Webtop Administrator's Guide

Version 2.0
eMedia LLC

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Installation

The Webtop is a Java servlet software application that runs on a web server and uses a relational database for data storage. As such, these are the three main components needed to run the Webtop: a servlet engine, a web server, and a database.

Here are the basic steps you need to follow in order to get the Webtop up and running:

1. Install a servlet engine (or use the embedded one)
2. Install a web server (or use the embedded one)
3. Install a database
4. Install the Webtop files
5. Run the Webtop installation procedure
6. Run the Webtop!

The Webtop has a built-in Web server, servlet engine (from the excellent Jetty project at http://jetty.mortbay.org), and database (http://www.mckoi.com). This was done to help simplify the installation process. If you choose to use all of the integrated servers, then all you need to do is install Java, the Webtop, and a database.

Requirements for installation

The basic requirements for running the Webtop are:

- ? Java Runtime Environment 1.3+
- ? Relational Database
- ? Web server
- ? Java servlet engine
- ? X Server (if the Webtop is running in a unix environment)

Java Runtime Environment 1.3+

Java is the programming language in which the Webtop was written. As such, a Java Runtime Environment (JRE) is needed to execute the Webtop. This is a free download available on Sun's Java website at http://java.sun.com/.

Relational Database

located in the "/sql" directory in the Webtop installation directory. Other databases could be used with the Webtop given a correct SQL installation script and JDBC driver.

MySQL

MySQL is a freely available, open-source database that you can download and install from http://www.mysql.org.

To install the mysql-install.sql script, you must first create a new database called "webtop" in which to put the Webtop tables (please see the MySQL documentation for how to do this). Next, change to the directory where the mysql-install.sql script is located (should be ./sql), and type:

```
mysql webtop --password=[your password] < mysql-install.sql
```

Oracle

Oracle is an industrial-strength, commercial database. It is big, difficult to administer, and expensive – but also very fast and reliable.

To install the oracle-install.sql script, you must first create a new database (or tablespace) in which to put the Webtop tables (please see Oracle's documentation for how to do this). Next, change to the directory where the oracle-install.sql script is located (should be ./sql), login to SQL*Plus, and type:

```
SQL> @oracle-install.sql
```

Database configuration

Now that you have the Webtop database created, you need to run the installation procedure. To do this now, jump to the "Webtop Installation Procedure" section to read about how to do this.

Web server and Java servlet engine

If you are going to use the embedded web server and servlet engine, all you need to do is follow the Webtop installation procedure provided with the Webtop. See "Running the

your network, login to the server on which the Webtop is installed and type (depending on your shell):

```
export DISPLAY=[X Server IP address]
```

This will set the DISPLAY environment variable telling the Webtop where you X Server is located on your network.

Installing the files

To install the Webtop files, simply unzip them to a directory of your choosing. They should unzip into a directory structure that will be usable by most web servers and servlet engines. If not, you are welcome to modify the directory structure, however, please remember to change the property file settings to reflect any changes you do make.

Updating the properties files

The Webtop comes with an installation procedure to help you more easily configure the application. Hopefully, you will only need to use the installation procedure, however, if you have a complex installation or are using your own web server or servlet engine, it may be necessary to directly modify the properties file. The following section describes each property file entry for this purpose:

webtop.properties

The **webtop.properties** file is a file that contains name-value pairs of configuration options that can be set for the entire Webtop installation for all users and the **jetty.xml** property file is used to configure the embedded web server and servlet engine. Normally, these properties are modified once when you are first installing the Webtop and are rarely dealt with again. Below is a table explaining each of these properties and how they should be set for your installation:

