Aware IM

Version 8.7

Installation Guide

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1   Installation under Windows operating system

To install *Aware IM* under Windows operating system you need to run the set-up program that guides you through the installation process. Before starting the set-up program check that your computer meets the necessary requirements described below.

Note: *Aware IM* needs Java version 12.0 or later to be installed on your machine. You do not need to install Java for the Windows operating system as *Aware IM* already comes with Java as part of its distribution package. The Java version *Aware IM* comes with is JDK 12.0 for 64-bit Windows. If you want to upgrade your Java system to the later version or to use 32-bit version of Windows you can set up *Aware IM* to work with a custom version of Java. See section 5 for more details**.**

1.1   Hardware and software requirements

To run *Aware IM* under the Windows operating system you need the following:

- IBM PC compatible computer
- 512 Mb of RAM (1 Gb recommended)
- 700 Mb of free disk space
- Windows operating system (any Windows version is supported)
- Internet Explorer (version 8.0 or later), Mozilla Firefox (version 3.0 or later), Google Chrome or Safari web browser

1.2   Using the installation program

To start installation of the *Aware IM* software, run the installation program SETUP.exe which is located on your installation CD or which has been downloaded from the Awaresoft web site. It is a self-extracting executable that will unpack all the required files on your hard disk.

Firstly the software displays the welcome screen and the license page that you must accept in order to proceed with the installation. The next screen shows the default directory where *Aware IM* will be installed. You can press the Next button to accept the default directory or specify a different directory. The next screen lets you choose the folder where *Aware IM* shortcuts will be installed. You can accept the default choice or select a different folder or choose not to install the shortcuts at all.

After you press the Install button the software will start unpacking the required files on your hard disk.

If you want to use the default database system (Apache Derby) with *Aware IM* you can start using *Aware IM* right away – see section 1.3. If you want to use MySQL, MS SQL Server / SQL Server Express/Azure, Oracle, PostgreSQL or Maria DB databases you will need to set up the appropriate database software after the set-up program has finished – see section 1.4.

1.3   Running Aware IM

Whether you are running the Configuration Tool or configured applications you need to run the *Aware IM* Control Panel or start Aware IM Windows services first.

1.3.1   Starting Aware IM Control Panel

To start the *Aware IM* Control Panel you can either choose the "Control Panel" shortcut in the Programs menu or you can start it manually by changing to the `CP/eclipse` directory of your *Aware IM* installation and running the `CP.exe` file. It is highly recommended that you run this executable as administrator.

The Aware IM Control Panel will start all the required components such as Tomcat server and Aware IM server. On successful startup the green "OK" message will be displayed as System Status.

Note that when starting the Aware IM Control Panel for the first time you will be asked to provide the name of your business application. The name of your business application will be used by *Aware IM* to create the default business space and the initial business space version (see "Aware IM User Guide" for the explanation what business space and business space version are).

1.3.2   Starting the Configuration Tool

To start the Configuration Tool press the "Start Configurator" button on the Aware IM Control Panel (or you can start it from File Explorer by changing to the `ConfigTool/eclipse` directory of your *Aware IM* installation and running the `ConfigTool.exe`). When you start the Configuration Tool it will ask you to provide the business name you are logging into and password. Enter the business name you specified when you started the *Aware IM* Control Panel for the first time. Enter "`admin`" as user name and then enter the default password "`password`".

1.3.3   Changing Aware IM System Settings

You can change certain system settings by using the Settings menu of the Aware IM Control Panel.

Aware IM Control Panel starts up the following components required for Aware IM:
- Tomcat server
- Aware IM server
- Configuration Tool

When starting up these components the Control Panel uses default startup options. You can change memory settings allocated to each of the components on startup, ports used, database engine and database configuration. You will need to restart Aware IM after changing most of these settings. You can also change the settings manually by changing Aware IM configuration files – this is especially useful when Aware IM runs as a Windows service or when the operating system does not have a graphical user interface.

To change memory allocation and Java startup options manually:
Normally you will not require changing these options. However, if you need to change the initial Java startup properties for each of those components, you can do so by placing the special property file called "startupOptions.props" into the BIN directory of your Aware IM installation. The sample "startupOptions.props" file with the settings equivalent to the default settings is located in the `samples` directory of your Aware IM installation.

