



Studio Installation Guide

Witango 5.5 Studio for OS X

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Introduction

Basic know-how for the Installation of Witango 5.5 Studio

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About Witango

Witango consists of a number of components which are designed to allow you to easily develop, deploy, and maintain dynamic web sites.

The main components of Witango are:

- **Witango Development Studio** is used to create Web applications. It is available for Windows and Macintosh platforms.
- **Witango Application Server** is used in conjunction with a web server to execute the web applications developed with Witango Studio. It is available for Windows, Macintosh, Solaris, and Linux platforms. A development version of Witango Server is available to customers who purchase the Witango Studio.
- **Witango for J2EE** which is used when the web applications compiled from the Studio are deployed on a J2EE compliant web server.

A typical installation of Witango consists of a Witango Development Studio for each developer and one or more Witango Application Servers for deployment. The number of Witango Servers you need depends on the traffic volume on your Web site and the complexity of your applications.

Understanding Witango Installation

Installing Witango includes the following tasks:

- Access to the superuser account
- Extract the executables and configuration
- Installation of the Java2 Runtime Environment 1.4.1 or higher (if required)
- Run the Installer
- Launch the Studio
- Enter the License Key into the Studio
- Installation of ODBC / JDBC drivers
- Creation of ODBC / JDBC data sources, if required
- Configuration of environment variables

Getting Ready to Install Witango

Checking Your Witango Package

You should ensure that you have downloaded the latest disk image which contains all the files necessary to run Witango Studio. This information will be available at <http://www.witango.com/downloads>

Java Runtime Environment (JRE)

You must have Java2 Runtime Environment (J2RE) 1.4.1 or greater installed on your machine if you want the Witango Studio to use JavaBeans or initialise the JDBC interface. You can get the latest release of J2RE from the following Web sites:

<http://www.apple.com/java>

Viewing the Release Notes

Before installing Witango, make sure you view the Release Notes (Readme). The Release Notes contain additional information concerning Witango.

The `Readme` file is installed in the Witango installation directory and is also available in the installer.

Database Connectivity

Witango can access the following databases via database driver managers:

| Connection | Driver Manager | Download |
|--------------------|--|--|
| Oracle version 8* | OCI 8.1.7.6 or higher | otn.oracle.com |
| ODBC 3.0 or higher | MDAC 2.7 or above UNIXodbc iodbc | www.microsoft.com/mdac www.unixodbc.org www.iodbc.org |
| JDBC | JVM 1.4.1.02 or higher | java.sun.com www.apple.com/java |
| FileMaker | via Apple Events or JDBC | www.filemaker.com |

* If you use Oracle, the required libraries are included with Oracle. You need to add the `$ORACLE_HOME/lib` to the `LD_LIBRARY_PATH` environment variables for your user so that Witango Studio can initialise the OCI interface.

Witango 5.5 Studio for OS X 10.2.8 or above

2

Installation instructions for Witango 5.5 Studio for OS X

This chapter walks you through:

- the installation process;
- obtaining and entering your license key;
- configuring your required database drivers; and
- where to get help.

Minimum System Specifications

Witango Technologies strongly recommend the following as minimum setup standards for Witango Studio 5.5:

| | |
|-------------------------|--|
| Operating System | Mac OS X 10.2.8 or above |
| | Mac OS X Server 10.2.8 or above |
| Hardware | PowerMac G4 400 MHz |
| | 128 Mb RAM |
| | 50 Mb hard disk space |
| Web Server | Any cgi compatible Web Server. One of the following is recommended however: |
| | <ul style="list-style-type: none">• WebStar 5.3.0 or above• Apache – version 1.3.27 or above• Apache2– version 2.0.44 or above |
| | Any frames-capable Web Browser. |



Note Witango Studio 5.5 may install and run on systems of lesser specifications than set out above however support from Witango Technologies staff will **not** be available for these systems.

Other Requirements

The Witango software is supplied to you via download from Witango's web site found at <http://www.witango.com/downloads>. The software installer is in a compressed disk image format (.dmg) and will appear in the location that you chose during the download process.



Note The number which appears in the archive file name will vary in line with the current software version being supplied.

It is strongly recommended that you close all programs or applications on the machine on which you are installing Witango prior to starting the Witango install application. This reduces the risk of software conflicts and frees system memory for the installation process.

