

openCRX QuickStart

Version 1.9.0



www.opencrx.org

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1 About this Book

This book describes what you need to get started with openCRX and how to configure openCRX.

openCRX is the leading enterprise-class open source CRM suite. openCRX is based on openMDX, an open source MDA framework based on the OMG's model driven architecture (MDA) standards. This guarantees total openness, standards compliance, a state-of-the-art component-based architecture, and virtually unlimited scalability.

1.1 Who this book is for

The intended audience are openCRX administrators and advanced users.

1.2 What do you need to understand this book

This book describes how to install openCRX and how to configure openCRX. Even though it is possible to install openCRX without a deeper understanding of J2EE applications, application servers, and database management systems, it is still a plus if you are comfortable with these topics.

openCRX is an enterprise-class J2EE application. Installation, administration, and maintenance of such applications is somewhat more involved than running a simple *setup.exe* (or *make install*, for that matter). So please do not expect that you will manage to install openCRX in 10 minutes as even experienced administrators can easily spend an hour or more on their first install.

1.3 Tips, Warnings, etc.

We make use the following pictograms:



Tip

Information provided as a "Tip" might be helpful for various reasons: time savings, risk reduction, etc. - it goes without saying that we advise to follow our guides meticulously

meticulous \muh-TIK-yuh-luhs\, *adjective*:
Extremely or excessively careful about details.



Important

You should carefully read information marked with "Important". Ignoring such information is typically not a good idea.



Warning

Warnings should not be ignored (risk of data loss, etc.)

2 Prerequisites

Installing openCRX is a somewhat involved process as you are required to install/configure various other components as well. In a first step, however, you need to choose an appropriate selection of software packages, namely an **application server** (click here for list J2EE-compliant application servers supported by openCRX), a **database management system** (click here for list of database management systems supported by openCRX), and a **JDK**.

Before you get started with the selection process, however, it is a good idea to spend some time browsing the various pages containing information about the products and reviewing the openCRX version compatibility information provided at <http://www.opencrx.org/faq.htm#versioncompatibility>.

2.1 Selection of Software Packages / Versions



In the end, you will have installed several software packages and it makes sense to write down the names and version numbers of these software packages – this information might be helpful in the future in case you require support or want to file a bug report:

Required Software Packages	Information	Name	Version
openCRX CRM Suite	www.opencrx.org	openCRX	
openMDX MDA Platform	www.openmdx.org	openMDX	
Java 2 Platform Standard Edition	BEA website IBM website java.sun.com	<input type="checkbox"/> BEA JRockit JDK <input type="checkbox"/> IBM JDK <input type="checkbox"/> Sun J2SE JDK ...	
Java Build Tool	ant.apache.org	Ant	1.6.5
Application Server see here for information about deploying openCRX on Tomcat	openCRX FAQ	<input type="checkbox"/> Bea Weblogic <input type="checkbox"/> IBM WebSphere <input type="checkbox"/> JBoss ...	
Database Management System	openCRX FAQ	<input type="checkbox"/> Oracle <input type="checkbox"/> DB/2 <input type="checkbox"/> MS SQL <input type="checkbox"/> PostgreSQL <input type="checkbox"/> MySQL <input type="checkbox"/> MaxDB ...	

2.2 Installing JDK

Install the JDK.



Don't forget to set **environment variables** `JAVA_HOME` and `JRE_15` (or `JRE_14`, depending on the JDK version).

2.3 Installing Ant

Install Ant. Ant is required to build the openCRX runtime binaries.



Don't forget to set **environment variables** `ANT_HOME` and `ANT_OPTS`.

2.4 Build the Runtime Binaries

Read the file `/core/README` included in the openCRX distribution. This README contains important information, including how you can **build the Runtime Binaries** from the distribution.

2.5 Installing / Configuring Database

As far as the **database** is concerned, the openCRX FAQ might give you some guidance in making your choice (please note that the openCRX distribution includes all the required configuration and deployment files for MySQL, MaxDB, PostgreSQL, MS SQL, and Oracle). Various openCRX installation guides for database management systems are available from <http://www.opencrx.org/documents.htm>.

The remainder of this document assumes that you decided for MySQL and hence – after following the **openCRX Installation Guide for MySQL** – you should have a working installation of the **MySQL** database.

2.6 Installing / Configuring Application Server

As far as the **application server** is concerned, your best bet is probably the one you know best as long as it is J2EE-compliant (additional information regarding the choice of an application server is available in the openCRX FAQ). The openCRX distribution includes the required configuration and deployment files for JBoss (which is also Open Source and free), BEA Weblogic, and IBM WebSphere. Installation guides are available from <http://www.opencrx.org/documents.htm>.

The remainder of this document assumes that you decided for JBoss and hence

– after following the **openCRX Installation Guide for JBoss** – you should have a working installation of the JBoss application server. If you follow our application server installation guides you will also install openMDX, the leading Open Source MDA platform.

Obviously, if you ended up making different choices, you can still follow this guide. You might have to make some minor adjustments to the instructions given here and some of our screen shots might look somewhat different from what you will see on your screen.

Assuming you have JBoss up and running, the last few lines of your console output should look similar to the following ones:

Listing 1: Console Output – JBoss startup

```
...
16:49:23,783 INFO [ChannelSocket] JK: ajp13 listening on /0.0.0.0:8009
16:49:23,799 INFO [JkMain] Jk running ID=0 time=0/79 config=null
16:49:23,799 INFO [Server] JBoss (MX MicroKernel) [4.0.3SP1 (build: CVSTag=JBoss_4_0_3_SP1 date=200510231054)] Started in 21s:750ms
```

Now you are ready to continue.

3 openCRX Setup and Configuration

Once the database is ready and openCRX properly deploys on your application server there are still a few tasks left to set up and configure openCRX. This chapter guides you through these tasks on a step-by-step basis.

3.1 Overview

Let us give you a brief overview of the tasks ahead before we get started:

- ◆ Verify/Create Application Server Logins {openCRX/AppServer Admin}
- ◆ First Login / Initial Setup as admin-Root {openCRX Admin}
 - Create Data Segment "Standard" {openCRX Admin}
 - Import Codes and Data {openCRX Admin}
 - Set Access Levels of Codes {openCRX Admin}
- ◆ Create a new User guest {openCRX Admin / Segment Admin}
 - Create a new Subject guest {openCRX Admin}
 - Create a new Principal guest in realm Default {openCRX Admin}
 - Make new Principal guest member of group Users {openCRX Admin}
 - Segment Administrator creates new Contact {Segment Admin}
 - Segment Administrator creates new User {Segment Admin}

All right, let's get started.

3.2 Verify/Create Application Server Logins

For the following steps we assume that the openCRX administrator has configured the users *admin-Root*, *admin-Standard* and *guest* with the appropriate roles on the application server. In the case of JBoss this requires creating/editing the files **users.properties** and **roles.properties** as follows:

*Listing 2: File **users.properties** with syntax user=password*

```
admin-Root=rootSecret
admin-Standard=adminSecret
guest=guest
```

*Listing 3: File **roles.properties** with syntax user.Roles=role1,role2,...*

```
admin-Root.Roles=OpenCrxRoot
admin-Standard.Roles=OpenCrxAdministrator
guest.Roles=OpenCrxUser
```



It is strongly recommended that you stay with the file-based UsersRolesLoginModule for the user **admin-Root**. This simplifies the openCRX bootstrapping.

3.3 First Login / Initial Setup as admin-Root

Connect to the login page of openCRX. The exact URL depends on your deployment details. For a standard openCRX deployment to JBoss running on your local machine and listening at port 8080 the URL is

`http://localhost:8080/opencrx-core-CRX/Login`

You should see the openCRX Login page as follows:

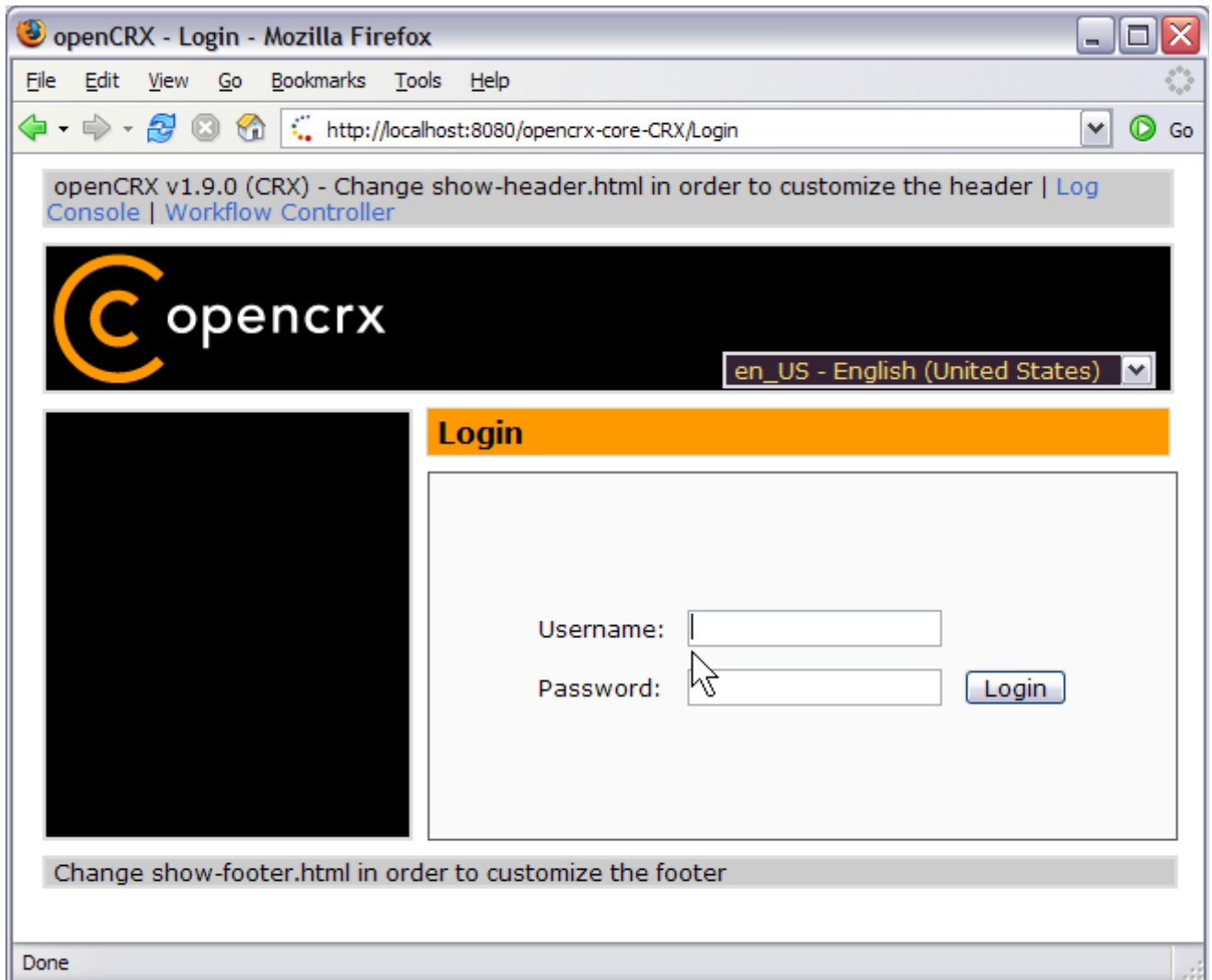


Figure 1: openCRX Login page

3.3.1 Login as admin-Root

Enter **admin-Root** into the field *Username* and then enter **rootSecret** into the field *Password* (you may have chosen a different password, i.e. enter the password you chose during installation/configuration of the application server):

