

AVATAR INSTALLATION GUIDE  
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## 1 Introduction

What is Avatar? Avatar is a sophisticated, yet simple to use, batch processing client/server application. Avatar is designed to bridge the gap between what standard Unix based systems provide for batch scheduling (*cron*) and the requirements of most (if not all) Unix based information technology companies. Avatar provides features for reporting on success or error, creating windows of time for commands, system load balancing, dynamic module loading and a highly designed extensible framework.

### 1.1 Purpose and Scope of this document

This document is intended for someone needing to install Avatar on their server.

### 1.2 Document Conventions

In order to keep the documentation as consistent as possible The following table outlines the conventions that are used in this document.

**TABLE 1.1 DOCUMENT CONVENTIONS**

TYPE	PURPOSE
<b>Bold Courier Font</b>	A command to be typed in.
Courier Font	Output of a command.
Bold dollar sign. (\$)	Bourne shell prompt. (Not to be typed in).
Bold percent sign (%)	C shell prompt (Not to be typed in).
Bold pound sign. (#)	Root shell prompt. (Not to be typed in).
<i>Italic Courier Font</i>	A filename or directory name.
<b>CAPITALIZED BOLD</b>	Environment variable names.

### 1.3 Documents Related

**TABLE 1.2 RELATED DOCUMENTS**

DOCUMENT	DESCRIPTION
Avatar Installation Guide	This document provides the information to install the license and install both the client and the server.
Avatar Command File Guide	This document outlines the syntax of the Avatar Command File.
Avatar Administration Interface	This document provides all the information required to use administration interface.
Avatar Client Interface	This document provides all the information required to use client interface.

## **1.4 Contacting Us**

To ask any pre-sales or post-sales questions, please use one of the following methods.

**TABLE-1.3 CONTACT INFORMATION**

<b>METHOD</b>	<b>ADDRESS</b>
World Wide Web	<a href="http://www.vexus.ca">http://www.vexus.ca</a>
E-mail	<a href="mailto:sales@vexus.ca">sales@vexus.ca</a>

## 2 Installing the Avatar Server

Installing the Avatar server can be done several different ways: Solaris package format, RPM format or basic tar file. This section demonstrates all methods.

### 2.1 Solaris Package Installation

When installing a new version of Avatar via Solaris packages you must first be logged in as **root**. If there is a version of Avatar currently installed, take it down before performing the upgrade.

#### 2.1.1 Copy Distribution Software to Server

Copy the software onto the system into a temporary location. A good location is in `/tmp`.

#### 2.1.2 Remove the Old Avatar Installation

If Avatar is currently installed on the system, it must be removed. If it is not installed skip this step and move on to the next step.

To remove the old Avatar package installation use the `/usr/sbin/pkgrm` command.

##### EXAMPLE 1: REMOVING THE AVATAR PACKAGE

```
# /usr/sbin/pkgrm Avatar
The following package is currently installed:
Avatar      Avatar
(Solaris5.9) 4.0.0

Do you want to remove this package? y
## Removing installed package instance <Avatar>
This package contains scripts which will be executed with
super-user permission during the process of removing this
package.

Do you want to continue with the removal of this package [y,n,?,q] y
## Verifying package dependencies.
## Processing package information.
## Executing preremove script.
## Removing pathnames in class <none>
/etc/init.d/avatar
/etc/rc2.d/S90avatar <symbolic link>
/etc/rc6.d/K10avatar <symbolic link>
/opt/Avatar/bin/avatar
/opt/Avatar/bin/avatarbr
/opt/Avatar/bin/avatarbrs
/opt/Avatar/bin/avatarcr
/opt/Avatar/bin/avatarcs
...
(output cut)
```

Once done, Avatar is no longer installed. If you are removing Avatar permanently, then you may want to remove `/etc/avatar`. Be warned that the license file resides in `/etc/avatar`.

### 2.1.3 Install the New Version

To install the new Avatar package onto the system use the `/usr/sbin/pkgadd` command.