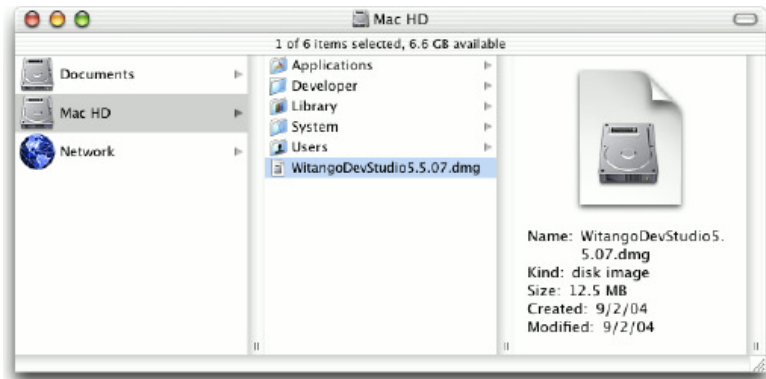
You must have access to the administrative account on your system that has Administrator level privileges to successfully install Witango software.

Creating a Disk Image of the Witango 5.5 Studio Installer Software

The Witango Studio software installer is supplied to you in compressed disk image (.dmg) format. In order to use the installer it must first be mounted as a volume on your desktop.

Double Click on the Disk Image Format icon. This will automatically mount the disks image as a volume on your desktop.

1 Double click on the installer disk image:



2 A Disk Copy process will be automatically triggered.



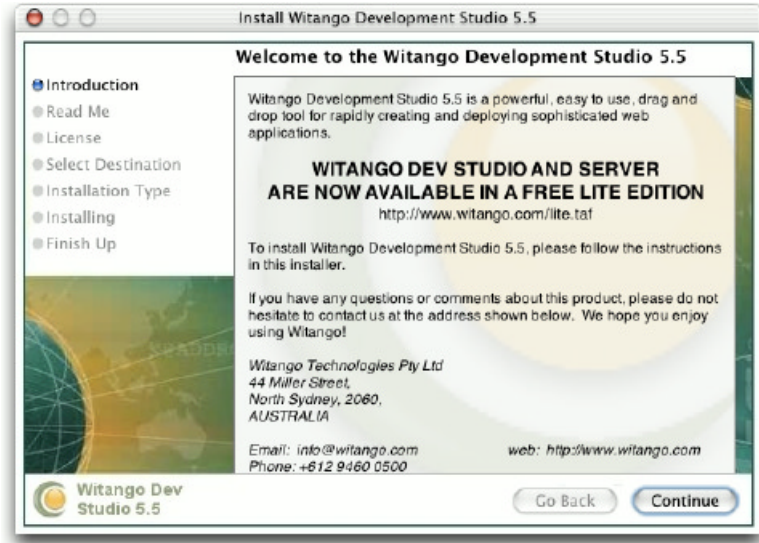
3 The installer will then be mounted as a volume on your desktop.



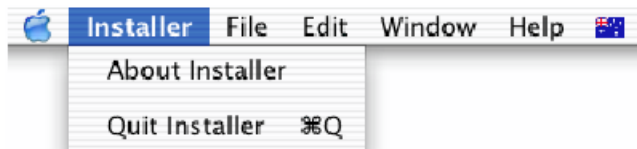
- 4 Double Click on the mounted volume to see the Witango 5.5 Studio Installer package and the Read Me file.



Cancelling Witango Studio 5.5 Installer Processes



It is possible to cancel any process that the installer is engaged in and escape the Installer application at any time by selecting **Quit Installer** from the Installer menu.



The Witango Studio Installer application will Quit.

Installing the Witango Studio 5.5 Software

Installation of the Witango Studio software is an automated process. This section will guide you through this installation setup process.



Caution Your web server should be shut down while the software is installed and configured on your system. You will need to restart the web server after the install process has finished. The install process only takes a few minutes and does not require you to reboot your machine.

Starting the Installation

- 1 Double click the Witango Dev Studio 5.5.pkg file. The Witango Studio 5.5 for OS X installer will start extracting the files required for Witango Studio installation.