For example, you can increase the memory allocated to different Aware IM components on startup. To do so add `-Xmx96m` after `java` in the corresponding line (where 96m is the amount of memory in Mb allocated to the component, you can increase this number further provided that your machine has enough memory).

1.3.4 Starting configured applications

Applications you configure with the Configuration Tool should be run within a web browser. Open your browser and point it to the following URL:
http://localhost:8080/AwareIM/logon.html
See also the "Aware IM User Guide" describing other entry points to the configured applications.

You can also select the `Operation` shortcut from your Programs menu.

1.3.5 Un-installation

To uninstall *Aware IM* software select the Uninstall shortcut from the Programs menu or Aware IM programs folder or run Uninstall.exe located in the root directory of your *Aware IM* installation.

1.3.6 Running Aware IM as a Windows service

To install Aware IM as Windows service, do the following:

1. Shutdown *Aware IM* if it is running
2. Run the batch file InstallService.bat located in the AwareIM/bin directory where AwareIM is the root directory of your *Aware IM* installation.
3. Start the services manually or re-boot your machine to make sure that services are automatically started. To start services manually go to the Windows Services manager located in the Administrative Tools folder of the Windows Control Panel. Start Tomcat service first; and then the Aware IM service.

Note that the `InstallService.bat` file installs two services (order of services is important) – Tomcat and Aware IM.

Note also that when *Aware IM* is running as a Windows service you will not be able to run the Aware IM Control Panel. If you want to start the Configuration Tool you need to run the `ConfigTool.exe` file located in the `AwareIM/ConfigTool/eclipse` directory.

To uninstall Aware IM services run the `UninstallService.bat` file located in the AwareIM/bin directory. This file stops the services automatically if they are running.

1.4   Database integration

Aware IM requires database software to function correctly. At the moment *Aware IM* is compatible with the Apache Derby, MySQL, Microsoft SQL Server/Azure, Oracle, PostgreSQL and Maria DB databases[1]. MySQL, Maria DB, Oracle, PostgreSQL and MS SQL Server databases are not included in the *Aware IM* installation.

Apache Derby is included in *Aware IM* and does not require any additional integration.

1.4.1 Integrating *Aware IM* with MySQL database

If you do not have MySQL database software you can download one free of charge from the MySQL web site at https://dev.mysql.com/downloads. Run MySQL installation program and follow the instructions (see MySQL Installation Guide for details). We recommend that you install MySQL as a Windows service. Once the installation has been completed make sure that MySQL is running and perform the integration steps described below.

1. Start the Aware IM Control Panel
2. Select the Settings/Database menu item and select MySQL as the database engine
3. Enter credentials of the MySQL account. Note that the account you specify here must have root user privileges, otherwise Aware IM will not work
4. Specify MySQL server name and the port number where MySQL listens to requests (if these are different from the default values)
5. Click OK and restart Aware IM

If you installed Aware IM as Windows service you can perform database integration manually without using the Aware IM Control Panel. To do this:

1. Delete the default `AwareIM/bin/BASServer.props` file which contains default database settings
2. Rename the file `BASServerMySQL.props to BASServer.props`
3. Use any text editor to change server name, port and root user credentials to the following lines in the `BASServer.props` file:

---

[1] Note that Aware IM can connect to any existing database through a JDBC driver. In this section we only refer to databases that Aware IM supports "natively", i.e. it can create NEW applications using these databases.

```
DriverURL=jdbc:mysql://localhost/BASDB?user=root&password=blah
DriverTestURL=jdbc:mysql://localhost/BASDBTEST?user=root&password=bla
BootstrapURL=jdbc:mysql://localhost/?user=root&password=blah
```

1.4.2 Integrating *Aware IM* with MS SQL Server database

If you do not have MS SQL Server database software you can download the free version (SQL Server Express) from the Microsoft web site. Make sure that MS SQL Server or SQL Server Express is running and perform the integration steps described below.

IMPORTANT: Support for the full version of MS SQL Server database is optional in Aware IM. Before integrating this database with Aware IM make sure that this option is available in your Aware IM edition.