Name	Description

	while the Oracle connection URL looks like this: jdbcURL=jdbc:oracle:thin:@127.0.0.1:1521:webtop
minConnections	This is the minimum number of database connections to maintain in the database connection pool.
maxConnections	This is the maximum number of database connections to allow in the database connection pool.
refreshTimeInDays	This is the number of days to wait before refreshing database connections.
dblog	This is the full path and filename of the database connection pool log file. The file generated by this property can be useful for troubleshooting database connection problems.
Authentication properties	
authenticationMethod	This is the fully qualified Java classname of the authentication class used to authenticate users when logging in. The default class is: *com.voightnet.webtop.services.DefaultAuthenticator* For more info on this topic, see the "Customizing Webtop Authentication" section.
Character encoding properties	
characterEncoding	This value determines which character encoding the Webtop will use to display HTML pages. The default value is ISO-8859-1. For Webtop installations expecting a greater variety of languages should use "UTF-8".
Miscellaneous properties	
accessLog	This is the full path and filename to the access log file.
errorLog	This is the full path and filename to the error log file. This file can be useful in troubleshooting and system monitoring.
serverURL	This is the full URL to your Webtop installation. The default value is "https://localhost"
documentRoot	This is the full path to the directory where your web server root should be. An example is: documentRoot=/usr/local/webtop/htdocs
tempFileLocation	This is the full server path to a directory where temp files will be placed.
minutesToCleanTempFiles	This property specifies how often to check the temp file directory looking for old temp files to delete.
appName	This is the publicly displayed name of the Webtop application. The default setting is "the webtop" of course.
pop3SocketIOTimeout	Do not modify this property
pop3ConnectionTimeout	Do not modify this property

- the web server's log file properties

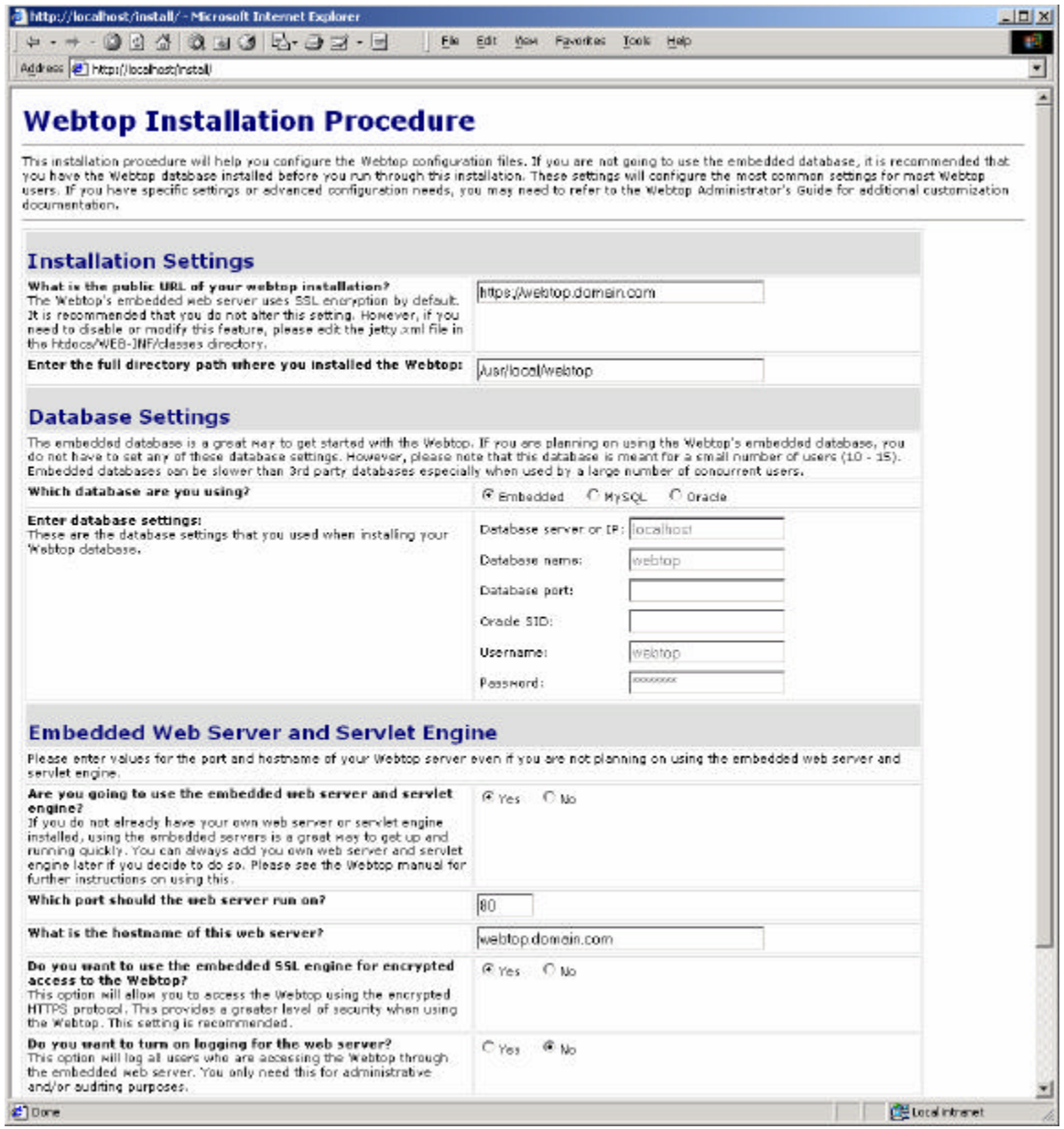
For complete documentation on how to configure a Jetty web server, please refer to the Jetty documentation at http://jetty.mortbay.com.