Authenticating the Installation

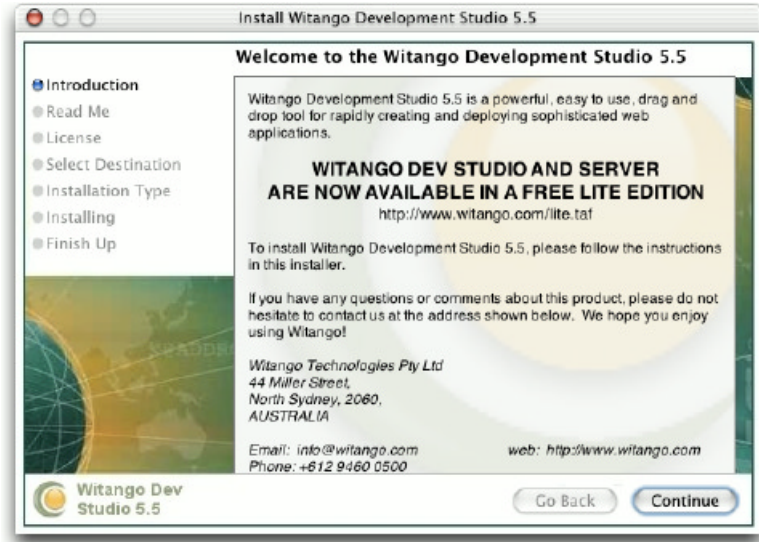
- 2 A message indicating that you need to enter an administrative username and password for the Installer to use during the installation is displayed.



- 3 Enter an administrator user name and password and click **OK**. The Welcome message will appear.

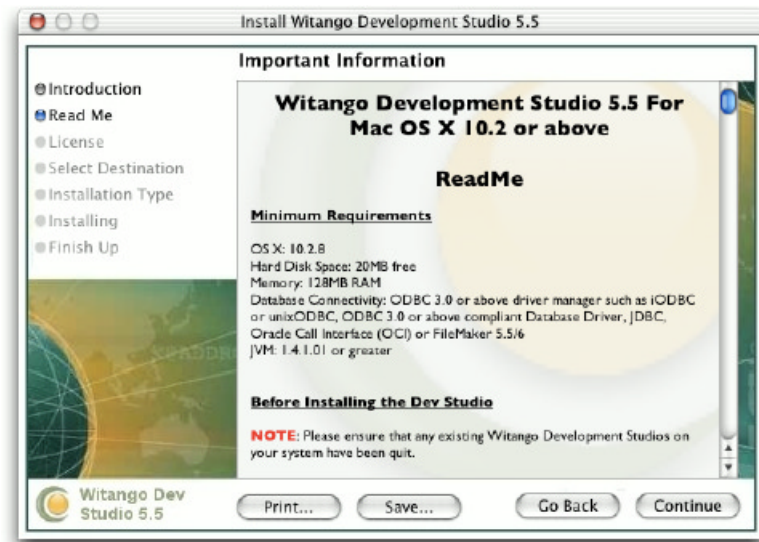
The Welcome screen

- 4 Read the Welcome Message then click the **Continue** button to proceed to the next screen.



The Important Information screen

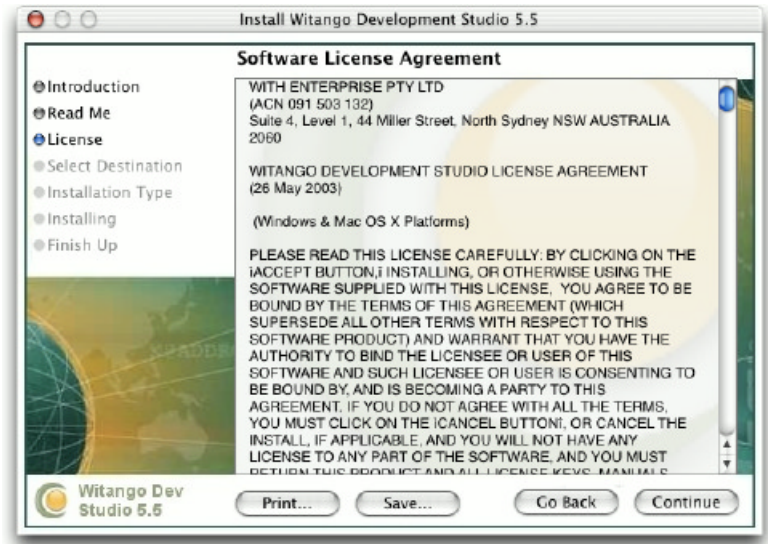
- 5 Read the Witango Studio **Important Information** carefully. This screen contains last minute information regarding the build of the Studio you are installing.