1. Make sure that your MS SQL Server database is configured to use TCP/IP protocol – please refer to the MS SQL Server manual for details.
2. Start the Aware IM Control Panel
3. Select the Settings/Database menu item and select SQL Server as the database engine
4. Enter credentials of the SQL Server account.
5. Specify SQL server name and the port number where SQL Server listens to requests (if these are different from the default values)
6. Click OK and restart Aware IM

If you installed Aware IM as Windows service you can perform database integration manually without using the Aware IM Control Panel. To do this:

1. Delete the default `AwareIM/bin/BASServer.props` file which contains default database settings
2. Rename the file `BASServerMSDE.props to BASServer.props`
3. Use any text editor to modify the following lines in the `BASServer.props` file located in the BIN directory of your *Aware IM* installation:

```
DriverURL=jdbc:sqlserver://localhost:1433;user=sa;password=password;databas
eName=BASDB
DriverTestURL=jdbc:sqlserver://localhost:1433;databaseName=BASDBTEST;user=s
a;password=password;
BootstrapURL=jdbc:sqlserver://localhost:1433;user=sa;password=password;
DriverClassName=com.microsoft.sqlserver.jdbc.SQLServerDriver
DatabaseComponent=com.bas.basserver.persistence.dbplugins.MSSQLServerInterf
ace
```

Change values for "user" and "password" properties in the first three lines above to provide the credentials of your MS SQL Server account.

If you are running a specific instance of the SQL Server configure this instance to listen on a particular TCP/IP port and specify this port in the URL above

1.4.2.1 Troubleshooting MS SQL Server database integration.

If *Aware IM* does not start it could be for reasons described in the following table (which also suggests what to do):

Cause of failure	What to do
1. Aware IM fails to authenticate with MS SQL Server	Check that you specified correct user name and password in the BASServer.props file
2. Aware IM cannot connect to the MSQL Server through the default TCP/IP port	1. Check that SQL Server is configured to use TCP/IP. Restart the SQL Server service after you make the changes. 2. If SQL Server is listening for connections on a different port than the default port 1433, specify this port number in the BASServer.props file after "localhost" in the 3 lines mentioned in the previous sections, for example …//localhost:1450 … 3. Check that the port on which SQL Server is listening for connections is not blocked by a firewall.

1.4.3 Integrating *Aware IM* with Oracle database

IMPORTANT: Support for Oracle database is optional in Aware IM. Before integrating this database with Aware IM make sure that this option is available in your Aware IM edition.

You need to install Oracle database prior to using *Aware IM* as it is not included in the Aware IM installation. Before you can start using Aware IM with the Oracle database make sure you do the following:

1. *Aware IM* manages two databases named `BASDB` and `BASDBTES`. The databases must be created manually before using Oracle with *Aware IM*. *Aware IM* will NOT create the databases automatically. It is enough to create empty databases without creating any tables – *Aware IM* will create all the required tables automatically on the first startup.
2. Perform the steps to setup Aware IM connection with the Oracle database using the Aware IM Control Panel in a similar way as for MySQL or SQL Server databases described above. Or if Aware IM is installed as a service, perform manual integration in a similar fashion as described for MySQL and SQL Server databases.

1.4.1 Integrating *Aware IM* with Microsoft Azure, Maria DB and PostgreSQL databases

Integration with these databases is very similar to the one described for MySQL or SQL Server databases. When integrating using the Aware IM Control Panel, make sure that you select the corresponding database engine and enter the required values for the database server. If integrating manually, make sure that you rename the appropriate BASServer.props file and change the lines in these files that control database connection.

2   Installation under Linux operating system

To install *Aware IM* under the Linux operating system follow the steps below:

1. ***Aware IM* needs Java version 12.0 or later to be installed on your machine. Starting from Aware IM version 6.0 Aware IM no longer includes Java in its distribution. If you do not have Java installed on your system please download it and install before running Aware IM. See section 5 for more details on how to install Java.**
2. Download AwareIM.tar.gz file from the Awaresoft web site.
3. Unpack the archive file into the local directory of your hard disk. We will assume that *Aware IM* is unpacked into the `AwareIM` directory. You can use the following command to unpack the archive:

```
gunzip < /path/to/AwareIM.tar.gz | tar xvf -
```

4. By default Aware IM is set up to work with the Apache Derby database, which is included in the *Aware IM* installation. If you are happy to use the default database you can start using Aware IM straight away – see section 2.1. If you want to use *Aware IM* with other databases you need to make sure that the the database is installed and running on your machine before starting *Aware IM*. Then perform database integration steps as described in the Windows installation section.