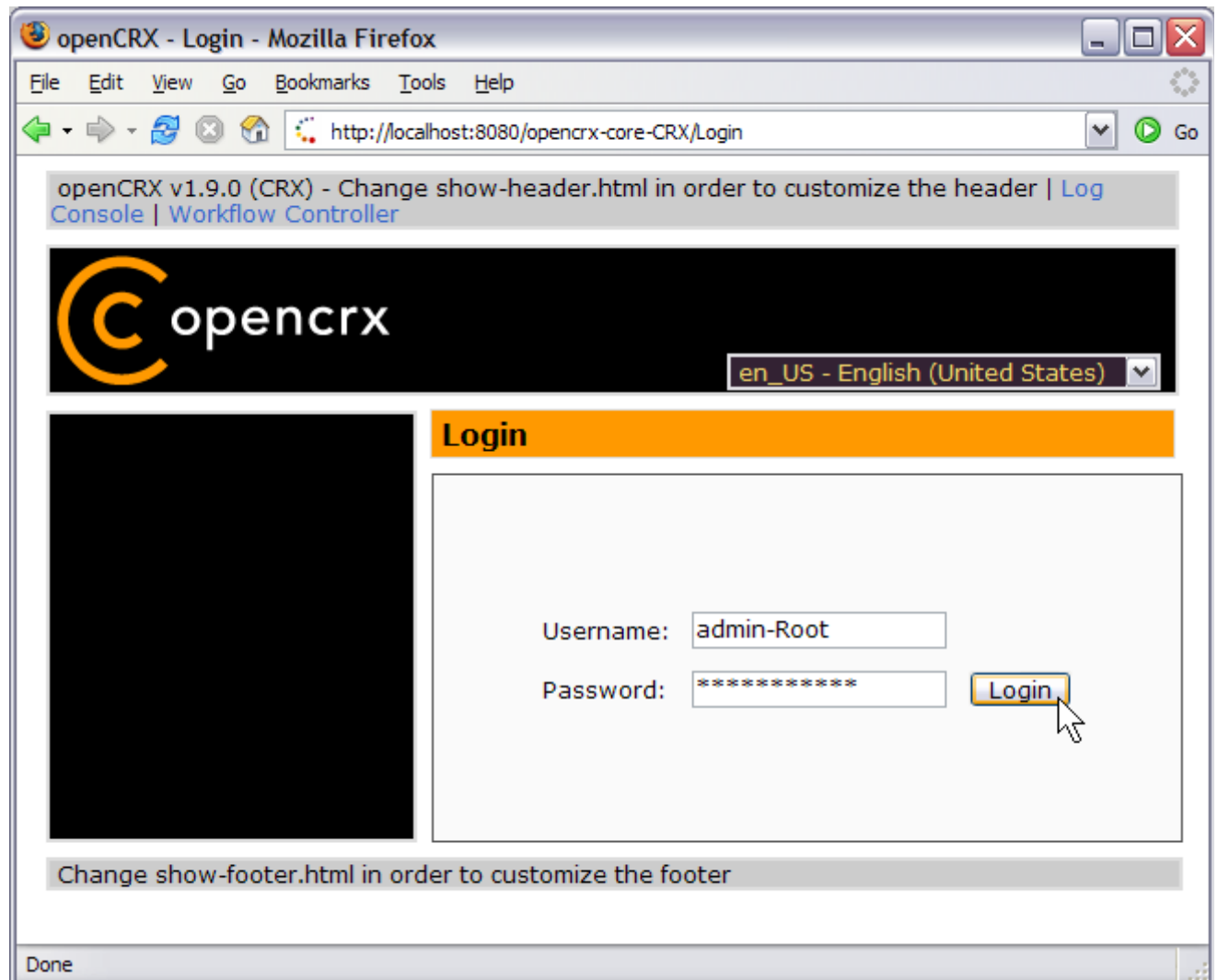


Figure 2: First login with admin-Root / rootSecret

Click the button to start the initialization process.



If you can't get past the login screen (with the correct Username and Password, of course) and the Warning "**Browser must accept cookies**" keeps showing up need to **verify your browser settings related to cookies**. If you have installed a **personal firewall** (e.g. ZoneAlarm) you also need to verify those cookie settings. **The application server must be able to create/set a session cookie.**

The openCRX servlet is initialized during this first login, i.e. don't kill the browser if it takes a while. The application console output will look similar to the following listing:

Listing 4: Console Output – Initialization of the openCRX servlet

```

10:28:08,719 INFO [Server] JBoss (MX MicroKernel) [4.0.3SP1 (build: CVSTag=JBoss_4_0_3_SP1 date=200510231054)]
Started in 21s:922ms
10:29:02,141 INFO [STDOUT] Sun Mar 12 10:29:02 CET 2006: Login: requestURL=http://localhost:8080/opencrx-core-
CRX/Login.jsp; isRequestedSessionIdFromCookie=true
10:29:02,141 INFO [STDOUT] Sun Mar 12 10:29:02 CET 2006: Login: locale=null
10:30:54,563 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/en_US
10:30:54,907 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/de_CH
10:30:55,172 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/es_MX
10:30:55,438 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/zh_CN
10:30:55,688 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/sv_SE
10:30:56,016 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/tr_TR
10:30:56,454 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/fr_FR
10:30:57,063 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/it_IT
10:30:57,422 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/ru_RU
10:30:57,782 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/pl_PL
10:30:58,094 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/pt_BR
10:30:58,672 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/cs_CZ
10:30:59,657 INFO [STDOUT] Loading 67 ui files for locale en_US
10:31:00,547 INFO [STDOUT] Loading 67 ui files for locale de_CH
10:31:02,079 INFO [STDOUT] Loading 67 ui files for locale es_MX
10:31:02,797 INFO [STDOUT] Loading 67 ui files for locale zh_CN
10:31:03,485 INFO [STDOUT] Loading 67 ui files for locale sv_SE
10:31:04,219 INFO [STDOUT] Loading 67 ui files for locale tr_TR
10:31:04,891 INFO [STDOUT] Loading 0 ui files for locale null
10:31:04,891 INFO [STDOUT] Loading 67 ui files for locale fr_FR
10:31:05,563 INFO [STDOUT] Loading 67 ui files for locale it_IT
10:31:06,235 INFO [STDOUT] Loading 0 ui files for locale null
10:31:06,235 INFO [STDOUT] Loading 0 ui files for locale null
10:31:06,235 INFO [STDOUT] Loading 67 ui files for locale ru_RU
10:31:06,985 INFO [STDOUT] Loading 67 ui files for locale pl_PL
10:31:07,657 INFO [STDOUT] Loading 0 ui files for locale null
10:31:07,672 INFO [STDOUT] Loading 67 ui files for locale pt_BR
10:31:08,360 INFO [STDOUT] Loading 67 ui files for locale cs_CZ
10:31:10,750 INFO [STDOUT] Storing 2569 ui elements
10:31:17,297 INFO [STDOUT] Loading texts
10:31:17,297 INFO [STDOUT] Loading /WEB-INF/config/texts/en_US/texts.properties
10:31:17,329 INFO [STDOUT] Loading /WEB-INF/config/texts/en_US/opencrx.texts.properties
10:31:17,375 INFO [STDOUT] Loading /WEB-INF/config/texts/de_CH/opencrx.texts.properties
10:31:17,375 INFO [STDOUT] Loading /WEB-INF/config/texts/de_CH/texts.properties
...
...
10:31:17,875 INFO [STDOUT] Loading data
10:31:17,875 INFO [STDOUT] Loading /WEB-INF/config/bootstrap/Root/100_security_policy.xml
10:31:17,954 INFO [STDOUT] Storing 5 objects
10:31:26,422 INFO [STDOUT] Creating org::openmdx::security::authorization1/provider/CRX/segment/Root
10:31:26,641 INFO [STDOUT] Creating org::openmdx::security::
authorization1/provider/CRX/segment/Root/policy/Default
10:31:26,860 INFO [STDOUT] Creating org::openmdx::security::
authorization1/provider/CRX/segment/Root/policy/Default/role/OpenCrxAdministrator
10:31:27,000 INFO [STDOUT] Creating org::openmdx::security::
authorization1/provider/CRX/segment/Root/policy/Default/role/OpenCrxUser
10:31:27,079 INFO [STDOUT] Creating org::openmdx::security::
authorization1/provider/CRX/segment/Root/policy/Default/role/OpenCrxRoot
10:31:27,125 INFO [STDOUT] Loading /WEB-INF/config/bootstrap/Root/101_security_subjects.xml
10:31:28,922 INFO [STDOUT] Storing 2 objects
10:31:28,938 INFO [STDOUT] Creating org::openmdx::security::identity1/provider/CRX/segment/Root
10:31:29,172 INFO [STDOUT] Creating org::openmdx::security::
identity1/provider/CRX/segment/Root/subject/admin-Root
10:31:29,344 INFO [STDOUT] Loading /WEB-INF/config/bootstrap/Root/102_security_realms.xml
10:31:29,391 INFO [STDOUT] Storing 10 objects
10:31:29,469 INFO [STDOUT] Creating org::openmdx::security::realm1/provider/CRX/segment/Root
10:31:29,532 INFO [STDOUT] Creating org::openmdx::security::realm1/provider/CRX/segment/Root/realm/Default
10:31:29,641 INFO [STDOUT] Creating org::openmdx::security::
realm1/provider/CRX/segment/Root/realm/Default/principal/admin-Root
10:31:29,735 INFO [STDOUT] Creating org::openmdx::security::
realm1/provider/CRX/segment/Root/realm/Default/principal/Administrators
10:31:29,829 INFO [STDOUT] Creating org::openmdx::security::
realm1/provider/CRX/segment/Root/realm/Default/principal/Users
10:31:29,922 INFO [STDOUT] Creating org::openmdx::security::realm1/provider/CRX/segment/Root/realm/Root
10:31:30,016 INFO [STDOUT] Creating org::openmdx::security::
realm1/provider/CRX/segment/Root/realm/Root/principal/Administrators
10:31:30,157 INFO [STDOUT] Creating org::openmdx::security::