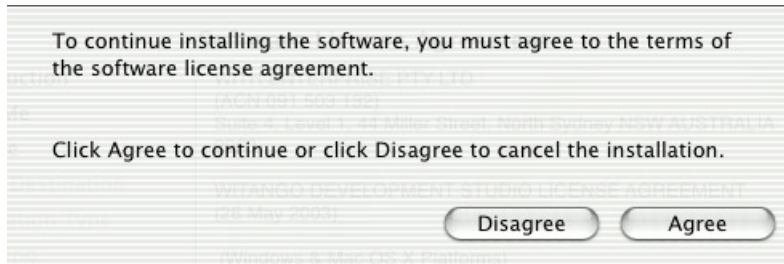
- 6 Once you have read the Important Information, click the **Continue** button to proceed to the License screen.

The License Agreement screen

- 7 Read the Witango Studio licensing information carefully.



- 8 Once you have read the license agreement, click the **Continue** button to proceed to the next screen. After you have clicked Continue a sheet will be displayed asking you to Agree or Disagree with the terms of the license.



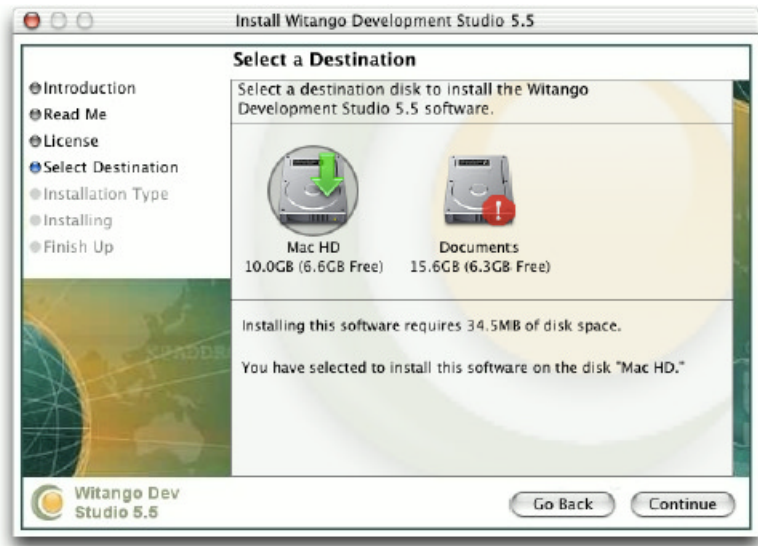
- 9 Now either:

Click **Agree** to accept the terms of the license agreement and continue with the installation.

Click **Disagree** to reject the terms of the license agreement and cancel installation.

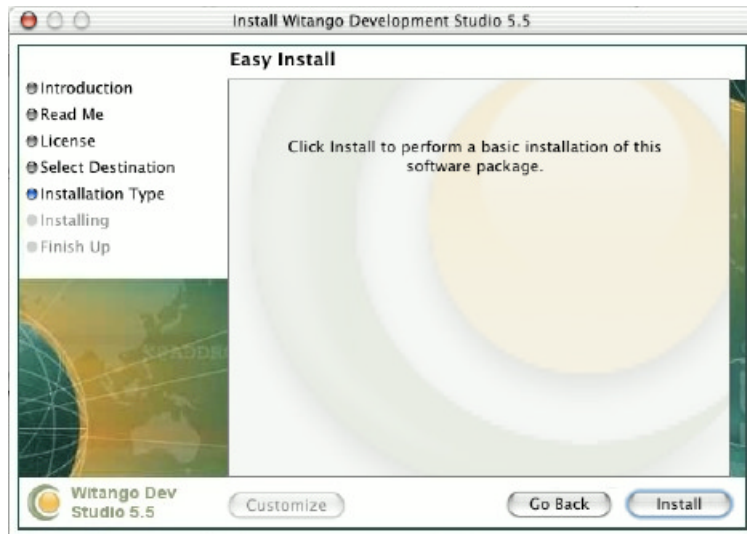
The Destination Location screen

- 10 The Witango Studio will be installed in the /Applications/Witango directory of the root volume of your system. This cannot be changed with the installer. Click **Continue** to proceed.