**EXAMPLE 2: INSTALLING AVATAR USING SOLARIS PACKAGES**

```
# /usr/sbin/pkgadd -d /tmp/Avatar
```

```
The following packages are available:
```

```
1 Avatar Avatar
  (Solaris 5.9) 4.0.0
```

```
Select package(s) you wish to process (or 'all' to process
all packages). (default: all) [?,??,q]: 1
```

```
Processing package instance <Avatar> from </tmp/Avatar>
```

```
Avatar
  (Solaris 5.9) 4.0.0
Vexus Consulting Group Inc.
```

```
The selected base directory </opt/Avatar> must exist before
installation is attempted.
```

```
Do you want this directory created now [y,n,?,q] y
Using </opt/Avatar> as the package base directory.
## Processing package information.
## Processing system information.
1 package pathname is already properly installed.
## Verifying disk space requirements.
## Checking for conflicts with packages already installed.
```

```
The following files are already installed on the system and are being
used by another package:
* /opt/Avatar <attribute change only>
* - conflict with a file which does not belong to any package.
```

```
Do you want to install these conflicting files [y,n,?,q] y
## Checking for setuid/setgid programs.
```

```
This package contains scripts which will be executed with super-user
permission during the process of installing this package.
```

```
Do you want to continue with the installation of <Avatar> [y,n,?] y
```

```
Installing Avatar as <Avatar>
```

```
## Installing part 1 of 1.
/etc/init.d/avatar
/etc/rc2.d/S90avatar <symbolic link>
/etc/rc6.d/K10avatar <symbolic link>
/opt/Avatar/bin/avatar
/opt/Avatar/bin/avatarbr
/opt/Avatar/bin/avatarbs
/opt/Avatar/bin/avatarcr
/opt/Avatar/bin/avatarcs
/opt/Avatar/bin/avatared
...
(output cut)
```

## 2.2 RPM Installation

When installing a new version of Avatar RPM packages, you must be logged in as **root**. If there is a version of Avatar currently installed, take it down before performing the upgrade.

### 2.2.1 Copy Distribution Software to Server

Copy the software onto the system into a temporary location. A good location is in */tmp*.

### 2.2.2 Remove the Old Avatar Installation

If Avatar is currently installed on the system, it must be removed. If it is not installed skip this step and move on to the next step.

To remove the old Avatar package installation use the **rpm** command.

#### **EXAMPLE 3: REMOVING THE AVATAR PACKAGE**

```
# rpm -e Avatar
```

```
Shutting down the Avatar server.  
The directory /etc/avatar has been left in-tact. If you are  
reinstalling Avatar then the batches will be visible after the  
upgrade. If you are not installing Avatar again then remove this  
directory by hand.
```

```
The Avatar Development Team  
#
```

Once done, Avatar is no longer installed. If you are removing Avatar permanently, then you may want to remove */etc/avatar*. Be warned that the license file resides in */etc/avatar*.

### 2.2.3 Install the New Version

To install the new Avatar package onto the system use the **rpm** command.

#### **EXAMPLE 4: INSTALLING AVATAR USING RPM**

```
# rpm -i Avatar-4.0-0.i586.rpm  
Previous Avatar install detected. Leaving intact.  
Starting Avatar
```

Avatar is now installed and running. You will need to install the client interface if not done yet.

## 2.3HP/UX Depot File Installation

Avatar comes shipped as a HP/UX depot file for those running HP/UX 11i or higher. When installing a new version of Avatar depot file, you must be logged in as **root**. If there is a version of Avatar currently installed, take it down before performing the upgrade.

### 2.3.1Copy Distribution Software to Server

Copy the software onto the system into a temporary location. A good location is in */tmp*.

### 2.3.2Remove the Old Avatar Installation

To remove a HP/UX depot file, log in as **root** and run the command **swremove**. Follow the instructions to remove the Avatar application via **swremove**. Refer to HP/UX documentation on how to use **swremove**.

#### EXAMPLE 5: REMOVING THE AVATAR DEPOT FILE

```
# swremove
```

Once done, Avatar is no longer installed. If you are removing Avatar permanently, then you may want to remove */etc/avatar*. Be warned that the license file resides in */etc/avatar*.

### 2.3.3Install the New Version

To install the new Avatar package onto the system use the **swinstall** command. If the package was copied in */tmp* the following command would load the Avatar depot file via the **swinstall** command.