```

```

10:31:30,407 INFO [STDOUT] realm/provider/CRX/segment/Root/realm/Root/principal/Users
10:31:30,547 INFO [STDOUT] Creating org::openmdx::security::
realm/provider/CRX/segment/Root/realm/Root/principal/admin-Root.User
10:31:30,625 INFO [STDOUT] Loading /WEB-INF/config/bootstrap/Root/200_code_segment.xml
10:31:32,954 INFO [STDOUT] Storing 1 objects
10:31:35,985 INFO [STDOUT] Creating org::opencrx::kernel::code1/provider/CRX/segment/Root
10:31:36,485 INFO [STDOUT] Loading /WEB-INF/config/bootstrap/Root/300_admin_segment.xml
10:31:38,141 INFO [STDOUT] Storing 1 objects
10:31:38,172 INFO [STDOUT] Creating org::opencrx::kernel::admin1/provider/CRX/segment/Root
10:31:38,500 INFO [STDOUT] Loading /WEB-INF/config/bootstrap/Standard/dummy.xml
10:31:41,110 INFO [STDOUT] Storing 0 objects
10:31:41,110 INFO [STDOUT] Done
10:31:41,110 INFO [STDOUT] Inspecting /WEB-INF/config/filters/
10:31:41,219 INFO [STDOUT] Loading /WEB-INF/config/filters/
10:31:44,141 INFO [STDOUT] Loaded filters #4112
10:31:44,500 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/en_US
10:31:44,735 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/de_CH
10:31:44,891 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/es_MX
10:31:45,047 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/zh_CN
10:31:45,219 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/sv_SE
10:31:45,360 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/tr_TR
10:31:45,454 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/fr_FR
10:31:45,625 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/it_IT
10:31:45,782 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/ru_RU
10:31:45,938 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/pl_PL
10:31:46,094 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/pt_BR
10:31:46,235 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/cs_CZ
10:31:46,485 INFO [STDOUT] Inspecting /WEB-INF/config/filters/

```



If you see lots of error messages on the console and/or your log files grow very fast (several hundred KB if not more) then it is quite likely that your **DB connection** is not configured correctly. Please note that there is absolutely no sense in continuing before you have fixed your DB connection. You might want to verify

- the spelling of the name of your DB (e.g. `crx-crX` vs. `crx-CRX`)
- user name (e.g. `system`) and password (e.g. `manager`)
- permissions of the user, etc.

After the successful startup of the openCRX servlet you see the start screen as shown in the figure below. You should at least see the root objects Administration, Codes, Security Realm, Security Policies, and Security Subjects:

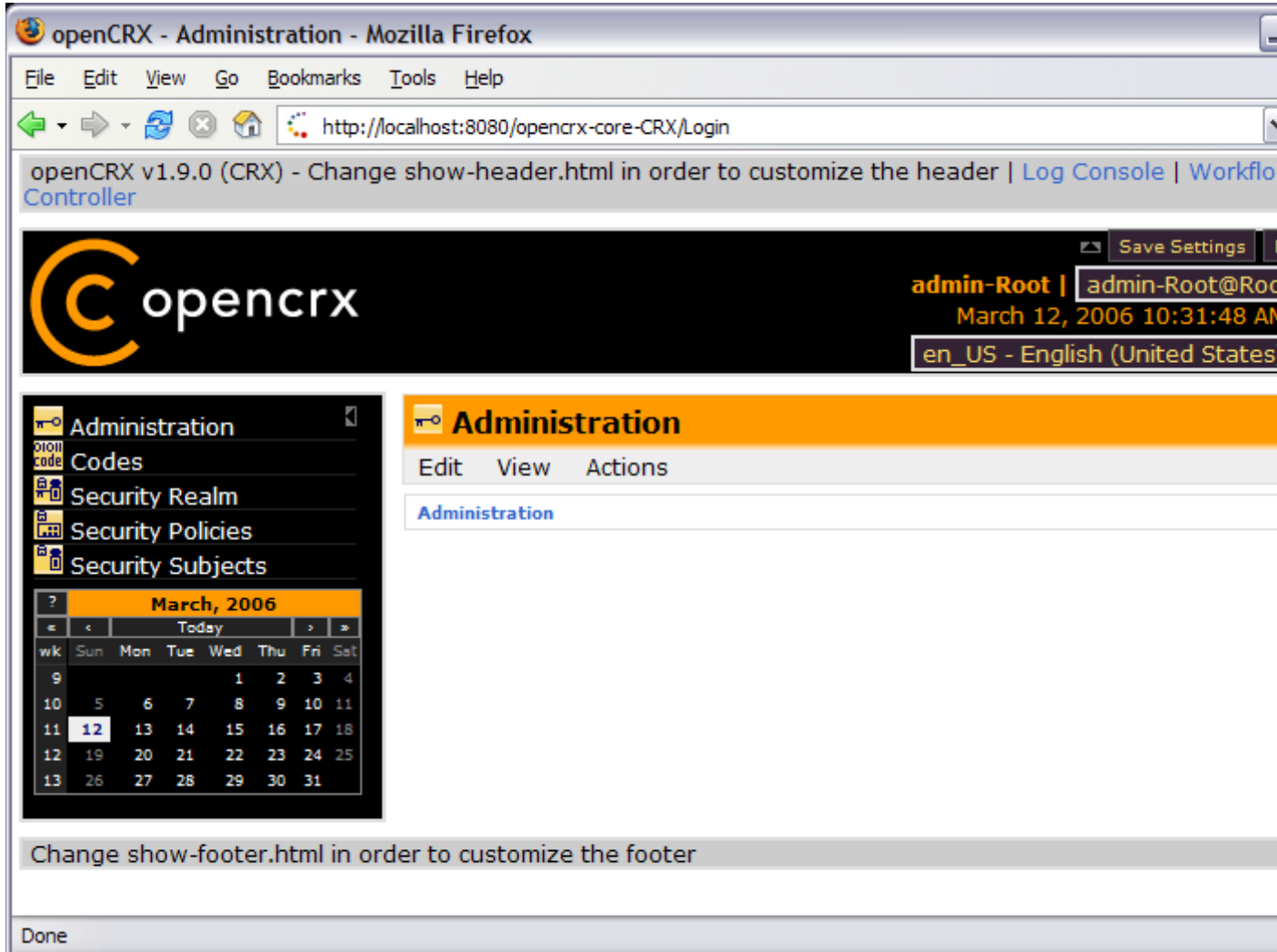


Figure 3: Start screen of admin-Root

3.3.2 Create Data Segment "Standard"

Execute the operation **Actions > Create Administrator** to create a new segment and selected default accounts (including an administrator's account which allows you to manage the newly created segment).

Set the field *Segment name* to **Standard**. Leave the field *Admin principal name* empty and set the fields *Initial password* and *Password again* to ***** as shown in the figure below:

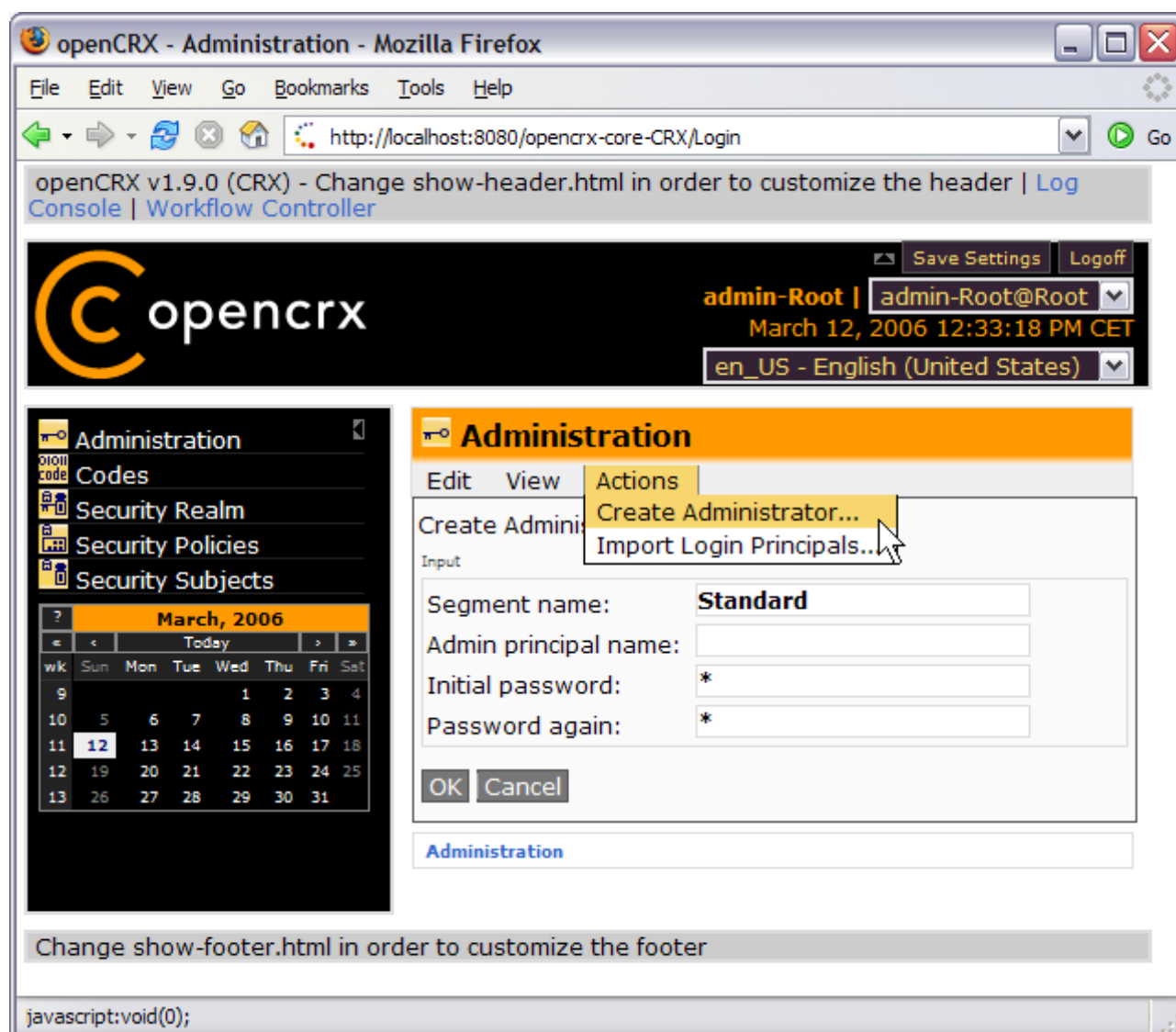


Figure 4: Create a new segment named Standard



Please verify the spelling of the segment name. Only the segment **Standard** (note the capital "S") is configured by default.



The segment **Standard** is preconfigured in the file **web.xml**. To add a segment with a different name you must edit web.xml and add an entry with the corresponding segmentName (see example below on how to configure a segment **ABC**). Please note that segments must be numbered consecutively without gaps starting at zero, i.e. 0, 1, 2, 3, 4, ...

Listing 5: Configuration of segment ABC in web.xml

```
...
<init-param>
  <param-name>segmentName[0]</param-name>
  <param-value>Standard</param-value>
</init-param>
<init-param>
  <param-name>segmentName[1]</param-name>
  <param-value>ABC</param-value>
</init-param>
...
```

Next you click **OK** to execute the operation **Create Administrator** which creates the segment named **Standard**. The result of executing this operation should look as follows:

Administration		
Edit	View	Actions
Status	0	
Status message		
Administration		

Figure 5: Result of operation Create Administrator

3.3.3 Import Codes and Data

openCRX is distributed with many code tables and several data files (e.g. unit of measurement information, standard activity management process). Code tables and data files must be imported from the provided XML files to make them available to openCRX.

Execute the operation **View > Reload** and then click **Yes** to start the import:



Figure 6: Load Code Tables and Data – Step 1

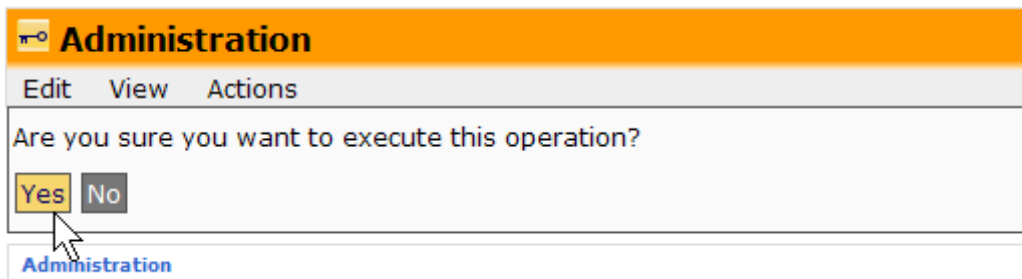


Figure 7: Load Code Tables and Data – Step 2

Please note that this operation takes some time to complete as thousands of objects are made persistent in your database during the import. The console output will look similar to the following listing:

Listing 6: Console Output – Importing Codes and Data

```

...
11:10:20,348 INFO [STDOUT] Loading codes
11:10:20,504 INFO [STDOUT] Loading /WEB-INF/config/code/Root/en_US/accesslevel.xml
11:10:20,566 INFO [STDOUT] Loading /WEB-INF/config/code/Root/en_US/accountcategory.xml
11:10:20,566 INFO [STDOUT] Loading /WEB-INF/config/code/Root/en_US/accountstate.xml
...
...
11:10:21,941 INFO [STDOUT] Loading /WEB-INF/config/code/Root/de_CH/accesslevel.xml
11:10:21,957 INFO [STDOUT] Loading /WEB-INF/config/code/Root/de_CH/accountcategory.xml
11:10:21,988 INFO [STDOUT] Loading /WEB-INF/config/code/Root/de_CH/accountstate.xml
...
...
11:10:41,098 INFO [STDOUT] Loading /WEB-INF/config/code/Root/cs_CZ/usageproductbaseprice.xml
11:10:41,113 INFO [STDOUT] Loading /WEB-INF/config/code/Root/cs_CZ/utcoffset.xml
11:10:41,145 INFO [STDOUT] Storing 1491 code entries
11:14:52,535 INFO [STDOUT] Done
11:14:53,473 INFO [STDOUT] Loading data
11:14:53,504 INFO [STDOUT] Loading /WEB-INF/config/data/Standard/bug-and-feature-process.xml
11:14:59,582 INFO [STDOUT] Storing 10 objects
11:15:00,113 INFO [STDOUT] Loading /WEB-INF/config/data/Standard/workflows.xml
11:15:00,145 INFO [STDOUT] Storing 15 objects
11:15:00,629 INFO [STDOUT] Loading /WEB-INF/config/data/Root/uom_SI_and_Paper.xml
11:15:04,082 INFO [STDOUT] Storing 42 objects
11:15:09,160 INFO [STDOUT] Done
11:18:20,723 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/en_US
11:18:21,191 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/de_CH

```

```

11:18:21,410 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/es_MX
11:18:21,598 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/zh_CN
11:18:21,988 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/sv_SE
11:18:22,270 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/tr_TR
11:18:22,457 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/fr_FR
11:18:22,723 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/it_IT
11:18:22,941 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/ru_RU
11:18:23,223 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/pl_PL
11:18:23,504 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/pt_BR
11:18:24,285 INFO [STDOUT] Inspecting /WEB-INF/config/ui/Root/cs_CZ
11:18:24,535 INFO [STDOUT] Inspecting /WEB-INF/config/filters/

```

3.3.4 Set Access Levels of Codes

Navigate to the package Codes by clicking on the Root menu entry **Codes**. Then execute the operation **Security > Set Access Level** as shown below:

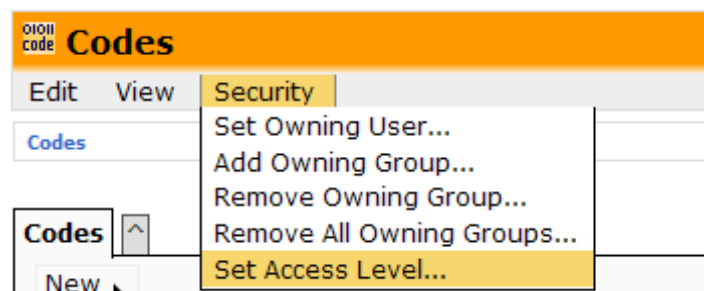


Figure 8: Execute Operation Set Access Level

Set the parameters as follows (see also figure below):

Browse access level: **[4] global**
 Update access level: **[2] basic**
 Delete access level: **[2] basic**
 Mode: **[1] recursive**

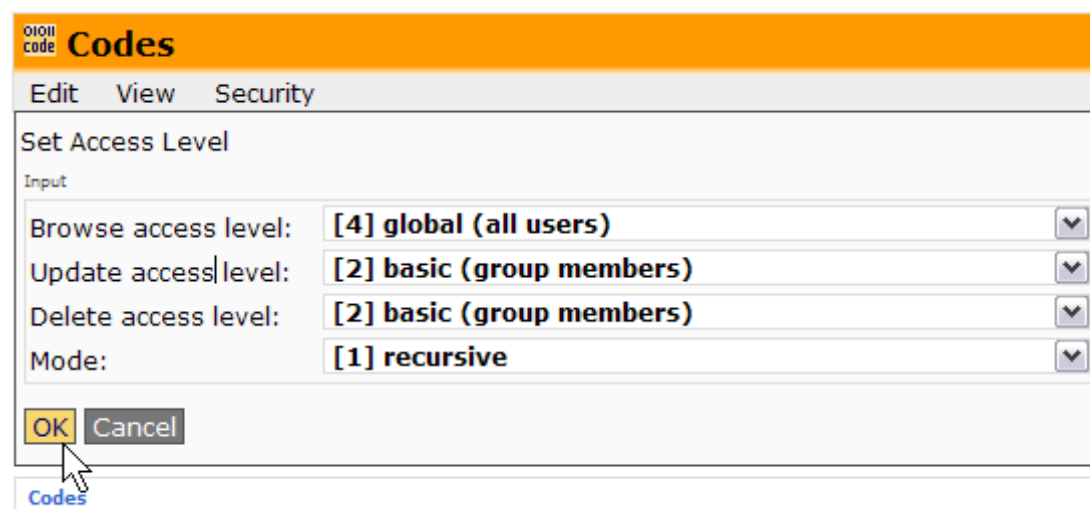


Figure 9: Parameters of Operation Set Access Level

Please note that this operation also takes a fair amount of time to complete.

3.4 Create a new User *guest*

New users are created with the following steps:

1. as *admin-Root*: create a new **Subject**
2. as *admin-Root*: create a new **Principal** in realm **Default** and link this principal to the subject created in the previous step
3. as *admin-Root*: make **Principal** member of group **Users**
4. as *admin-Standard*: create a new **Contact**
5. as *admin-Standard*: create a new **User** and link this User to the contact created in the previous step

The following sections will guide you through the creation of a new User **guest** with permission to access the previously created segment **Standard**.

3.4.1 Create a new Subject *guest*

As admin-Root, navigate to the package **Security Subjects** and then create a new **Subject** with the creator menu **New > Subject** as shown below:

The screenshot shows the openCRX web interface in Mozilla Firefox. The browser title is "openCRX - Security Subjects - Mozilla Firefox". The address bar shows "http://localhost:8080/opencrx-core-CRX/ObjectInspectorServlet". The page header includes the openCRX logo and version "v1.9.0 (CRX) - Change show-header.html in order to customize Controller".