The Install Software screen

- 11 Click **Install** to start the installation of Witango Studio.





Note If you are upgrading from previous version of Witango 5.5 the **Install** button will read **Upgrade**.



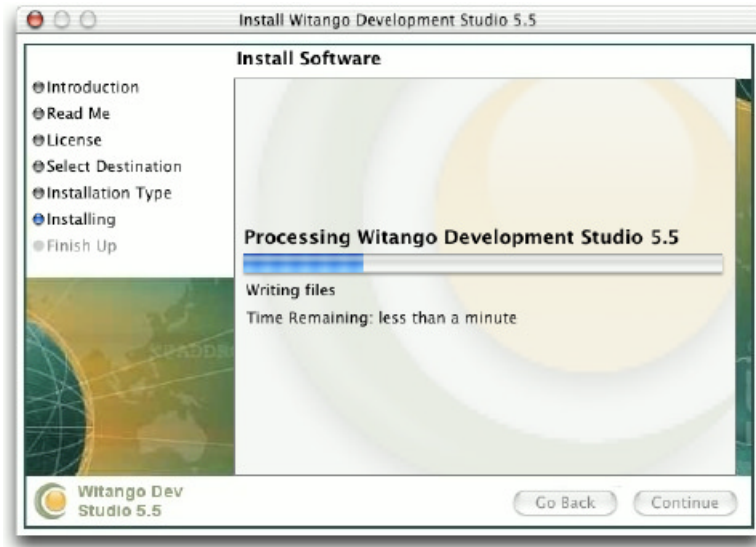
Note During the upgrade process the installer will attempt to backup the `witango.ini` files before it begins the upgrade and configure the Witango Studio with the same configuration. This does not occur if Witango Studio has not been previously installed in a directory other than `/Applications/Witango`.



Note If you are upgrading from Witango 5 or a previous version this install will be completely new.

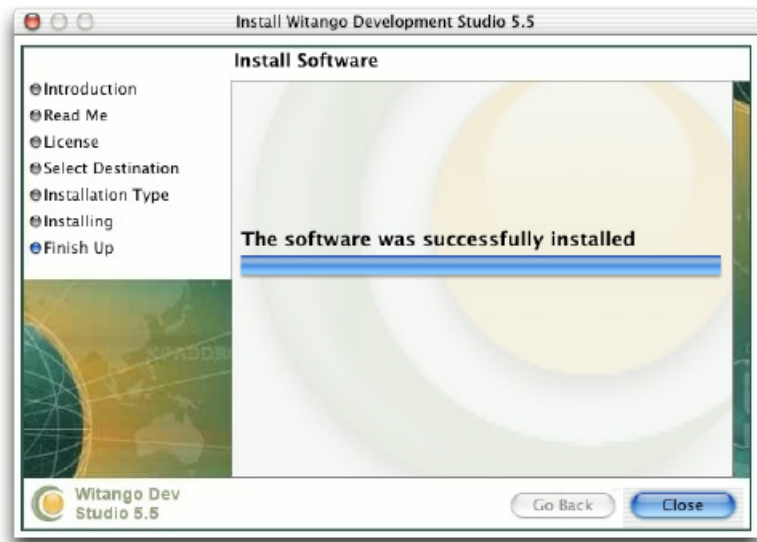
The Software Install Process

During the software installation process the installer performs a number of tasks and several messages informing you of the installer's current action will appear as these tasks take place.



The Install Completion screen

The Installer will tell you when the software has been successfully installed. Click **Close** to exit the installer. The installer will clear any temporary files from your hard disk that it has created and then close down.



At this point the Witango Studio has been successfully installed onto your system.