#### EXAMPLE 6: INSTALLING THE AVATAR DEPOT FILE

```
# swinstall -s /tmp/Avatar-Server-4.0.0.depot
```

Install Avatar via the **swinstall** program. Once installed exit **swinstall** and install the license file as per the instructions in Installing the License File.

## 2.4 Tar File Installation

### 2.4.1 Copy Distribution Software to Server

Copy the software onto the system into a temporary location. A suggested location is in `/tmp`.

### 2.4.2 Inflate the Distribution

*Avatar* will be distributed as a gzipped tarred file. If you do not have *gzip* installed, PC based *wzip* can inflate a *gzip* file. Failing both options, *gzip* can be picked up for free from many web sites. To inflate the file using *gzip* type in the following command:

```
$ gzip -d Avatar-4.0.0.tar.gz
```

### 2.4.3 Untar the File

Once the file has been inflated, untar the file. To do this change directories into the destination directory and untar the file<sup>1</sup>. For example, if the distribution is to be installed into `/export/local/` then change directories into `/export/local`.

#### EXAMPLE 7: EXTRACTING AVATAR FROM A TAR FILE

```
# tar xvf /tmp/Avatar-4.0.0.tar2
Avatar-4.0.0/
Avatar-4.0.0/lib/
Avatar-4.0.0/lib/libavutil.so
Avatar-4.0.0/lib/libsqlite.so.0
Avatar-4.0.0/ext/
Avatar-4.0.0/ext/libavcommand.so
Avatar-4.0.0/ext/libavhttp.so
Avatar-4.0.0/ext/libavsyslog.so
Avatar-4.0.0/ext/libavfiletx.so
Avatar-4.0.0/ext/libavfilechk.so
Avatar-4.0.0/ext/libavftp.so
Avatar-4.0.0/ext/libavsmtp.so
Avatar-4.0.0/ext/libavloadcheck.so
(output cut)
```

Notice that a directory with a name like Avatar-Version is created. (Version being a value like 4.0.0) This is in case if a current copy is currently installed on the system, the new installation will not clobber the old installation.

### 2.4.4 Create the Configuration Directory

If this is a new installation of Avatar, then perform the following actions. You must be logged in as **root** to do this.

#### EXAMPLE 8: CREATING THE CONFIGURATION DIRECTORIES

```
# mkdir /etc/avatar
# cp /export/Avatar-4.0.0/etc/* /etc/avatar
```

---

<sup>1</sup>The user must have permissions to write files to the filesystem.

<sup>2</sup>Note the filename Avatar-4.0.0.tar.gz is only an example. Change this filename to the version you received.

## 2.4.5 Setting the Control Scripts

In order to start and stop Avatar the control scripts that ship with Avatar need to be updated to know where the Avatar was installed. To do this a script was provided to aide in setting the right scripts with the correct information. The script required is in the *bin* directory called **avconfig**. To run the script log in as root and run the script passing it the path where Avatar was installed. For example, if Avatar was installed in */export/Avatar-4.0.0* then the following command would set all of the control scripts for Avatar.

```
EXAMPLE 9: SETTING THE CONTROL SCRIPTS  
# cd /export/Avatar-4.0.0/bin  
# ./avconfig -i /export/Avatar-4.0.0/bin
```

Once this has been run, all of the control scripts have been altered.

## 2.4.6 Install the License File

When you downloaded Avatar you would have been sent a temporary license. Install this license in */etc/avatar* as *avatar.license*. (the full filename would be */etc/avatar/avatar.license*). If you have received a full license, install this file in the same location with the same filename. Read the section [Installing the License File](#) for more detail.

## 2.5 Configuring the Database<sup>3</sup>

Avatar requires a database to connect too and save data. By default, Avatar uses it's own internal database engine. If a MySQL or PostgreSQL database engine is available, Avatar can connect to them. The database configuration file resides in `/etc/avatar` as the file `dbconfig.xml`. The generic Avatar database configuration file is depicted in the following example.

### EXAMPLE 10: AVATAR DEFAULT DATABASE CONFIGURATION FILE

```
<?xml version="1.0"?>
<AvatarXMLDataFile>
  <DBType>Avatar Inline Database</DBType>
  <DBHost></DBHost>
  <DBPort></DBPort>
  <DBUser></DBUser>
  <DBPassword></DBPassword>
  <Database></Database>
</AvatarXMLDataFile>
```

### 2.5.1 Shutting Down the Server

Before changing the database server, the Avatar server should be shut down. Although this can be done while the server is running. Changing the database while the server is running could cause serious data corruption issues.