The left sidebar contains navigation links: Administration, Codes, UOMs, Security Realm, Security Policies, Security Subjects, and History. Below the sidebar is a calendar for March 2006.

The main content area is titled "Security Subjects" and has "Edit" and "View" buttons. A "Security Subjects" link is visible. A "Subjects" section contains a "New > Subject" button with a mouse cursor over it. Below this is a search box and a table with columns "Description" and "Modif".

	Description	Modif
admin-Root		3/12/06
admin-Standard		3/12/06

Figure 10: Create a new Subject

Enter **guest** into the field *Description*. More importantly, change the proposed *Qualifier* to **guest** as shown in the figure below:

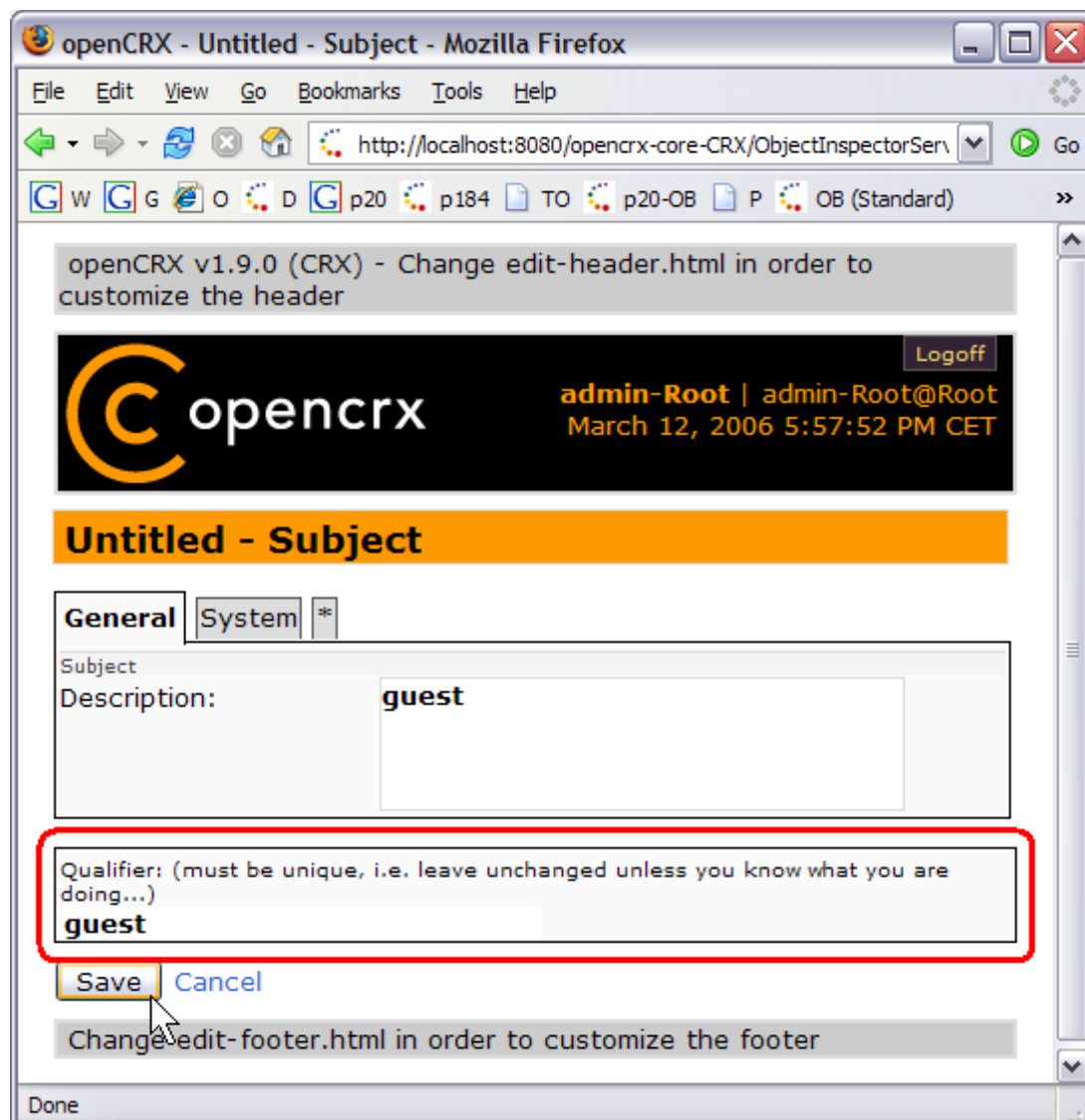


Figure 11: Change the Subject's Qualifier to guest



The Subject Qualifier represents the Subject's Login name.

Next you click **Save** to store this new Subject. You should now see 3 Subjects in the grid Subjects:

The screenshot displays the openCRX Security Subjects web application. The browser window shows the URL `http://localhost:8080/openctx-core-CRX/ObjectInspectorServlet?requestId=23678d30`. The page title is `openCRX v1.9.0 (CRX) - Change show-header.html in order to customize the header`. The main content area is titled **Security Subjects** and contains a table of subjects. The table has columns for **Description**, **Modified at**, and **Modified by**. The subjects listed are `admin-Root`, `admin-Standard`, and `guest`. A mouse cursor is pointing at the `guest` row. The left sidebar contains a navigation menu with items like **Administration**, **Codes**, **UOMs**, **Security Realm**, **Security Policies**, **Security Subjects**, and **History**. Below the menu is a calendar for **March, 2006**. The footer area contains the text `Change show-footer.html in order to customize the footer` and `Done`.

Description	Modified at	Modified by
admin-Root	3/12/06 12:32 PM	admin-Root
admin-Standard	3/12/06 1:40 PM	admin-Root
guest	3/12/06 2:14 PM	admin-Root

Figure 12: Grid Subjects with admin-Root, admin-Standard, and guest

3.4.2 Create a new Principal *guest* in realm **Default**

Next, you need to create a new **Principal** in realm **Default**.



Warning

Please make sure that you create the new Principal in realm **Default** and not some other realm – follow instructions meticulously!

Click on the package **Security Realm** in the root menu and then navigate to the realm **Default**. You can do this – for example – by clicking on the bread crum entry *Security Realms* as shown in the figure below:

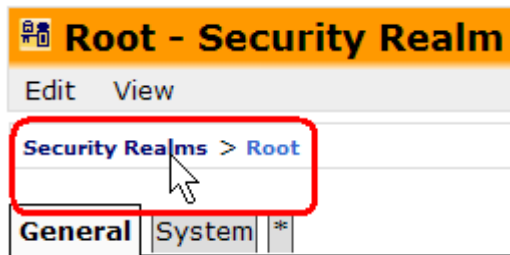


Figure 13: Click on bread crum entry *Security Realms*

Next you click on the icon of the Realm **Default**. Your screen should now look as follows:

The screenshot shows the openCRX web interface in Mozilla Firefox. The browser title is "openCRX - Default - Security Realm - Mozilla Firefox". The address bar shows the URL: `http://localhost:8080/openctx-core-CRX/ObjectInspectorServlet?req`. The page content includes:

- Navigation Menu (Left):** Administration, Codes, UOMs, Security Realm, Security Policies, Security Subjects, History.
- Calendar (Left):** March, 2006. Today is the 12th.
- Main Content Area:**
 - Default - Security Realm:** Edit, View. Security Realms > Default.
 - General Tab:** System. Name: Default. Description: (empty).
 - Principals Tab:** New. A table listing principals:

	Name	Subject
<input type="checkbox"/>	Administrators	
<input type="checkbox"/>	Users	
<input type="checkbox"/>	admin-Root	admin-Root
<input type="checkbox"/>	admin-Standard	admin-Standard

Change show-footer.html in order to customize the footer

Done

Figure 14: Realm Default

Select the creator menu **New > Principal** as shown as shown below:

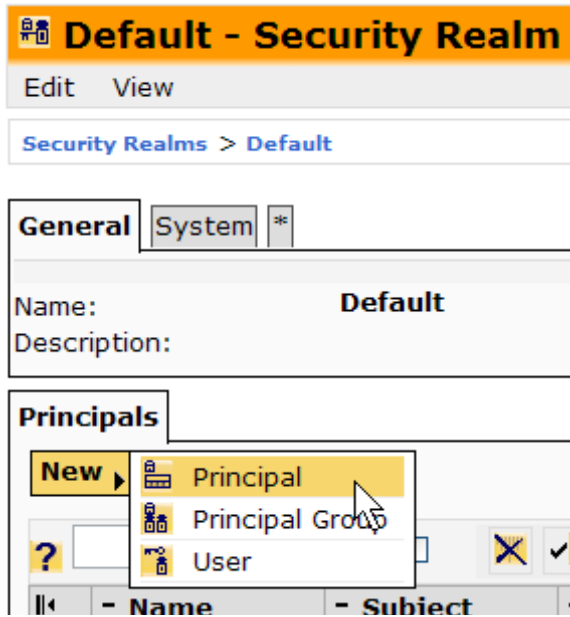


Figure 15: Create a new Principal

You need to link this Principal with the previously created Subject. Click on the looking glass icon of the field Subject to open the Lookup Inspector in a new browser window. Select the Subject **guest** by clicking in the appropriate check box:

The screenshot displays the openCRX Security Subjects administration interface. The browser window title is "http://localhost:8080 - openCRX - Security Subjects - Mozilla Firefox". The page header includes "openCRX v1.9.0 (CRX) - Change show-header.html in order to customize the header | Log Console | Workflow Controller". The user is logged in as "admin-Root | admin-Root@Root" on "March 12, 2006 1:46:29 PM CET" with the language set to "en_US - English (United States)".

The interface features a sidebar on the left with navigation links for Administration, Codes, UOMs, Security Realm, Security Policies, and Security Subjects. Below these links is a calendar for March 2006, with the 12th highlighted. The main content area is titled "Security Subjects" and includes "Edit" and "View" buttons. Below this is a "Security Subjects" section with a "New" button and a search field. A table lists three subjects:

	Description	Modified at	Modified by	
<input type="checkbox"/>	admin-Root	3/12/06 12:32 PM	admin-Root	3/
<input type="checkbox"/>	admin-Standard	3/12/06 1:40 PM	admin-Root	3/
<input type="checkbox"/>	guest	3/12/06 2:14 PM	admin-Root	3/

The "guest" subject is highlighted in yellow, and a mouse cursor is clicking on its "looking glass" icon in the "Subject" column.

