingServiceMgr"
          name="jboss.tests:service=JNDIBindingServiceMgr">
    <attribute name="BindingsConfig" serialDataType="jbxb">
      <jndi:bindings
          xmlns:xs="http://www.w3.org/2001/XMLSchema-instance"
          xmlns:jndi="urn:jboss:jndi-binding-service:1.0"
          xs:schemaLocation="urn:jboss:jndi-binding-service:1.0 resource:jndi-binding-service_1_0.xsd">
        <jndi:binding name="TNTConceptConfigDir">
          <jndi:value type="java.lang.String">c:/tntconcept</jndi:value>
        </jndi:binding>
      </jndi:bindings>
    </attribute>
    <depends>jboss:service=Naming</depends>
  </mbean>
</server>
```

Additionally, you will need to copy the MySQL connector JAR file to the $JBOSS/server/default/lib directory.

4.2.7   Configuring the application

Once the context is defined, you will need to copy the configuration files located in the $TEMPDIR/config directory in the installation package to the $CONFIG directory (specified in the TNTConceptConfigDir context variable in the previous step). These files are:

– log4j.properties (logging configuration files)

– autentia.properties (application properties)

– logo.bmp (company logo for reports)

– securityConfiguration.xml (security configuration file)

– securityConfiguration.xsd (XSD file to validate the security configuration file)

– docroot folder. Contains the application CSS style sheets (.css)

Once copied, you may edit the files and modify the configuration parameters to your liking. We will briefly explain the main properties to change. The remaining properties should be left unmodified, unless you know exactly what you are doing.

IMPORTANT

All file and directory paths in the configuration files must use the slash /, instead of the backslash \. This applies even to Windows systems. If backslash \ is used in Windows, the application may not dump traces, won't be able to attach files to registries and it may even have problems starting up.

- log4j.properties:

  o Under the heading "# Default file appender", uncomment the log4j.appender.file.File property according to your platform (Windows or Unix) to specify the directory where the application should dump its traces. Such traces are generated during the execution of the application and can be used for debugging or to obtain information about what is happening.

  o Under the heading "# Migration log appender", uncomment the log4j.appender.migration.File property according to your platform (Windows or Unix) to specify the directory where you want to dump the database migration traces. Such traces are only generated when the application is updated from one version to another.

  o Under the heading "# Security log appender", uncomment the log4j.appender.security.File property according to your platform (Windows or Unix) to specify the directory where you want to dump the security related traces.

- autentia.properties:

  o Under the heading "# Uploaded files path", uncomment the pathFicheros property according to your platform (Windows or Unix) to specify the directory where you want to store the file attachments of the application. The binary file attachments are documents (Word files, images, PDFs, ...) which can be uploaded to the server associated with certain types of registries (ie: CVs of users, quality documents ...)

  o Under the heading "# Personal report path", uncomment the pathReports property according to your platform (Windows or Unix) to specify the directory where you want to store the personal report files. The application allows the use of user specified reports (in addition to those already defined), which must be created with JasperReports and loaded in this directory.

  o reportLogoName. Contains the name of the image used for reports. This image is searched under the path $CONFIG.

  o isUsingExternalCss. Indicates whether the CSS files are searched within the $CONFIG directory (true) or the internal files of the application included in the .war are used.

  o documentRoot. Folder within $CONFIG where the CSS files are searched for . Only relevant if the previous property is true.