### 2.5.2 Edit the Database Configuration File

Changing the database configuration file can be done via the administration interface, it is not advised unless you know exactly what you are doing. It is advised to edit the `dbconfig.xml` by hand and test the changes.

TABLE 2.1 DATABASE CONFIGURATION FIELDS

FIELD	DESCRIPTION
DBType	This is one of: <i>Avatar Inline Database, MySQL or Postgres</i>
DBHost	This is the hostname/IP of the server running the database.
DBPort	This is the port which the database is listening on.
DBUser	This is the user which Avatar will log in as.
DBPassword	This is the password of the database user.
Database	This is the name of the database. We suggest something like <i>avatar</i> .

### 2.5.3 Setting the Inline Database File

The default pathname for the Inline database file is `/etc/avatar/avatar.db`. This may be inconvenient since the database file resides on `/etc` which may be limited by disk space. To change the path of the Inline database file edit the `/etc/avatar/dbconfig.xml` file and set the path of the Inline database in the `<Database>` tags. The following example shows how to set the path of the Avatar Inline database file to `/data/avatar/avatar.inline.database`.

<sup>3</sup>This step is not required if you plan on using the internal database.

**EXAMPLE 11: CHANGING THE DEFAULT INLINE DATABASE FILENAME**

```
<?xml version="1.0"?>
<AvatarXMLDataFile>
  <DBType>Avatar Inline Database</DBType>
  <DBHost></DBHost>
  <DBPort></DBPort>
  <DBUser></DBUser>
  <DBPassword></DBPassword>
  <Database>/data/avatar/avatar.inline.database</Database>
</AvatarXMLDataFile>
```

### 2.5.4 Create the Database

The avatar database needs to be created before the server is started. Log into your database server and create the database referenced in the **Database** field of the *dbconfig.xml* file.

### 2.5.5 Create the Tables

Before starting the server, the database tables need to be created. If they have been created already, skip this step. If you wish to create a brand new install of Avatar then recreate the tables. The old tables will be dropped – with all their data<sup>4</sup>. Avatar ships all the tables schemas in the directory *db/schemas*. For example if Avatar was installed as */export/Avatar-4.0.0* then the schema files would be in */export/Avatar-4.0.0/db/schemas*. All the table schemas are in this directory, each with an extension representing the database they are defined for. The MySQL table schemas have a **.mysql** extension while the Postgres have a **.postgres** extension. Run each script against the database you defined and the Avatar tables will be in place.

### 2.5.6 Set the Inline Database Permissions

Because the Inline database is a flat file, we need to make sure the permissions of the data file (and directory) are set so everyone can write to it. Log in as **root** and do the following: (Keep in mind – the you have set the path of the Inline database file in the *dbconfig.xml* file, the path the new Inline config file should be used in the following example and not the default */etc/avatar/avatar.db* as depicted below.)

**EXAMPLE 12: SETTING THE INLINE DATABASE PERMISSIONS**

```
# chmod 777 /etc/avatar
# chmod 777 /etc/avatar/avatar.db
```

### 2.5.7 Run the Database Configuration Tool

As the last step run the database configuration tool. The database configuration tool is located in the *bin* directory as *configdb*. You must be logged in as **root** to do this.

**EXAMPLE 13: RUNNING THE DATABASE CONFIGURATION TOOL**

```
# /export/Avatar-4.0.0/bin/configdb
```

### 2.5.8 Restart the Server

Once the **dbconfig.xml** has been edited, the database tables have been created and the database configuration tool run; start the server. If there are problems with the database details the servers will complain with an appropriate message.

---

<sup>4</sup>Make sure you want to do this. There is no recovery of old data once this is done.

## 2.6 Installing the License File

In order to get the *Avatar* server to start, a license file must be installed. If a valid license file is already found on the system then nothing needs to be done and the server may be restarted. If this is a new installation, or the hostname of the server has changed, then the license file needs to be installed.