Figure 16: Select Subject guest in the Lookup Inspector

Next you enter the Principal name (which will be the user/login id) of the Principal into the field Qualifier (e.g. **guest** as shown in the figure below):

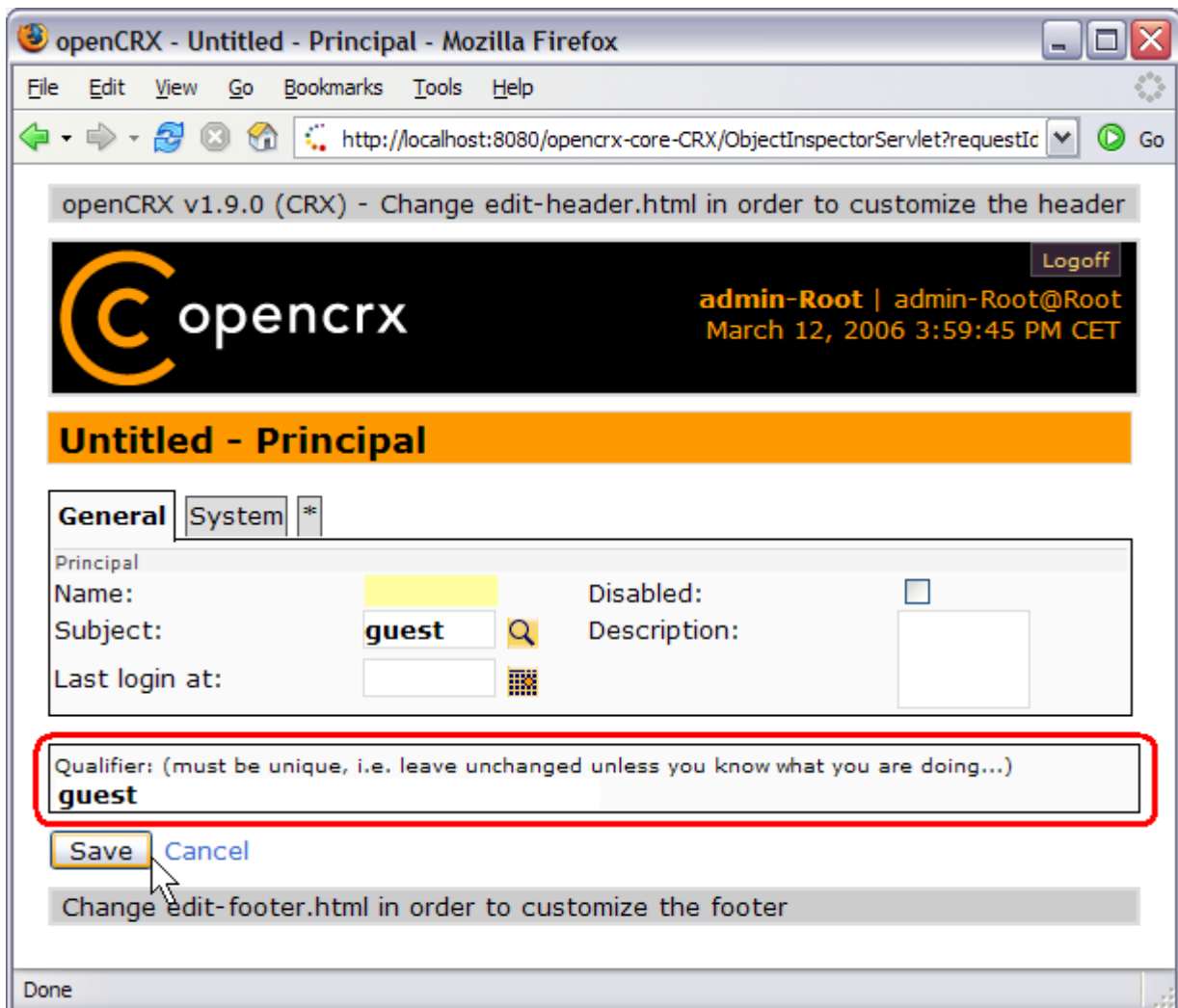


Figure 17: Change the Principal's Qualifier to guest

Next you click **Save** to store this new Principal. In the grid Principals you should now see 2 Principal Groups (Administrators, Users) and 3 Principals (admin-Root, admin-Standard, and the newly created Principal guest):

The screenshot shows the openCRX web application interface. The browser window title is "openCRX - Default - Security Realm - Mozilla Firefox". The address bar shows the URL "http://localhost:8080/openCRX-core-CRX/ObjectInspectorServlet?requestId". The page content includes a navigation menu on the left with items like Administration, Codes, UOMs, Security Realm, Security Policies, Security Subjects, and History. A calendar for March 2006 is displayed, with the 12th highlighted. The main content area shows the "Default - Security Realm" configuration page. The "Principals" tab is active, and a table lists the following principals:

Name	Subject	Last login at	Di
Administrators			<input type="checkbox"/>
Users			<input type="checkbox"/>
admin-Root	admin-Root		<input type="checkbox"/>
admin-Standard	admin-Standard		<input type="checkbox"/>
guest	guest		<input type="checkbox"/>

Figure 18: Grid Principals with newly created Principal guest

3.4.3 Make new Principal *guest* member of group *Users*

Next you must add the newly created Principal *guest* to the appropriate **Principal Group**. Navigate to the newly created principal (i.e. load it into the inspector by clicking on its icon). Click on the looking glass in the tab **Member of Principal Groups** to open the Lookup Inspector:

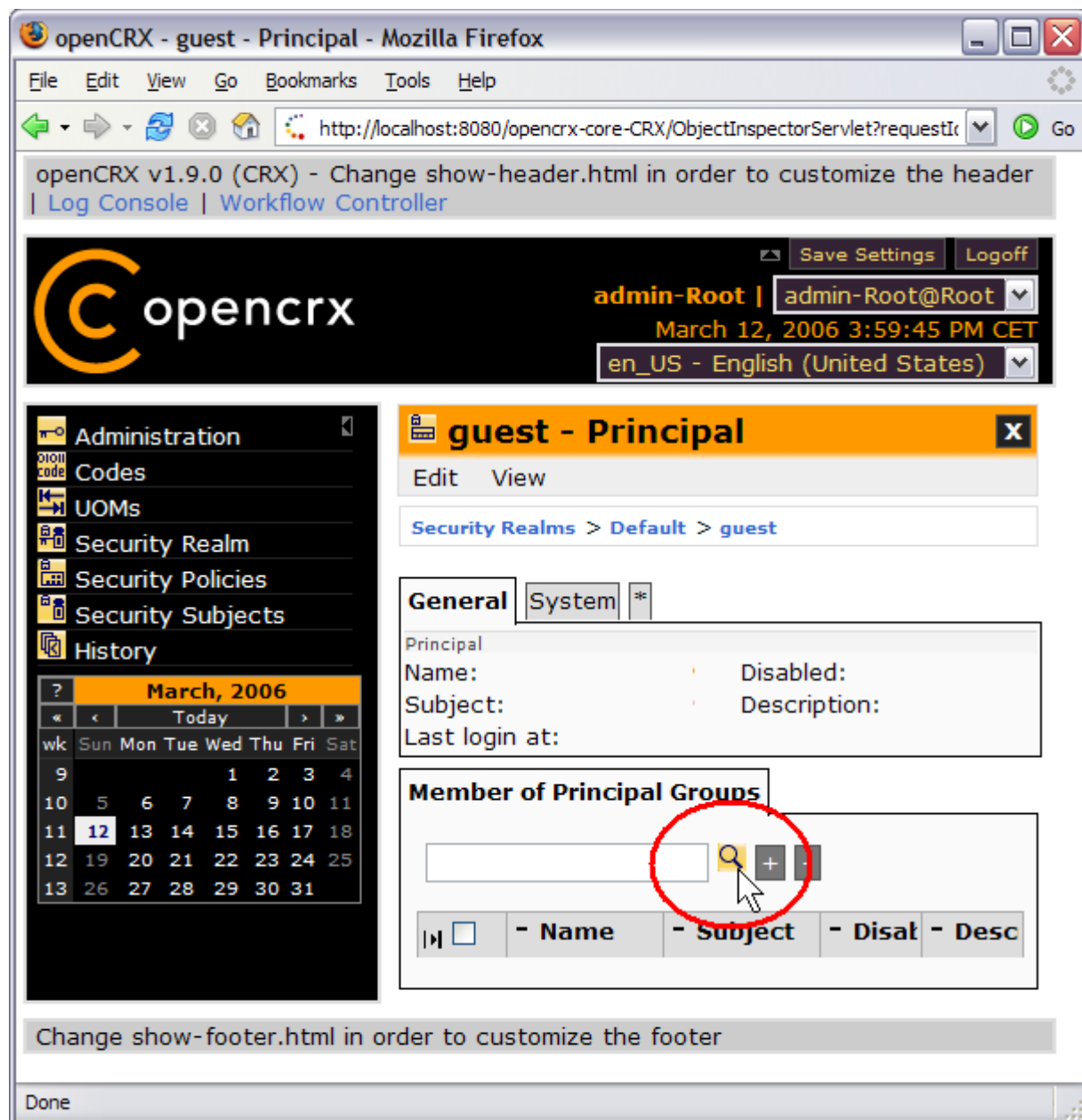


Figure 19: Add Principal *guest* to Principal Group *Users* – Step 1

The Lookup Inspector lists all the principals and principal groups of the respective realm; principal group entries have a check box:

The screenshot shows the openCRX web interface in Mozilla Firefox. The browser address bar shows `http://localhost:8080 - openCRX - Default - Security Realm - Mozilla Firefox`. The page title is `openCRX v1.9.0 (CRX) - Change show-header.html in order to customize the header`. The interface includes a navigation menu on the left with options like Administration, Codes, UOMs, Security Realm, Security Policies, and Security Subjects. A calendar for March 2006 is also visible. The main content area is titled `Default - Security Realm` and contains a `Principals` section. The `Principals` section has a `New` button and a search field. Below is a table of principals:

	Name	Subject	Last login at	Dis
<input type="checkbox"/>	Administrators			<input type="checkbox"/>
<input checked="" type="checkbox"/>	Users			<input type="checkbox"/>
<input type="checkbox"/>	admin-Root	admin-Root		<input type="checkbox"/>
<input type="checkbox"/>	admin-Standard	admin-Standard		<input type="checkbox"/>
<input type="checkbox"/>	guest	guest		<input type="checkbox"/>

Figure 20: Add Principal guest to Principal Group Users – Step 2

Select the Principal Group **Users** by clicking the appropriate check box as shown in the figure above. This will automatically close the Lookup Inspector.