2.1 Running Aware IM

How you run Aware IM depends on whether your Linux version supports graphical user interface (X-Windows) or not. If your Linux version supports graphical user interface you should start the Aware IM Control Panel.

2.1.1 Starting Aware IM Control Panel

To start the *Aware IM* Control Panel, run the CP executable located in the CP/eclipse directory of your Aware IM installation.

The Aware IM Control Panel will start all the required components such as Tomcat server and Aware IM server. On successful startup the green "OK" message will be displayed as System Status.

Note that when starting the Aware IM Control Panel for the first time you will be asked to provide the name of your business application. The name of your business application will be used by *Aware IM* to create the default business space and the initial business space version (see "Aware IM User Guide" for the explanation what business space and business space version are).

2.1.2 Starting Aware IM under non-graphical Linux

To start Aware IM under Linux that does not have graphical user interface do the following:
1. Open the Shell Console session and change to the AwareIM/bin directory:

```
cd AwareIM/bin
```

2. Issue the following command:

```
bash startAwareIMNoGUI.sh
```

The script file will start all the required components such as the Tomcat server and the Aware IM server. On successful startup the "Aware IM server started" message will be displayed in the console window.

Note that the default name of your application will be "DefaultApplication". The name of your business application will be used by *Aware IM* to create the default business space and the initial business space version (see "Aware IM User Guide" for the explanation what business space and business space version are).

2.1.3 Starting the Configuration Tool

If you are running the Linux version that supports graphical user interface you can start the Configuration Tool by clicking on the "Start Configurator" button on the Aware IM Control Panel.

If you are running non-graphical Linux you can only start the Configuration Tool remotely on a machine that supports graphical user interface (for example, a machine running Windows) – see section 4.2

When you start the Configuration Tool it will ask you to provide the business name you are logging into and password. Enter the business name you specified when you started the *Aware IM* Control Panel for the first time. Enter "admin" as the default user name and then enter the default password "password".

2.1.4 Starting configured applications

Open your web browser and point it to the following URL:
http://localhost:8080/AwareIM/logon.html
See also "Aware IM User Guide" describing other entry points to the configured applications.

3   Installation under Mac OS X operating system

Before installing Aware IM on a Mac computer check that your computer meets the necessary requirements described below.
- Apple Macintosh computer
- 512 Mb of RAM (1Gb recommended)
- 700 Mb of free disk space
- Mac OS X 10.10 operating system or later
- Safari, Firefox or some other Internet browser

Note: *Aware IM* needs Java version 12.0 or later to be installed on your machine. You do not need to install Java for MAC OS X operating system as *Aware IM* already comes with Java as part of its distribution package. The Java version *Aware IM* comes with is JDK 15.0 (64-bit). If you want to upgrade your Java system to the later version you can set up *Aware IM* to work with your version of Java. See section 5 for more details**.**
Note: Although *Aware IM* comes with its own Java it still needs some Java version to be installed in order to kick-start itself. On some systems that do not have any Java installed there will be an error message asking the user to install the legacy Java. In this case follow the instructions in the message to install legacy Java and start *Aware IM* again after that.

3.1   Installing Aware IM

To start installation of the *Aware IM* software, double click on the *Aware IM* distribution file `AwareIM.zip,` which has been downloaded from the Awaresoft web site, to un-compress the file. The archive contains an application file `AwareIM.app.` Copy this file into any directory, for example /Applcations and double click the application to run it.

3.2   Running Aware IM

Whether you are running the Configuration Tool or configured applications you need to run the *Aware IM* Control Panel first.

3.2.1   Starting Aware IM Control Panel

To start the *Aware IM* Control Panel, double click on the Aware IM application.

The Aware IM Control Panel will start all the required components such as Tomcat server and Aware IM server. On successful startup the green "OK" message will be displayed as System Status.

Note that when starting the Aware IM Control Panel for the first time you will be asked to provide the name of your business application. The name of your business application will be used by *Aware IM* to create the default business space and the initial business space version (see "Aware IM User Guide" for the explanation what business space and business space version are).

3.2.2 Common problems when running Aware IM

The following section lists the common problems encountered when running Aware IM.