5 Database migration
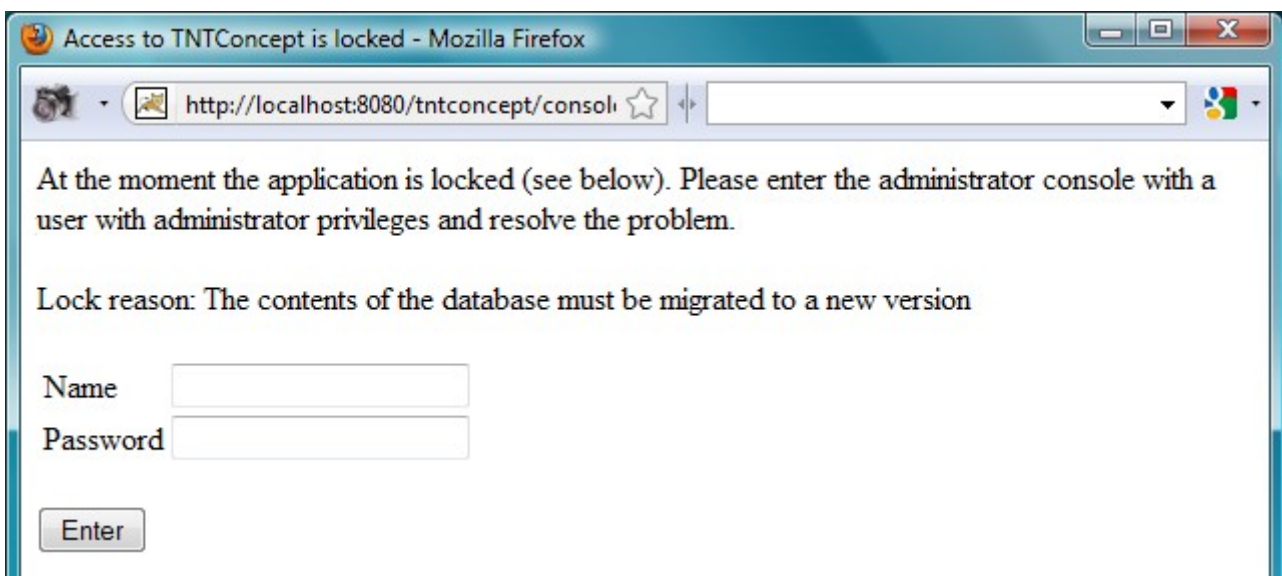
Before entering the application, it may be necessary to migrate the structure and contents of the database to the format of the installed version. Obviously, as the application evolves the data structure must evolve as well. With each version, new fields and tables are added and certain data values might be modified. All these changes are implemented through SQL scripts that alter the database to fit it from earlier versions to the currently installed one.

5.1 Explanation of the migration concept and console mode

TNTConcept tries to to make the migration process as automatic as possible, to avoid the need to work with low level MySQL tools. To that end we have the concept of console mode or locked application.

When a new version of TNTConcept is installed, the contents of the data in the database and executable Java classes are not synchronized: new classes expect to find fields and tables that might not exist in the previous version. To detect this condition, the application, during startup, compares the version of Java classes with the version of the data in the database (stored in a table named Version). If the version of the Java classes is higher than that of the database, the application enters console mode and remains "locked".

When the application is locked only the application console can be accessed, which is a simple page that allows migrating the database (ie launching scripts to migrate the SQL database):