Normal users should be added to the principal group **Users**, segment administrators should be added to the principal group **Administrators**).

Consult the **openCRX Security Guide** for additional/more detailed information on principals and principal groups.

Back in the tab **Member of Principal Groups** you click the button **[+]** to add the Principal to the Principal Group **Users** selected in the previous step:

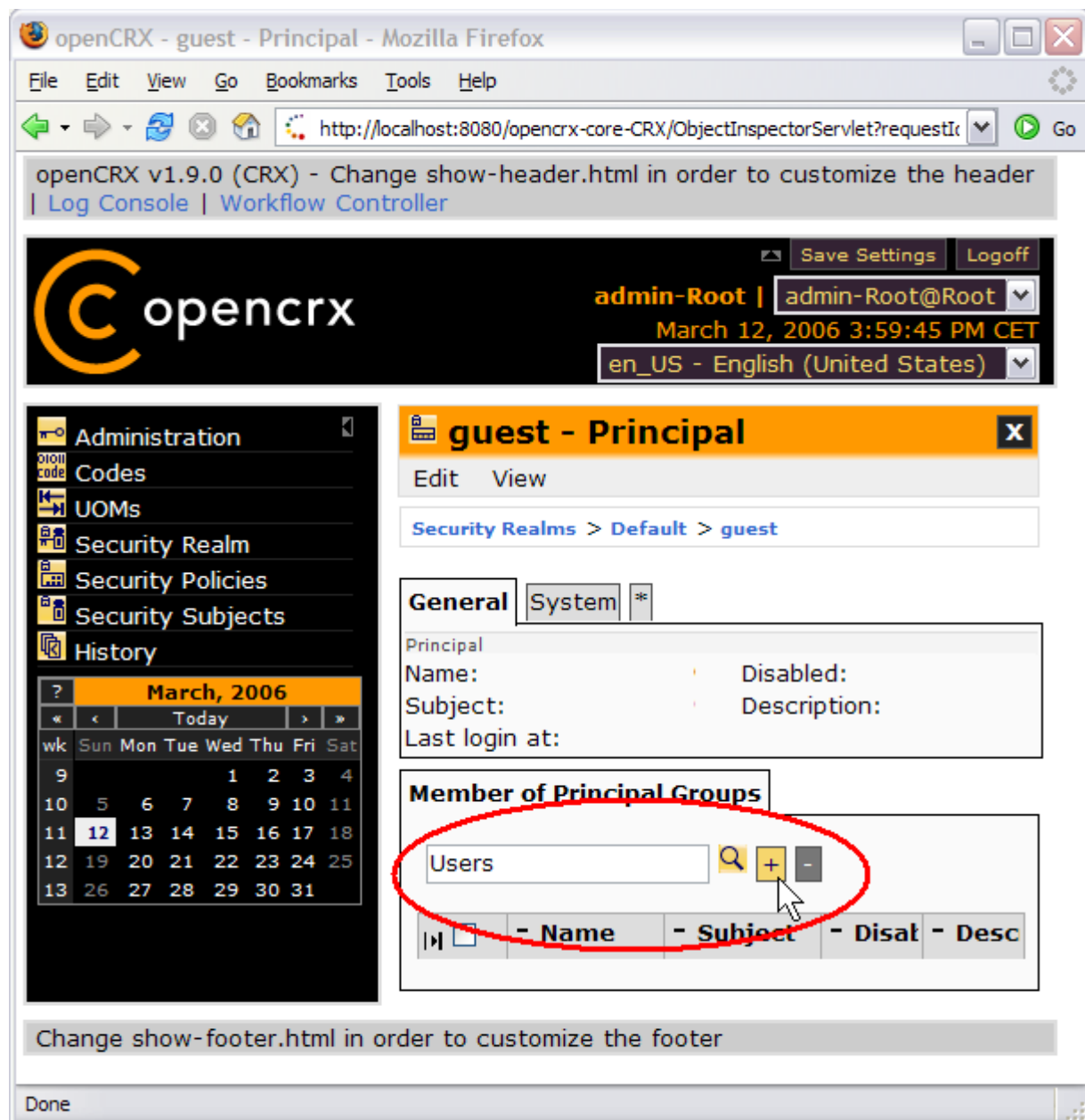


Figure 21: Add Principal guest to Principal Group Users – Step 3



You cannot just type **Users** into the input box – you must use the Lookup Inspector to select the appropriate Principal Group.

Finally, this principal group should show up in the Grid **Member of Principal Groups** as shown below:



Figure 22: Add Principal guest to Principal Group Users – Step 4

That's it for admin-Root. You can now log out by clicking on **Logoff**.

3.4.4 Segment Administrator creates new Contact

Enter **admin-Standard** into the field *Username* and then enter **adminSecret** into the field *Password* (you may have chosen a different password, i.e. enter the password you chose during installation/configuration of the application server):

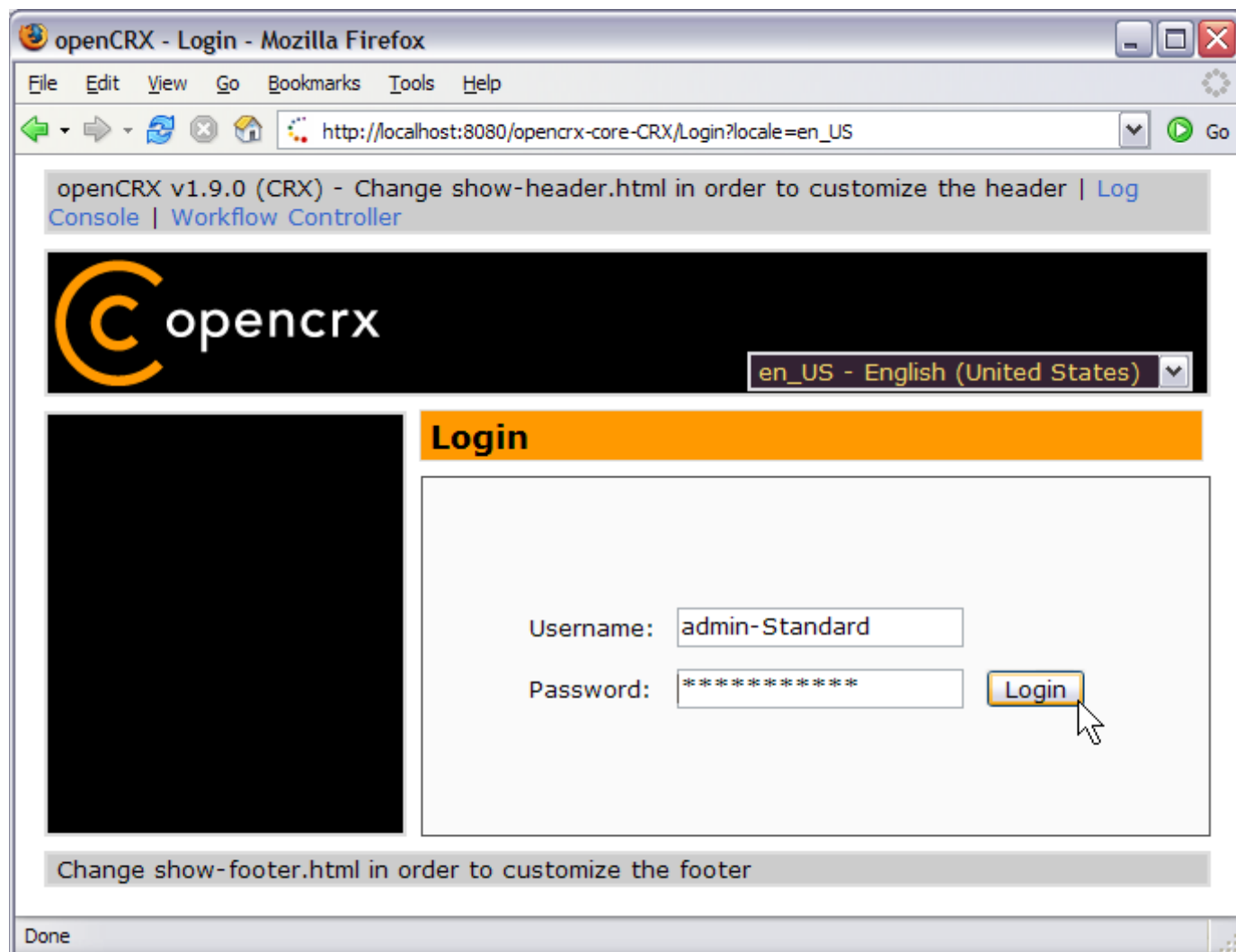


Figure 23: First login with admin-Standard / adminSecret

Click the button to start the login process.