1. By default *Aware IM* files are installed with full access to the current user but with read-only access to other users. As a result *Aware IM* will not run if launched by another user as it needs write access to its files. If you want other users to be able to run *Aware IM* you can change access privileges of *Aware IM* files. To do this:

    -   Start the Terminal application located in the Application/Utilities directory
    -   From the Terminal window enter the command to change to `AwareIM.app` directory:
        ```
        cd ../../Applications/AwareIM.app
        ```
    -   Enter the command to change access privileges to all *Aware IM* files:
        ```
        sudo chmod -R 777 Contents
        ``` (enter your password when asked)
    -   Restart Aware IM

3.2.3 Starting the Configuration Tool

To start the Configuration Tool press the "Start Configurator" button on the Aware IM Control Panel. When you start the Configuration Tool it will ask you to provide the business name you are logging into and password. Enter the business name you specified when you started the *Aware IM* Control Panel for the first time. Enter the default user name "`admin`" and the default password "`password`". Do not forget to change the default password as soon as you log in (use The "Change Password" command under the "Tools" menu).

3.2.4 Changing startup options of the Aware IM components

Aware IM Control Panel starts up the following components required for Aware IM:
- Tomcat server
- Aware IM server
- Configuration Tool

When starting up these components the Control Panel uses default startup options.
Normally you will not require changing these options. However, if you need to change the JVM and/or the initial startup properties of the JVM for each of these components, you can do so by placing the special property file called "startupOptions.props" into the BIN directory of your Aware IM installation. The sample "startupOptions.props" file with the settings equivalent to the default settings is located in the `samples` directory of your Aware IM installation.

For example, you can increase the memory allocated to different Aware IM components on startup. To do so add `-Xmx96m` after `java` in the corresponding line (where 96m is the amount of memory in Mb allocated to the component, you can increase this number further provided that your machine has enough memory).

3.2.5 Starting configured applications

Applications you configure with the Configuration Tool should be run within a web browser. Open your browser and point it to the following URL:
http://localhost:8080/AwareIM/logon.html

See also the "Aware IM User Guide" describing other entry points to the configured applications.

3.3   Database integration

The steps for integrating a database with Aware IM on a Mac are identical to integrating a database with Aware IM on Windows. Please see section 1.4 for details.

4   Aware IM deployment options

When you install *Aware IM* out-of-the-box as described in sections **Error! Reference source not found.**, 2or 3 *Aware IM* is installed on a single machine. This is, however, not the only option of *Aware IM* deployment. *Aware IM* is a Client-Server system. From the deployment point of view it has 3 components that can be installed on the same or different computers. These components are:
-    The Aware IM server
-    The Aware IM Configuration Tool
-    The Aware IM web application managed by Tomcat

As mentioned above all the components may reside on the same computer – this is the default deployment configuration that you get when you use the default *Aware IM* installation. This option is suitable for the following categories of users:

•   Individual end users who run information systems configured with the *Aware IM* software for personal needs
•   Configurators who configure and test their *Aware IM* information systems on a single machine
•   Small to medium companies that run their information management systems configured with *Aware IM* for their internal office needs
•   Small to medium companies that run their information management systems configured with *Aware IM* for their internal office needs and/or provide access to these systems to their customers via Internet where the load of the server running *Aware IM* system is low to medium.

For larger companies who have more internal and external users with higher load of requests it may be beneficial to deploy *Aware IM* on separate computers for better scaling and performance. It is also possible that individual users or companies do not have direct access to the computer where *Aware IM* is running – for example, if they use 3rd party organizations to host their web needs (including *Aware IM*). These individuals and organizations however may need frequent and easy access to the Configuration Tool so that they can configure or modify their information systems whenever necessary.

Aware IM can be deployed to meet these needs. The following deployment options are available:
1. The Aware IM web application (Web Server) can be installed on a separate machine(s), which allows for better scaling and performance under heavy load.
2. The Aware IM Configuration Tool can be deployed on a separate machine with access to the Aware IM server via internal LAN. This makes it possible to use the Configuration Tool by different users simultaneously.
3. *Aware IM* server can be deployed on a remote machine. Configurators can upload applications from their local machines to the *Aware IM* server via the Web browser. Thus this option allows running *Aware IM* on a remote machine in a host environment and at the same time easily configuring and changing applications.

The required steps for each of these options are described below.