Once we enter the console with an administrator user and the migration process is properly executed, the database is updated to the new version and the application is unlocked. The console will not appear until the next version upgrade. Note that not all version upgrades require a database migration.

5.2 Carrying out the migration process

IMPORTANT

We strongly recommend making a backup of the database before migrating it to prevent data corruption or data loss during the process. This is not necessary if you are installing the application from scratch, only if you are upgrading.

Start Tomcat (o JBoss) and connect to the application entering the following address in the browser: http://localhost:8080/tntconcept. You will see that, upon connection, the usual start screen is not shown, but the TNTConcept administration console:
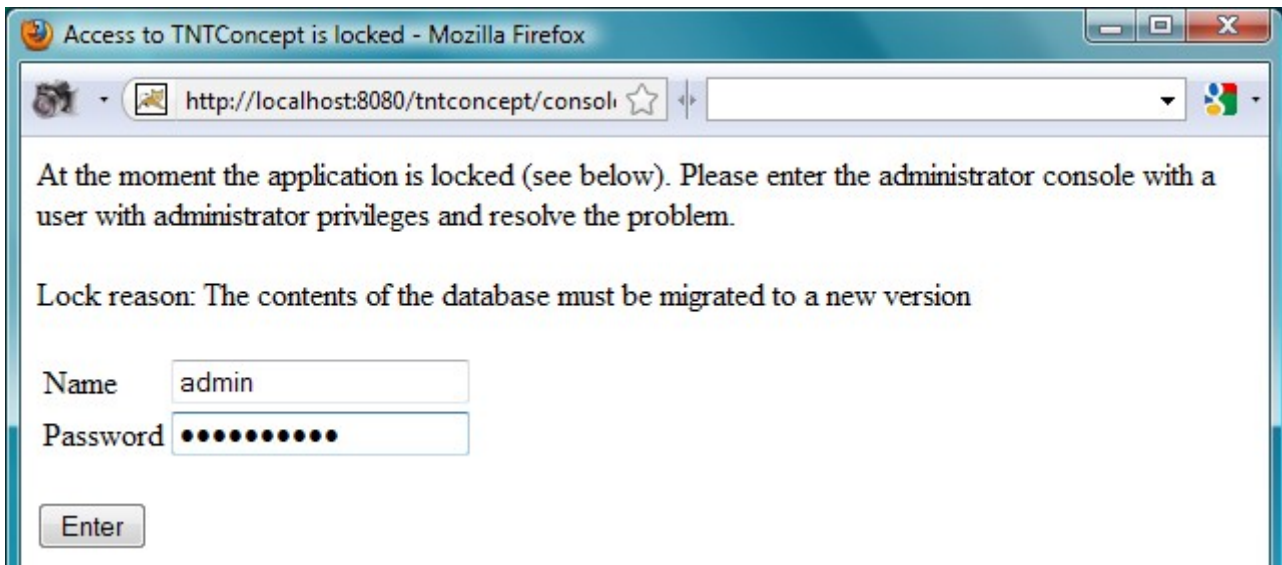
Enter an administrator user and password (the default user administrator is admin and the password adminadmin). The console menu will be shown. Clicking on "Migrate database", you will see an explanation of the function and a button to carry out the migration:
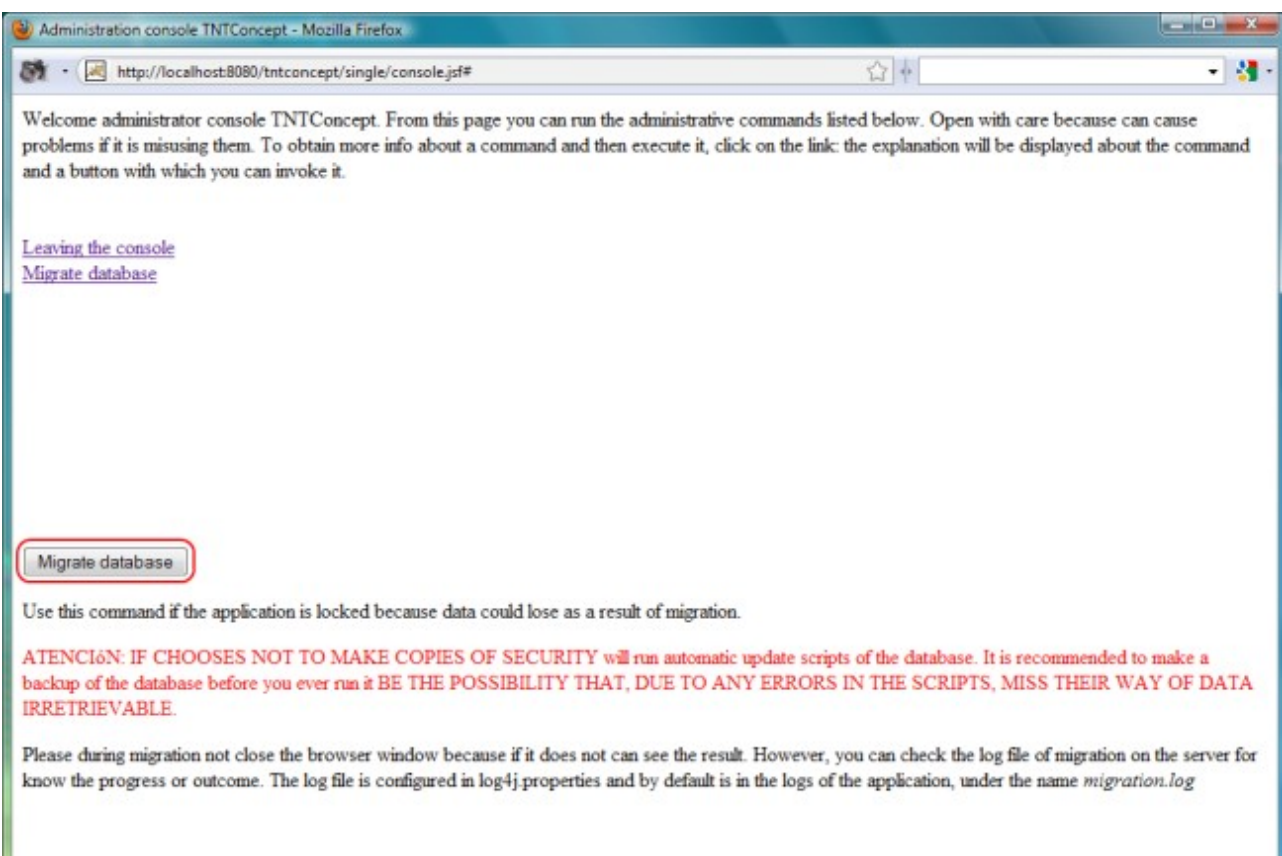
Press the button, which will run the scripts for updating the database. The application will report the result once the process is finished. You can see the detailed result of the migration in the trace file set in $CONFIG/log4j.properties under the key log4j.appender.migration.File.

Once the database is migrated, if all went well, click on "Leaving the console".