Running the Installation Procedure

In order to run the installation procedure, you will need to run the setup program. For a Windows installation, run the "setup.exe" program and for a unix installation run the "webtop.sh" script – these programs will start the Webtop's embedded web server and servlet engine. Once you started the Webtop, open a web browser and go to the following URL:

http://localhost

The next page you will see will ask you to define the parameters of your Webtop installation such as database settings, embedded server properties (if different from the default), and temporary file properties. Here is a screenshot of what that page should look like:



After setting these properties and clicking on the “SUBMIT THESE VALUES” button, the installation procedure will then save your settings and shutdown the Webtop for a

multiple times, you may have to stop and restart the servlet engine each time you run the procedure to ensure that the new property settings are reloaded into memory.

When you see the login screen, the default username is “admin” and the password is “admin” as well. After you login as admin, you are immediately asked to change the admin user’s password. This is a security precaution so that other users cannot login to your Webtop installation as the admin user. The next screen you will see is the User Administration section of the Webtop. This is where you can add, edit, and delete users.

Note that if you need to run the installation procedure again, simply go to http://localhost/install. This will display the input form to your configuration parameters. For security purposes, it is highly recommended that you delete this installation directory after you are finished configuring the Webtop. The directory is located inside the “htdocs” directory of your installation and is called “install”.

Starting the Webtop

Starting the Webtop consists of starting both your web server and servlet engine. If you are using the Webtop’s embedded servers, all you need to do is run the webtop.exe file (for a Windows installation) or the webtop.sh file (for a unix installation). If you are using your own servers, please refer to their respective documentation on how to start them.

Customizing the Webtop Authentication

By default, the Webtop will authenticate users against its own local database. However, if your organization already has a means for authenticating users, then you can write your own Java class to access your data store to authenticate users. The following is an explanation on what is needed to write your own authentication class. This information is intended for moderately experienced Java developers who are interested in modifying how the Webtop authenticates users. First, we will provide a brief overview on how to create a new authentication class, then a simple example will be provided to illustrate the process.

To create your own authentication class, you must first put the webtop.jar file (located in the "htdocs/WEB-INF/lib" directory) in your classpath. This jar file has the necessary Java interface that needs to be implemented. Next, create a new Java class that implements the "WebtopAuthenticator" class from the "com.voightnet.webtop.services" package. The WebtopAuthenticator class has one method that accepts two String parameters – a username and a password – and returns a boolean signifying whether or not the user's username and password were valid. Finally, after your new class is created, specify the fully qualified class name in the webtop.properties file (located in the "htdocs/WEB-INF/classes" directory) in the "authenticationMethod " property. That's it! The default Webtop authentication scheme uses this interface to authenticate users against the local Webtop database.

Here is a step-by-step example showing how to create your own authentication class. This example authentication class will be created to only allow users with "tom" in their usernames (obviously you will want an authentication class that does something a bit more useful).

Step 1: Put the webtop.jar file in your classpath

```
C:\Webtop\htdocs\WEB-INF\lib>set CLASSPATH=webtop.jar
```

Step 2: Create your new Webtop authentication class

```
import com.voightnet.webtop.services.WebtopAuthenticator;

public class TomAuthenticator implements WebtopAuthenticator {

    public boolean authenticate(String username
```

```
            }

            return validLogin;
        }
    }
```

Step 3: Compile new authentication class

```
javac TomAuthenticator.java
```

Step 4: Move TomAuthenticator class to the “htdocs/WEB-INF/classes” directory

```
C:\Webtop\htdocs\WEB-INF\lib>move TomAuthenticator.class ..\classes
```

Step 5: Modify “webtop.properties” file to use new authentication class

```
# authenticationMethod=com.voightnet.webtop.services.DefaultAuthenticator
authenticationMethod=TomAuthenticator
```

Step 6: Restart the Webtop and your done!