4.1   Running Aware IM Web Server on a separate machine

To run *Aware IM* web application on a separate machine within a single LAN you have to make sure that the *Aware IM* server is deployed on your "server" machine(s) whereas *Aware IM* web application is deployed on a single or a cluster of "web server" machines.

Make sure you do the following:
1. To deploy the *Aware IM* server on the "server" machine do the following:
      a. Make sure that the machine has the database engine of your choice installed (alternatively the database server may be deployed on yet another machine).
      b. Install *Aware IM* on your server machine as described in the previous sections.
      c. To start the *Aware IM* server change to `AwareIM/bin` directory on your server machine and run the Aware IM Control Panel as described in the previous sections.
2. To deploy the *Aware IM* web application on the web server machine(s) do the following:
      a. Install *Aware IM* on your web server machine as described in the previous section.
      b. Modify the file AwareIMInstallationDirectory/webapps/AwareIM/webapp.props to include the name of your "server" machine in the LAN. For example,
              `ServerName=myAwareIMServerName`

4.2   Running Configuration Tool on a separate machine

To run the Configuration Tool on a machine different from the one where your *Aware IM* server is running do the following (it is assumed that the Configuration Tool and the *Aware IM* server are running on the machines connected by a Local Area Network (LAN). We will call the machine where the Configuration Tool is running, the "client" machine and the machine where the *Aware IM* server is running – the "server" machine.

1. Perform the steps described in the section **Error! Reference source not found.** to deploy the *Aware IM* server on a "server" machine.

2. Replace references to "localhost" in the BASServer.props file located in the BIN directory of the Aware IM installation on the server machine with the network name of the server machine, for example:

```
DirectoryServiceProvider=tcp://localhost:61616
JMS_BROKER_CONNECTOR=tcp://localhost:61616
```

3. Under the Windows operating system run the Configuration Tool setup program (ConfigTool.exe) located in the Windows directory of your Aware IM distribution disk from the client machine and follow the instructions of the program. You will need to specify the installation directory of the Configuration Tool and the network name of the server machine. After the Configuration Tool has been installed you can run it from the Startup menu.

4. Add the following line to the file UIConfig.props located in the BIN directory of the installation performed during the previous step (if the line already exists change it):

```
WebServer = NameOfTheMachineWhereAwareIMServerIsRunning
```

5. Under Linux operating system perform the following steps:

   a. Unpack the archive file with the Configuration Tool component (ConfigTool.tar.gz) to some local directory on your client machine (we assume it is called AwareIM).

   b. Modify the file `AwareIM/ConfigTool/eclipse/ConfigTool.ini` to add the name and port of your "server" machine in the LAN into the `-vmargs` section of the file. For example,
   ```
   -vmargs
   -
   Djasper.reports.compile.class.path=plugins/com.awaresoft.awareim.shared_
   1.0.0/jasperreports-0.5.0.jar
      -Dawaresoft.awareim.configtool.serverName=myserver
      -Dawaresoft.awareim.configtool.serverPort=9000
   ```

   c. To start the Configuration Tool change to the `AwareIM/ConfigTool/eclipse` directory on your client machine and run the `ConfigTool` program.

Note: If the Aware IM Server is running on the Linux or Mac OS X machine make sure that the file `etc/hosts` has the following entries:

```
127.0.0.1 localhost.localdomain localhost
x.x.x.x serverName
```

where x.x.x.x is the IP address of the server where Aware IM is running and `serverName` is the network name of the server.

Additionally if you are running the remote Configuration Tool from a Linux or Mac OS X workstation make sure that the `etc/hosts` file of each workstation has the same entries as the `etc/hosts` file on the server.

4.3   Running Aware IM in a web hosting environment

Organizations or individuals who for whatever reason cannot or do not want to run their application on their own server but still want web access to their *Aware IM* application can use web-hosting services of third-party companies (that we will call "web hosts" here). These companies offer their servers for companies to deploy their applications/web sites on.

There are a variety of services that web hosts offer. Usually they fall within one of the 3 categories:

1. Standard shared hosting
The server is shared with other users. You do not have control on which software is installed on your server and you cannot reboot the server.
2. Virtual Private Server hosting (VPS)
The server is shared with other users. However, you get your own "virtual" server with a particular operating system (Windows or Linux). You have full control over your virtual server through the remote interface (even though it is physically shared with others) – you can install any application on the server and you can reboot the server any time
3. Dedicated server hosting
You have your own server that is not shared with other users. You have full control of this server through the remote interface.