### 2.6.1 Install New License File

When *Avatar* is purchased, you would have received a license file for each machine. Copy the license file into the configuration directory: `/etc/avatar`. If a license file already exists, then you may already have a valid license for the server. The generic Avatar license file which will be provided is depicted in the following example.

#### EXAMPLE 14: AVATAR GENERIC LICENSE FILE

```
<?xml version="1.0"?>
<AvatarXMLLicenseFile>
  <Hostname>elmo</Hostname>
  <Company>Vexus</Company>
  <Type>Enterprise</Type>
  <Expires>Never</Expires>
  <Key>VRZWm5W0VZxX4JtwdcbmXlwzMZQ</Key>
</AvatarXMLLicenseFile>
```

### 2.6.2 Change License File Permissions

Once the file has been installed, change the file permissions so only **root** can read and write to the file.

#### EXAMPLE 15: SETTING THE LICENSE FILE PERMISSIONS

```
# chmod 600 /etc/avatar/avatar.license
# ls -l /etc/avatar/avatar.license
-rw----- 1 root root 223 Jan 10 10:44 avatar.license
```

## 2.7 Running the Server

Once Avatar has been installed and the license configured correctly, the server may be started. Log in as **root** and run the *avatar* script. The script has four arguments which can be given as a command line option; *start*, *stop* and *restart*.

### 2.7.1 Starting the server

To start the server, type in the full path name to the *avatar* script. For example *Avatar* was installed in */export/local/Avatar*, then the command to start the server the command would be:

```
EXAMPLE 16: STARTING THE SERVER
# /export/local/Avatar/bin/avatar start
```

### 2.7.2 Stopping the server

Since the Avatar server is a complex application, randomly killing the Avatar server can cause problems in the long run. For this reason the *avatar* script should be used to take the server down at all times. Run the *avatar* script with the option *stop*, and the Avatar server will be stopped correctly.

```
EXAMPLE 17: STOPPING THE SERVER
# /export/local/Avatar/scripts/avatar stop
```

If you kill the Avatar server any other way (ie via the *kill* command), you risk corrupting the server configuration files, which maintains the batch registration details.

### 2.7.3 Restarting the server.

To restart the server, type in the full path name to the Avatar server. For example Avatar was installed in */export/local/Avatar*, then the command to start the server the command would be:

```
EXAMPLE 18: RESTARTING THE SERVER
# /export/local/Avatar/bin/avatar restart
```

## 3 Installing the Avatar Client

In order to interact with Avatar, a client needs to be installed and configured for use. A single install of the client can talk to multiple servers; in fact Avatar was designed this way to minimize the amount of software to install and maintain.

### 3.1 Copy Distribution Software to Server

Copy the software onto the system into a temporary location. A suggested location is in `/tmp`.

### 3.2 Inflate the Distribution

*Avatar* will be distributed as a gzipped tarred file. If you do not have *gzip* installed, PC based *windows* can inflate a *gzip* file. Failing both options, *gzip* can be picked up for free from many web sites. To inflate the file using *gzip* type in the following command:

```
$ gzip -d Avatar-Client-2.0.0.tar.gz
```

### 3.3 Untar the File

Once the file has been inflated, untar the file. To do this change directories into the destination directory and untar the file<sup>5</sup>. For example, if the distribution is to be installed into `/export/local/` then change directories into `/export/local`.

#### EXAMPLE 19: EXTRACTING THE AVATAR CLIENT FROM A TAR FILE

```
# tar xvf Avatar-Client-2.0.0.tar.gz6
Avatar-Client-2.0.0/
Avatar-Client-2.0.0/etc/
Avatar-Client-2.0.0/etc/apache.config
Avatar-Client-2.0.0/lib/
Avatar-Client-2.0.0/lib/libavutil.so
Avatar-Client-2.0.0/lib/libavclutil.so
Avatar-Client-2.0.0/admin/
Avatar-Client-2.0.0/admin/cgi-bin/
Avatar-Client-2.0.0/admin/cgi-bin/avauth.cgi
Avatar-Client-2.0.0/admin/cgi-bin/avbrkr.cgi
Avatar-Client-2.0.0/admin/cgi-bin/avdb.cgi
Avatar-Client-2.0.0/admin/cgi-bin/avhldy.cgi
(output cut)
```

Notice that a directory with a name like Avatar-Client-Version is created. (Version being a value like 2.0.0) This is in case if a current copy is currently installed on the system, the new installation will not clobber the old installation.