Witango Studio Registration

The Witango Studio 5.5 Installer will install a fully featured edition of Witango 5.5 Studio by default. This Studio is capable of running in 3 modes:

- **TRIAL MODE** - a 30 day time limited fully featured edition of the 5.5 Studio.
- **LITE MODE** - a FREE edition of the 5.5 Studio which is NOT time limited by does NOT have the Objects features (TCF, JavaBeans or COM), Project related features, Syntax Checking or Java Compile functionality.
- **STANDARD MODE** - a fully featured Studio which is NOT time limited.

The mode in which the Studio will execute depends on the License Key entered.

Obtaining a Trial Key



To request a Trial License Key for Witango 5.5 Studio, visit witango.com and follow the 30 DAY TRIAL KEY button. You will be taken to a page which outlines the steps to trial Witango. Step 4 includes the form to request a trial key. Complete the form and you will be emailed a trial license key.



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Tuesday, 17 February 2004 10:35 AM AEST

Witango Developers Conference

30 Day Trial Licenses

Thank you for choosing to evaluate the Witango Product Suite. Set out below are the steps we recommend that you take in order to successfully trial Witango.

The Witango product suite is made up of two components:

- the **Witango 5.5 Studio** which is visual programming tool used to create your web application; and
- the **Witango 5 Server** which is the application server used execute your application.

STEP ONE - DOWNLOAD THE SOFTWARE

To evaluate Witango you will need to download and install both of these applications. Links to installers on all available platforms are available on the [downloads page](#). You will also need a Web Server installed on your machine, and if you wish to connect to a database you will need the database installed together with ODBC, JDBC or OCI drivers to enable you to connect to your database. This information is detailed in the Witango Installation Guide available under the heading [DOCUMENTATION](#) on the [documentation page](#).

STEP TWO - DOWNLOAD THE TUTORIAL

Witango Technologies Pty Ltd recommends that you download the Tutorial (available on the [downloads page](#)) if you are unfamiliar with Witango, this tutorial will walk you through the first steps to assist you in becoming familiar with the Witango programming style.

STEP THREE - LICENSE KEY FOR THE APPLICATION SERVER

The Witango 5.5 Server automatically installs in 30 day trial mode. With the absence of a commercial license key, all web pages served will have a small banner added to the bottom of the page stating that the software is in trial mode. This will not occur when a license key is purchased. Put simply, you do not have to do anything.

STEP FOUR - LICENSE KEY FOR THE STUDIO

The Witango 5.5 Standard Studio requires a license key to be entered to enable the application. To request a 30 day trial license key for the Standard edition of the Studio please complete the following form and Witango Technologies will email you within one business day the appropriate license key. A trial key will enable all features of the Witango 5.5 Studio Standard Edition for 30 Days.

Please note that Witango Technologies reserves the right to refuse any request for a lite or trial license key. Any request that is made with erroneous details or uses an anonymous email address (e.g. yahoo.com or hotmail.com), will be automatically rejected.

Items marked with an asterisk (*) must be completed.




Note This request is NOT immediately processed as Witango Technologies reserves the right to refuse any request for a trial license key. Any request that is made with erroneous details or uses an anonymous email address (e.g. yahoo.com or hotmail.com), will be automatically rejected. As a general rule only one request for a trial key per person will be processed. Each request will be processed on the next working day (Australian Time).

Obtaining LITE key



To request a LITE Key for Witango 5.5 Studio, visit witango.com and follow the FREE VERSION WITANGO LITE button. You will be taken to a page which outlines the steps to use Witango in LITE mode. Step 4 includes the form to request a LITE key. Complete the form and you will be emailed immediately a LITE license key.

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|--|----------------------------------|
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Tuesday, 31 February 2014 10:32 AM AEST Witango Developers Conference

Witango LTE

Thank you for choosing Witango LTE for your web application. Set out below is a little information on Witango LTE and the steps we recommend that you take in order to successfully get started with Witango LTE.

The Witango LTE product suite is made up of two components:

- the Witango 5.5 Studio LITE edition** which is visual programming tool used to create your web application;and
- the Witango 5 Server LITE edition** which is the application server used execute your application.

What is the difference between Witango Dev Studio 5.5 Lite and Witango Dev Studio 5.5 Standard?

The Witango Dev Studio 5.5 Standard Edition is for professional developers. The Witango Dev Studio 5.5 Lite Edition is available free and does not have Java or .NET support. It also has no database support. Checking or Java Compile enabled. Files created with the UI Designer are saved as *.wlg files.