Administration

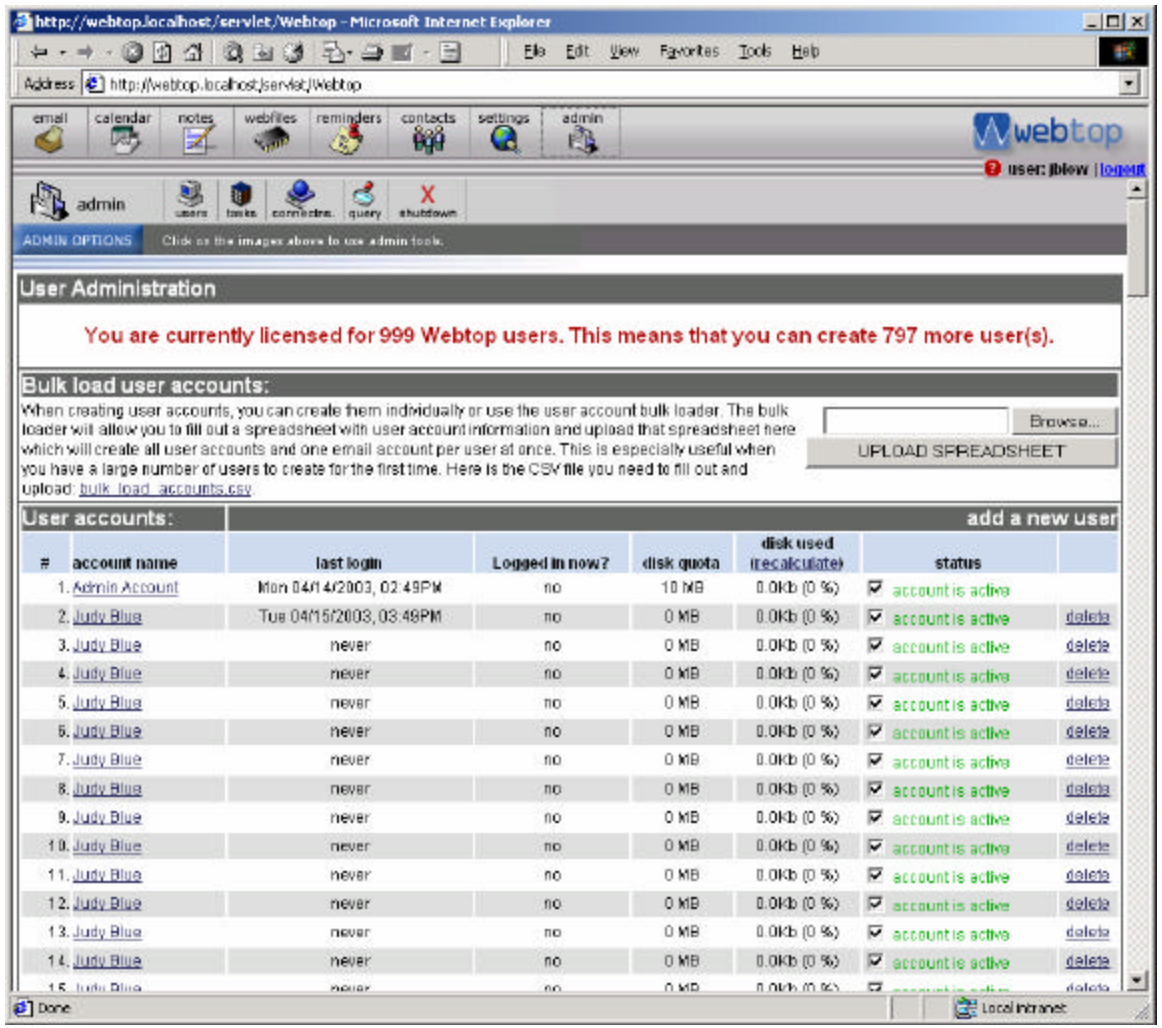
The Webtop includes a web-based GUI for many of the administrative functions needed. When you first install the Webtop, there is one account called “admin” created. That account’s password is also “admin” and you are asked to immediately change that password upon first login. Any user can be granted the “admin” privilege, which will allow them to have both a standard, Webtop user account, as well as access to all administrative functions. The default “admin” user only has access to the administration section. To access the admin functions from the user mode, click on the “admin mode” icon in the top menu bar. To get back to user mode from the administrative section, click on the “user mode” link in the top menu bar.