Then close your browser, start a new one, and access again to: http://localhost:8080/tntconcept.

6 Starting the application

If everything is properly configured and the Tomcat (or JBoss) and MySQL services started, you can go to a browser and run the application (http://localhost:8080/tntconcept):
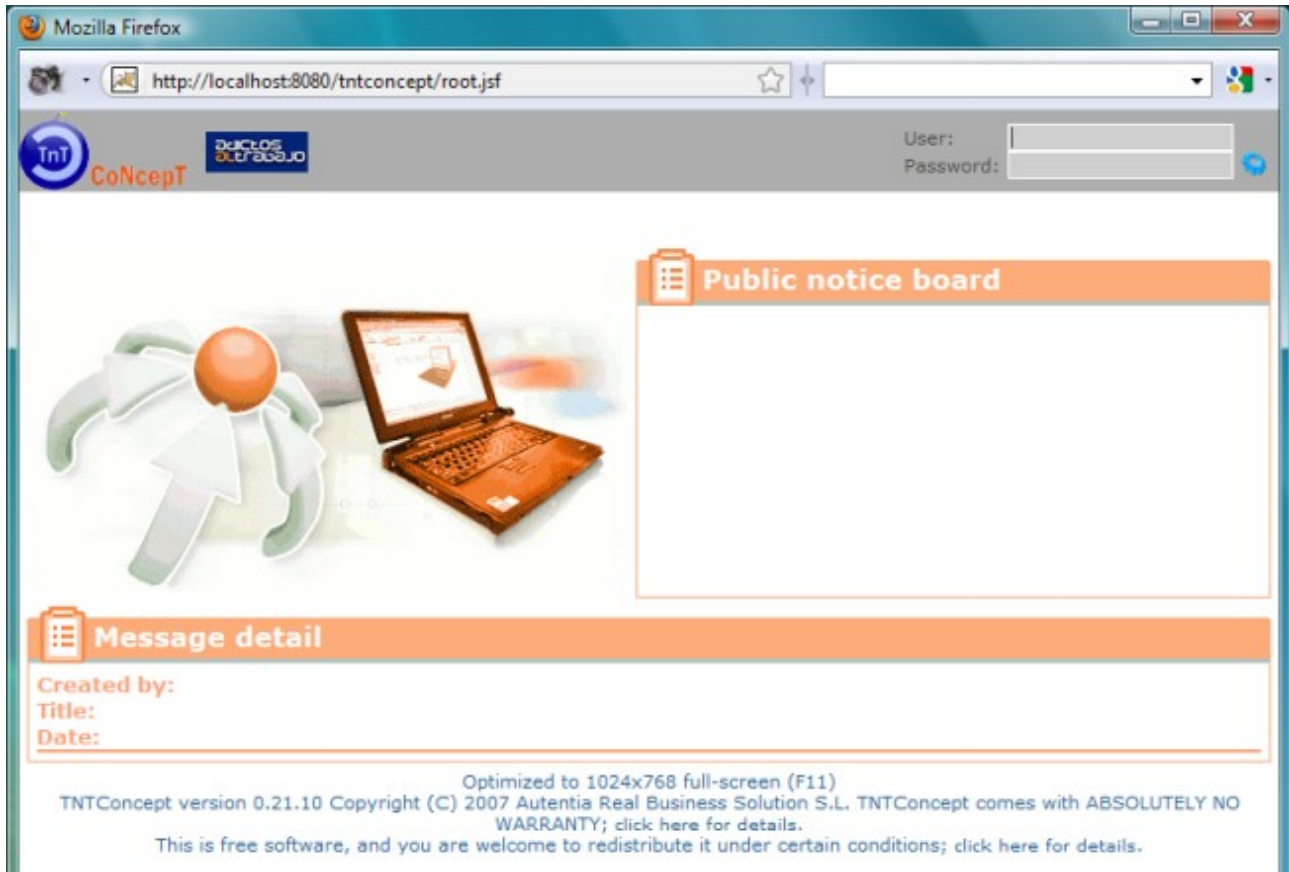
To allow you to enter for the first time, the application creates a user with manager profile and the following details:

> User: admin
>
> Password: adminadmin

(you will be requested to change the password in the first access).

You must also bear in mind that when you create a new user (using the Administration → Users menu) the password assigned by default is 'password'.

The current user's password can be changed from the Administration menu.

Additionally, you can reset users' passwords with an administrator user by editing the user and clicking on the icon ![icon].

Besides, the application creates an initial company named 'Nuestra Empresa' (that means 'Our Company') with empty data. You should edit it and enter the correct data for your company. Reports and other parts of the application use this company data to generate information.

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