What is the difference between Witango Server 5 LITE and Witango Server 5 Standard?

The Witango 5 Server LITE Edition is limited to 5 concurrent users. The Witango 5 Server Standard Edition is unlimited. Both editions share the object features which have been limited within the Lite version.

STEP FOUR - LICENSE KEY FOR THE STUDIO LITE EDITION

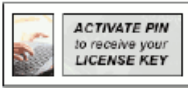
The Witango 5.5 Studio LITE requires a license key to be entered to enable the application form below.

Please note that Witango Technologies reserves the right to refuse any request for a License Key if it contains erroneous details or uses an anonymous email address (e.g. yahoo.com or hotmail.com). Items marked with an asterisk (*) must be completed.

Request for Witango 5.5 Studio LITE edition license key

| | |
|----------------------|----------------------|
| First Name | <input type="text"/> |
| Last Name | <input type="text"/> |
| Email Address | <input type="text"/> |
| Company Name | <input type="text"/> |
| Address | <input type="text"/> |
| City | <input type="text"/> |
| State | <input type="text"/> |
| Postal Code | <input type="text"/> |

Obtaining a Standard Key



Standard keys for your Witango 5.5 Studio may be purchased online from witango.com. Upon purchase you will be issued with a PIN. This PIN can then be activated on the witango.com website to receive your license key.

To activate your PIN, follow the **ACTIVATE PIN** button located on the homepage. You will then be taken to a login page where you can register as a user on the site, or, login using your existing registration details.



Note It is important that you use your correct details as this information is used to record ownership details of the product licensed and verify ownership for future upgrades. The email address you enter is where your license key will be sent to. Details cannot be changed online. If you require a change in registration details you will need to notify info@witango.com accordingly.

Upon successful login or registration you will be taken to a PIN Activation page where you simply enter your PIN, and, if the product being licensed is an upgrade, the license key being upgraded. Then push the **Activate my PIN** button and you will be sent via email your license key. You will also be mailed by post a Certificate of Registration.

Witango On-Line Store - PIN Activation

PIN Activation

By activating your Product Identification Number (PIN), you are registering with Witango Technologies that you/your company is the owner of the associated license. Licenses are non-transferable. Once activated, the license may not be transferred to another user or re-registered to another username. Upon activation the following will be triggered:

- the license key associated with the PIN will be emailed to the email address that is linked to your user account (this is shown below).
- Witango Technologies records will be updated to reflect your registration.
- If you are upgrading from a previous version the license key you enter to be upgraded will be flagged as such.
- You will be forwarded by mail a Certificate of Registration for this License.

Note: Your PIN may only be activated once. After it has been activated, it is no longer valid and cannot be used again.

Your Email is currently set to: **<your email>**

PIN

CD/License Key (if upgrading)



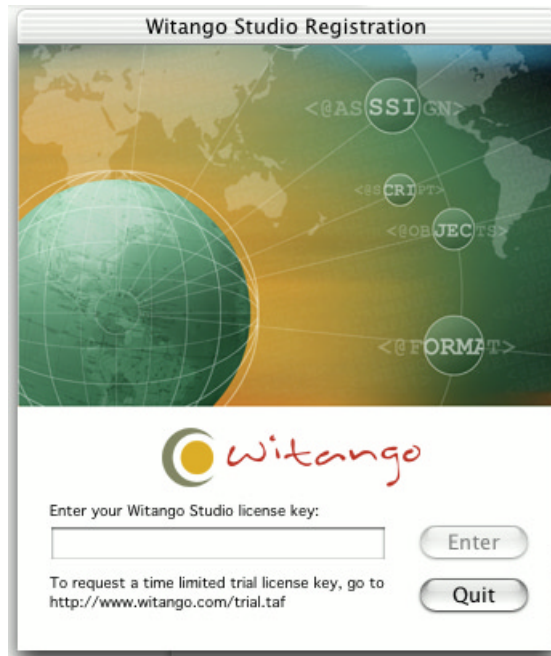
Note Please check that your email address shown on the PIN Activation screen is correct and current, as this is the email address where your license key will be sent.

Entering your Witango License Key

The first time you launch Witango Studio a window as shown below will appear requesting that you enter your Studio license key. Enter your license key in the field provided and press the **Enter** button.