The number of users you can add will vary depending on your user license. The free version of the Webtop comes with a three-user license.

The administrative section of the Webtop also includes the following functions:

- User Administration – this section allows an administrator to create new users, modify user information, and delete users. When creating a new user, the admin can set a “disk space quota” which will limit a user to using only the space allocated. If the user attempts to go above that limit, an message will appear telling the user they have hit their quota limit. They *will* still be able to receive email, however, regardless of their quota – but they will not be able to send email.
- Background Task Status – this is useful mainly for debugging purposes. It shows the status of background server processes that the Webtop runs such as automatically checking email accounts, cleaning up temporary files, and checking for reminders that need to be sent.
- Database Connection Monitor – the Webtop uses a “pool” of database connections to more rapidly access data from the database. This screen shows how many connections are available and how many are in use. Again, this is mainly a tool for monitoring and debugging.
- Query Tool – this is a simply text area that an administrator can enter SQL queries directly against the Webtop database. Be very careful when using this function for SQL queries other than SELECTs. Insert, update, and delete queries are all automatically committed and are final once you submit the query.

Here is a screenshot of the user administration page:


http://webtop.localhost/servlet/Webtop - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address http://webtop.localhost/servlet/Webtop
email calendar notes webfiles reminders contacts settings admin
webtop
user: jblew | logout
admin
users tasks connectors query shutdown
ADMIN OPTIONS Click on the images above to use admin tools.
User Administration
You are currently licensed for 999 Webtop users. This means that you can create 797 more user(s).
Bulk load user accounts:
When creating user accounts, you can create them individually or use the user account bulk loader. The bulk loader will allow you to fill out a spreadsheet with user account information and upload that spreadsheet here which will create all user accounts and one email account per user at once. This is especially useful when you have a large number of users to create for the first time. Here is the CSV file you need to fill out and upload: bulk_load_accounts.csv
Browse...
UPLOAD SPREADSHEET
User accounts:
add a new user
account name last login Logged in now? disk quota disk used (recalculate) status
1. Admin Account Mon 04/14/2003, 02:49PM no 10 MB 0.0Kb (0 %) account is active
2. Judy Blue Tue 04/15/2003, 03:49PM no 0 MB 0.0Kb (0 %) account is active delete
3. Judy Blue never no 0 MB 0.0Kb (0 %) account is active delete
4. Judy Blue never no 0 MB 0.0Kb (0 %) account is active delete
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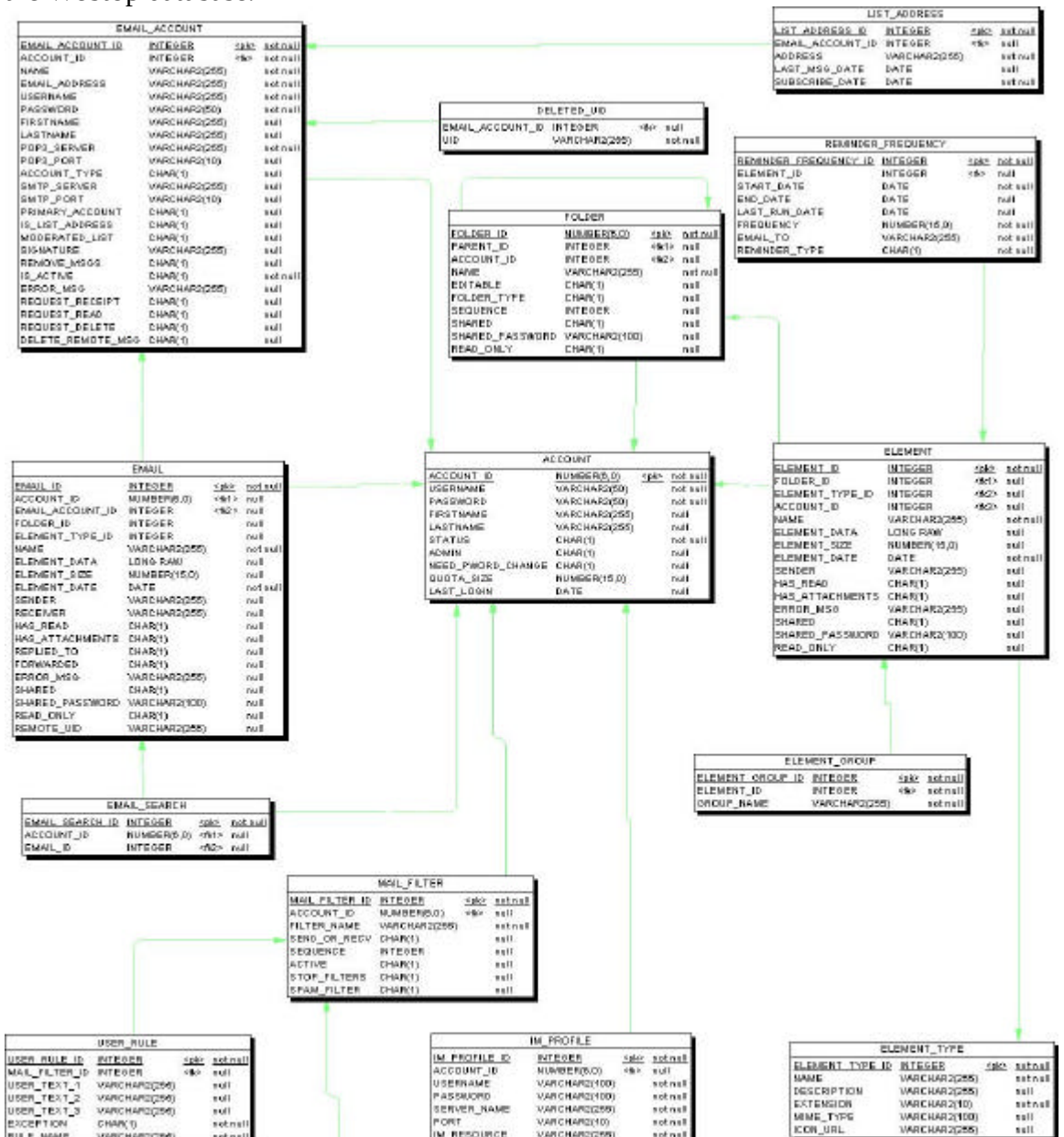
12. Judy Blue never no 0 MB 0.0Kb (0 %) account is active delete
13. Judy Blue never no 0 MB 0.0Kb (0 %) account is active delete
14. Judy Blue never no 0 MB 0.0Kb (0 %) account is active delete
Done
Local intranet