The first option is usually the cheapest, while the third one is the most expensive.

Although it is theoretically possible to run *Aware IM* applications under standard shared hosting (option 1.), we do not recommend it as there are too many things that can potentially go wrong

Option 3 is the safest option and is virtually equivalent to running *Aware IM* on your own server. The only problem with this option is the price – it can range from 100 to 300 (or more) dollars a month.

Option 2 is, in our opinion, the most practical option for many users. It is relatively inexpensive (you can get VPS hosting for $30 a month or even less) and you essentially get your own server that you have full control of. The next section discusses running *Aware IM* applications under the VPS hosting environment.

4.3.1 Running Aware IM under the VPS hosting environment

Usually VPS hosting comes in two flavours – Linux VPS that uses Linux operating system and Windows VPS that offers Windows operating system. Linux VPS is much more common, however, there are more and more companies who offer Windows VPS hosting. Linux VPS is usually slightly cheaper.

It is possible to run *Aware IM* applications under both operating systems. However, please see the following tables for the comparison of using Linux VPS versus Windows VPS:

Linux VPS pro's	Linux VPS con's

Very common. There are a huge number of companies offering Linux VPS with different options and price range	Most web hosts offer non-graphical Linux. Running *Aware IM* under non-graphical Linux has two limitations: It is possible to install the graphical component for Linux, but it requires some Linux expertise (or you can possibly ask the host to do it for you)
Usually cheaper than Windows VPS	Usually Linux VPS offers remote access to the Linux server via command line interface only. However, if you install a Linux graphical component it is possible to set up a remote graphical interface to the server

Windows VPS pro's	Windows VPS con's
The experience is literally equivalent to running Aware IM on your own server. You get a remote graphical interface to the server, which is like running Windows on your own machine. Very convenient.	Slightly more expensive on average than Linux VPS (although, it is now possible to find a very good deal)
	Not very common yet. Not many companies offering Windows VPS

Our recommendation is that if you can find a good deal on Windows VPS, go for it – the remote graphical user interface is worth it.

Some of the companies running good deals on Windows and Linux VPS are GoDaddy (www.godaddy.com), VPS Land (www.vpsland.com), InfoQuest (www.infoquest.com)

Once you have the VPS set up installing Aware IM is quite straightforward – transfer Aware IM installation files to your server and install it there. However, you need to watch out for these two most commonly encountered problems when running *Aware IM* in the VPS environment:

1. *Not enough memory* – memory may be a scarce resource when you have to share the machine with others. You have to make sure that there is at least 256Mb of memory available to run *Aware IM*. If there is not enough memory all sorts of strange problems may be encountered. Usually companies that offer VPS services offer a certain amount of "guaranteed" memory (your own) and a certain amount of "burstable" memory (shared with others).
   a. Do not pick web hosts that offer burstable memory only.
   b. Make sure that the amount of guaranteed memory is at least 256M
   c. Make sure that the guaranteed memory is not used by applications that are often pre-installed by a web host. If they are, uninstall them.

2. *Port 8080 is blocked* – web hosts often blocks all ports other than the standard port 80. You have to configure the firewall settings of your VPS to allow external requests through port 8080 (or better still ask you web host to do this)
    You can also re-configure Tomcat to use a different port (to do this open `the server.xml` file located in the `AwareIM/Tomcat/conf` directory, search for 8080 and replace it with a different number).

4.3.2 Using Load Balancing to achieve better performance and scaling

Some web hosting companies, for example, Amazon offer load balancing capabilities where you can allocate several servers to handle your user requests. A special load balancing software will automatically detect servers under heavy load and redirect traffic to servers with smaller load. This can dramatically increase overall performance of your system and allow scaling it up as the number of users and requests grow.

It is easy to set up *Aware IM* to work with load balancing. This is what you need to do:
1. Install *Aware IM* on each server that should participate in the load balancing chain. On Amazon you would allocate several server instances and install *Aware IM* on each of them
2. Make sure that every server instance is set up to work with the single installation of the database. It has to be either MySQL, Maria DB, SQL Server/Azure, PostgreSQL or Oracle database. Apache Derby database cannot be used. The database may reside on one of the server instances or on a separate server altogether. To setup database connection modify the BASServer.props file on each server instance as described in the previous sections.
3. Make sure that every instance "sticks" to its user session. For example, Amazon offers a feature called "sticky sessions". You must enable it so that the system will automatically route the request to the server that handles this particular user.