---

<sup>5</sup>The user must have permissions to write files to the filesystem.

<sup>6</sup>Note the filename Avatar-4.0.0.tar.gz is only an example. Change this filename to the version you received.

### 3.4 Configuring the Web Server

Distributed with the client is an example configuration file for the Apache web server. The example file resides in *etc/apache.config*. Edit this file and include it in the *httpd.conf* file used for your web server. Before including the configuration, several elements need to be edited to reflect your install. The following table explains the fields which need to be edited and their purpose. Please make note that there are two sections to the configuration file: one for the user interface and the other for the administration interface. The table below uses the administration configuration as an example.

**TABLE 3.1 WEB SERVER CONFIGURATION FIELDS**

FIELD	DESCRIPTION	DEFAULT VALUE
ServerName	This is the name of the server which the web server will respond too. This is only needed if you plan on running this server as a virtual domain.	admin.domain.com
DocumentRoot	This is the root directory of the client interface.	/export/Avatar-Client-2.0.0 <sup>7</sup> /admin
SetEnv LD_LIBRARY_PATH	This sets the loadable library path in the web server. Since Avatar provides shared libraries we need to tell the web server where to look for certain libraries.	/export/Avatar-Client-2.0.0/lib:/export/Avatar-Client/2.0.0/ext
ScriptAlias /cgi-bin/	This tells the web server where the cgi directory resides.	/export/Avatar-Client-2.0.0/admin/cgi-bin

Different operating systems use different environment variables to point applications to shared libraries. The following table lists the different environment variables and the respective operating system. Make sure the correct variable is used in the *httpd.conf* configuration file, otherwise the client interface will not work.

**TABLE 3.2 OPERATING SYSTEM DEPENDANT ENVIRONMENT VARIABLES**

OPERATING SYSTEM	ENVIRONMENT VARIABLE
Linux (all variants), Solaris, System V Operating Systems	LD_LIBRARY_PATH
HP/UX	SHLIB_PATH
AIX	LIBPATH

Make the appropriate changes to the configuration file and add it to the *httpd.conf* file for the web server. Restart your web server. The following example shows a modified configuration file representative of a client install in */opt* responding to the sub-domains of [admin.avatardomain.com](http://admin.avatardomain.com) (for the administration interface) and [user.avatardomain.com](http://user.avatardomain.com) (for the user interface). The items in bold are the fields which were changed.

<sup>7</sup>This path is assuming that version 2.0.0 of the client was installed in */export*.

**EXAMPLE 20: EDITED HTTPD.CONF FILE**

```
#
# Configure the admin web page to respond to admin.avatardomain.com
#
<VirtualHost *>
    ServerName admin.avatardomain.com
    DocumentRoot /opt/Avatar-Client/admin

    SetEnv LD_LIBRARY_PATH /opt/Avatar-Client/lib:/opt/Avatar-Client/ext

    AddHandler server-parsed .html
    AddHandler cgi-script .cgi
    ErrorDocument 404 /error.html

    ScriptAlias /cgi-bin/ "/opt/Avatar-Client/admin/cgi-bin/"

    <Directory />
        Options ExecCGI +Includes -Indexes FollowSymLinks MultiViews
        order allow,deny
        allow from all
        AllowOverride None
    </Directory>
</VirtualHost>

#
# Configure the user web page to respond to user.avatardomain.com
#
<VirtualHost *>
    ServerName user.avatardomain.com
    DocumentRoot /opt/Avatar-Client/user

    SetEnv LD_LIBRARY_PATH /opt/Avatar-Client/lib:/opt/Avatar-Client/ext

    AddHandler server-parsed .html
    AddHandler cgi-script .cgi
    ErrorDocument 404 /error.html

    ScriptAlias /cgi-bin/ "/opt/Avatar-Client/user/cgi-bin/"

    <Directory />
        Options ExecCGI +Includes -Indexes FollowSymLinks MultiViews
        order allow,deny
        allow from all
        AllowOverride None
    </Directory>
</VirtualHost>
```