Appendix A – The Webtop Data Model

The Webtop data model is provided for administrative purposes. At some point, it may be necessary to use the administrative "query tool" to run SQL queries directly against the Webtop database.



Appendix B – Configurable Webtop Threads

First, let me say that modifying any of the information is potentially hazardous to the system's health. The only reason this information is being included is to help experienced administrators tweak their Webtop installations for maximum benefit. With that said…

The Webtop has several system threads that run in the background performing various tasks. These tasks run at set time intervals and are defined in the "taskManager.properties" file in the directory:

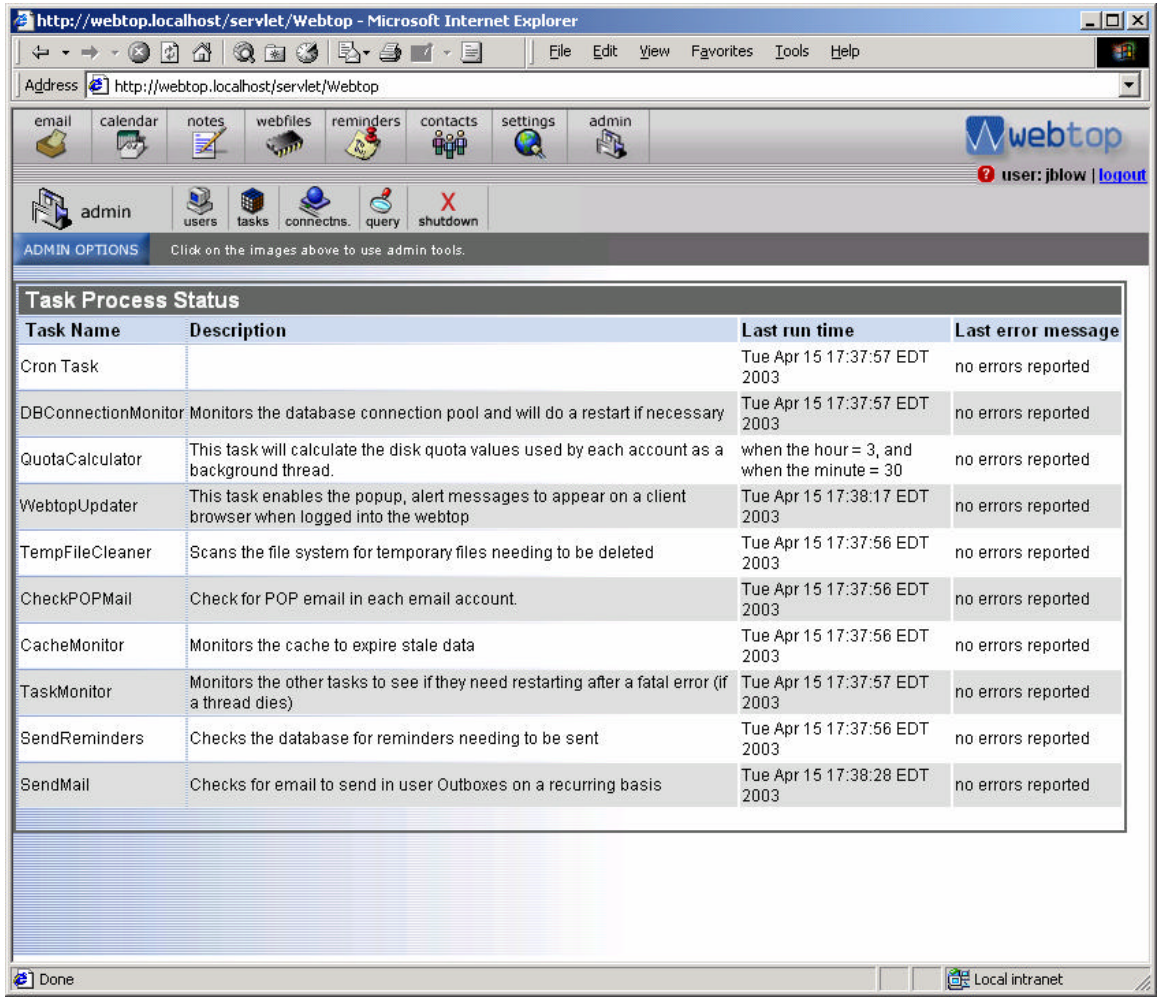
[install directory]/htdocs/WEB-INF/classes

Each taskManager entry has the following attributes:

1. Name – which is just a unique identifier for this task
2. Description – the task's description for display purposes
3. Condition(s) – Any number of java classes specifying under what conditions this tasks should run
4. Action(s) – Any number of java classes specifying the actions to take when the previous conditions arise
5. Time to run – this is the time interval to wait to run the next iteration of this task.

The only attribute you should really every change is the "time to run" attribute. The time specified is in milliseconds – so, a value of 1000 is really only 1 second. If any of the values in the taskManager.properties file are modified, the Webtop must be restarted for the changes to take effect.

The status of these task threads are displaying in the Administration section of the Webtop. If you go to the "admin menu" and click on the "tasks" option you can see each task, the last time the task was run, and any error messages generated from the execution of that task. Here is a screenshot of the task status:



The following is a table of the current list of tasks and their default values:

	Task name	**Description**	**Time to run (in milliseconds)**
1.	Cron Task	Cron-like process looking for other process to execute at a given time	60000
2.	CacheMonitor	Monitors the cache to expire stale data	60000
3.	SendMail	Checks for email to send in user Outboxes on a recurring basis	30000

		browser when logged into the webtop	
8.	QuotaCalculator	Calculates the amount of disk space used by each user and stores the values in memory.	Scheduled to run at 3:30am every day
9.	DBConnectionMonitor	This task will monitor the database connection pool. If it cannot perform a simply query, it will shutdown and restart the connection pool	300000
10.	TaskMonitor	Monitors the other tasks to see if they need restarting after a fatal error (if a thread dies)	60000