Note that load balancing should only be used in production where the system just runs already developed applications. It shouldn't be used for application development.

5   Java installation

Aware IM needs Java Development Kit (JDK) version 12.0 or later to be installed on your machine before you can run *Aware IM*. For Windows and Mac OS operating systems you don't have to install Java as *Aware IM* already comes with the Java version as part of its distribution package. For Linux operating systems your machine must have the appropriate version of JDK. If not, you must download and install Java before you can run *Aware IM*. You may also want to install a different version of Java for optimal performance if you are running under Windows or Mac OS operating systems. This section contains instructions on how to download or install Java.

Java can be downloaded from the Oracle web site.

IMPORTANT: Remember that you need Java Development Kit (JDK), not Java Runtime Environment (JRE)

You need to download JDK version 12.0 or later appropriate to your current platform. Then install Java on your machine following the instructions of the installation package.

On Windows and Mac operating system it is strongly recommended that you either delete the `AwareIM/JDK` directory (Windows) or `AwareIM.app/Contents/Resources/Java/JDK` (Mac OS) or rename it and then either install your version of Java into the `AwareIM/JDK` (or `AwareIM.app/Contents/Resources/Java/JDK`) directory or copy the installed JDK into this directory.

On Linux make sure that the appropriate Java is on the path or update the following files to refer to the appropriate Java version:

- AwareIM/CP/eclipse/CP.ini
- AwareIM/bin/startupOptions.props
- AwareIM/samples/startupOptions.props
- AwareIM/bin/startAwareIMNoGUI.sh

To get the Configuration Tool to use your version of Java under Linux modify the file AwareIM/ConfigTool/eclipse/ConfigTool.ini and add the following section:

```
-vm
Path to your java program (for example java12.0/bin/java)
```

6   Troubleshooting

The table below lists possible problems you may encounter during installation and the suggested solutions.

Problem	Possible solution
1. **Aware IM does not start and displays a message that it cannot create or locate the databases it requires.**	1. If running with a separate database such as MySQL or SQL Server, make sure that the database software is running and there is a valid connection with the database server 2. Make sure that the database settings in the `BASServer.props` file are correct – see section 1.4 3. If running MySQL – check the output of the Aware IM server. If it contains a message that connections from localhost (or 127.0.0.1) are not allowed, make sure that your MySQL account allows connections from localhost – see MySQL manual for details. 4. Send the logs files located in the

	`AwareIM/STARTUP_LOGS` directory to support@awareim.com
2. **Aware IM does not start and displays a message that access to the database is denied.**	1. If running with a separate database such as MySQL or SQL Server, make sure that you specify the correct credentials of your database account.
3. **Aware IM does not start and displays a message that port 9000 is not available or that another instance of Aware IM is running.**	1. You may have made an unsuccessful attempt to start Aware IM and the previous instance did not shut down properly. Kill all "java" and "javaw" processes in memory and re-start Aware IM. This is the most likely reason. 2. Port 9000 required by Aware IM is used by some other application. Check availability of your ports and shut down the application using port 9000. Alternatively specify a different port in the BASServer.props file located in the BIN directory of your Aware IM installation (search for 9000 and replace it with an available port number).
6. Tomcat server does not start	1. Check that you are not already running an instance of Tomcat server. It is possible that you have made an unsuccessful attempt to run Aware IM and the previous instance did not shut down properly. Kill all java and javaw processes and re-start Aware IM 2. Check output of Tomcat server. If it contains a message "Port already in use" then one or more of the ports required by Tomcat are used by other applications or blocked by firewalls. Make sure that the following ports are available and not blocked: 8080 3. Send the logs files located in the `AwareIM/STARTUP_LOGS` directory to support@awareim.com
7. Configuration Tool does not start	The settings for the Configuration Tool are specified in the file AwareIM/ConfigTool/eclipse/ConfigTool.ini. 1. Make sure the –vm section in this file points to the correct java version
8. Aware IM Control Panel starts successfully but an attempt to run a login screen in the browser fails	1. This is most likely because port 8080 is blocked by firewalls or used by some other application. Turn off firewalls or re-configure Aware IM to use a different port