If you can't get past the login screen (with the correct Username and Password, of course) and the Warning "**Browser must accept cookies**" keeps showing up need to **verify your browser settings related to cookies**. If you have installed a **personal firewall** (e.g. ZoneAlarm) you also need to verify those cookie settings. **The application server must be able to create/set a session cookie.**



Please note that no charts are displayed when a users logs in for the first time. Activate charts by executing the operation **View > Recalculate and Refresh** as shown below:

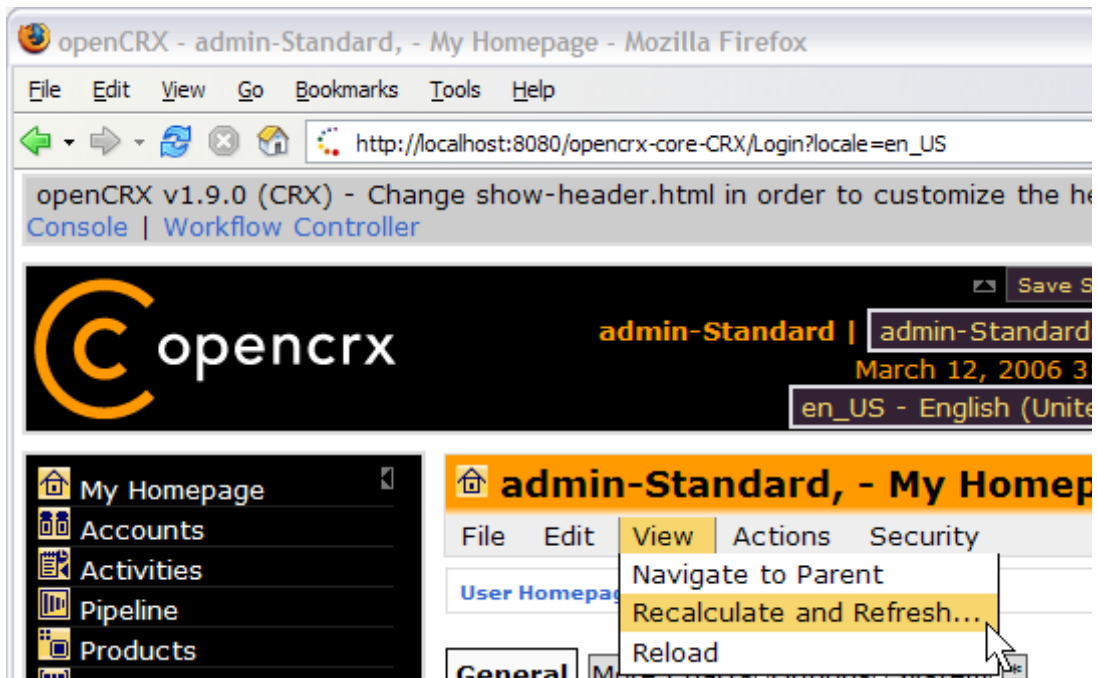


Figure 24: View > Recalculate and Refresh activates/updates charts

As administrator you first have to create a new **Contact** in Accounts for the new user **guest**. To do so, click on the package **Accounts** in the root menu and then select the creator menu **New > Contact** as shown in the figure below:

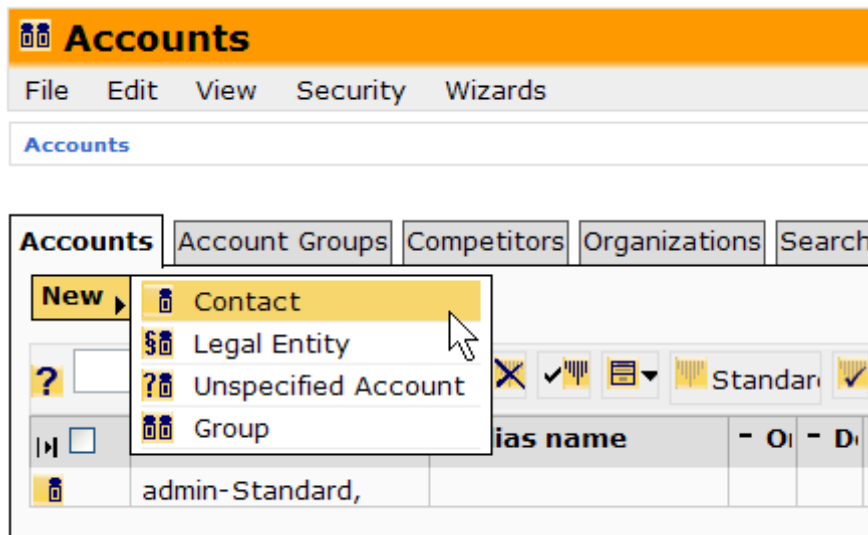



Figure 25: Create new Contact – Step 1

This brings up the form for new contacts. Enter **guest** into the field *Last name* (feel free to provide additional information, but don't change the Qualifier unless you know exactly what you are doing):

openCRX v1.9.0 (CRX) - Change edit-header.html in order to customize the header


Logoff

admin-Standard | admin-Standard@Standard
March 12, 2006 3:41:00 PM CET

Untitled - Contact

General | Details | Account | System | *

Person

Salutation code: **N/A** Picture:

Salutation:

First Name:

Middle Name:

Last Name: **guest**

Suffix:

Nick Name:

Alias name:

Contact information

Preferred method: **N/A** No postal mail:

Spoken language: **N/A** No bulk postal mail:

Written language: **N/A** Do not phone:

No E-Mail: Do not fax:

Job Title: Reports to:

Job Role: Person's assistant:

Organization: Person's deputy:

Department:

Qualifier: (must be unique, i.e. leave unchanged unless you know what you are doing...)

nkx3ILHWEdqWqnmn7+tN+g

Change edit-footer.html in order to customize the footer

Figure 26: Create new Contact – Step 2

Next you click **Save** to store this new Contact. This takes you back to the **Account** grid.

3.4.5 Segment Administrator creates new User

Click **User Homepages** and select the operation **Actions > Create User...** which allows you to create and initialize a new user. Set the fields to the values as shown below – type **guest** into the field *Principal name*, use the Lookup Inspector to fetch values for *Contact* and *Primary user group* (note that you must use the Lookup Inspector to fetch values for the parameters *Contact* and *Primary user group*, i.e. you cannot just type some text into these fields), and then type a password (e.g. **guest**) into the fields *Initial password* and *Password again*:

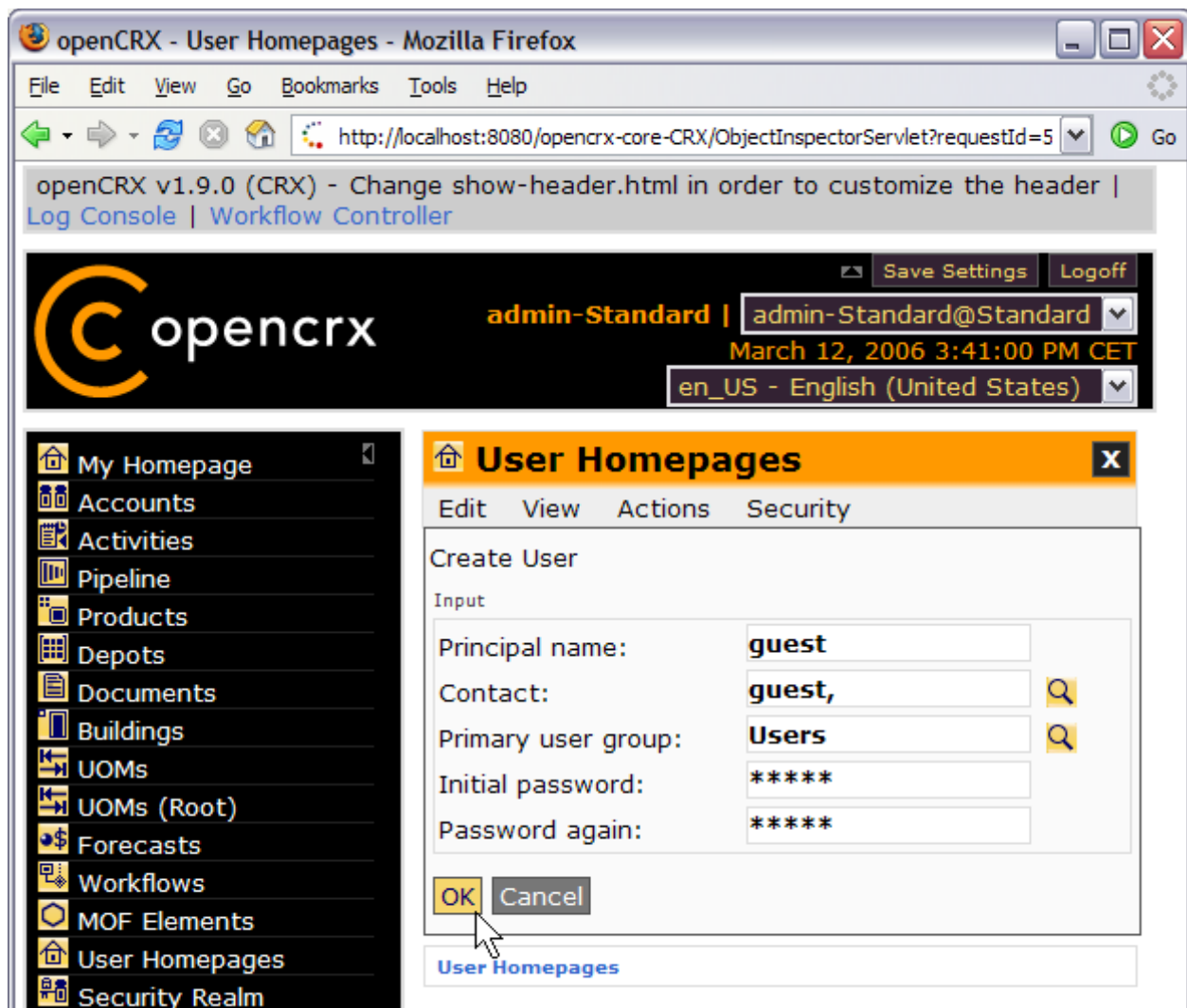


Figure 27: Create new User



Important

Passwords are stored in the table **security_Credential**. If you do not have the login module of your application server configured to access the table `security_Credential` then the setting of the passwords in openCRX has no effect (with JBoss, for example, you can edit the files **users.properties** and **roles.properties** to add users).

Next you click **OK** to execute the operation **Create User** which creates the User named **guest**. The result of executing this operation should look as follows:



Figure 28: Result of operation Create User

The grid **User Homes** contains now 2 entries: admin-Standard and guest.



You can usually fix corrupt data of an existing user by creating this user's homepage again – note, however, that the respective user's personal settings are reset to default values by executing the operation **Create User**.

Congratulations! You have successfully created a new user **guest**. The new user should now be able to login. You can try this out with the following steps:

- logoff
- login again with *Username* **guest** and *Password* **guest**



Please note that no charts are displayed when a users logs in for the first time. Activate/update charts for user **guest** by executing the operation **View > Recalculate and Refresh** from the Homepage.

4 Next Steps

Now that you have successfully installed and configured openCRX you might want to have a look at some of the additional documentation published at <http://www.opencrx.org/documents.htm>.