Note You can copy your license key from the email sent to you when you activate your PIN and paste it into this window.



If the License Key is valid, Witango Studio will automatically launch in the mode corresponding the the license key entered.

Invalid License Keys

If the License Key you enter is not valid, a caution window will appear which states the same. This usually occurs when there is a typographical error in the license key. Click the **OK** button to go back to the Registration Window where you can edit the license key entered.



Note If your license key is not being accepted please check that you are entering a Witango 5.5 license key, not a license key from an earlier version. Check 0(zero) is not being confused with O (uppercase o), and likewise for 1(one) and l (lowercase L). The license key will always be in upper case. If you still have problems please email info@witango.com with details of your PIN.

What mode are you registered for?

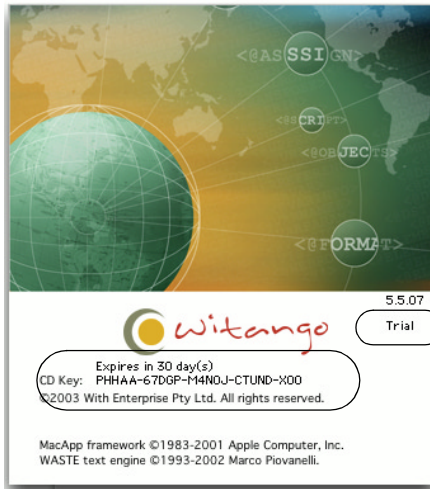
To determine what mode you are operating the Witango Studio in, select **About Witango Dev Studio 5.5** from the **Witango** Menu.



The About Witango window will appear - this window will show you what mode the Witango Studio has started up in.

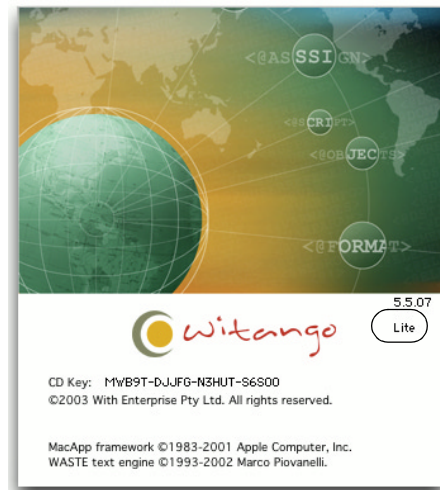
Operating in Trial Mode

If you are operating in Trial mode, the word “Trial” will appear in the window and the number of days remaining until expiry will appear on screen.



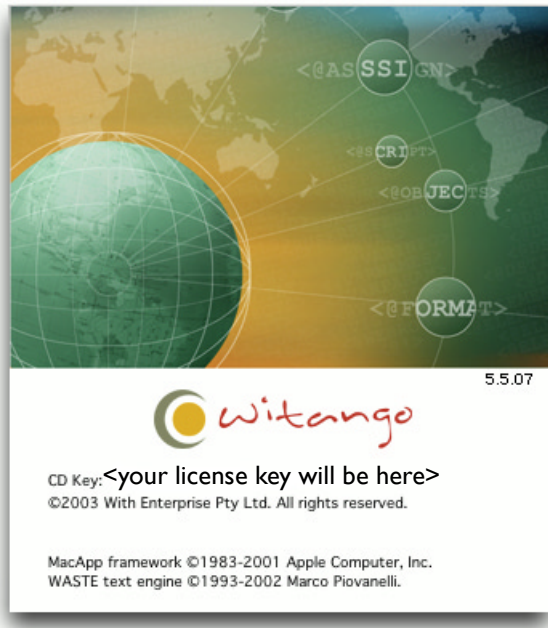
Operating in Lite Mode

If you are operating in LITE mode, the word “Lite” will appear in the window. Those functions which are only available in Standard or Trial mode will be disabled.



Operating in Standard Mode

If you are operating in Standard mode, there will be no mode shown on the About Witango window.



Changing your Witango License Key

You may wish to change your license key once entered, for instance, if you are going from LITE or Trial mode to Standard mode. To do this, select **Enter New License Key** from the **Witango** Menu.



The Witango Studio Registration Window will appear where there is a field to enter your new License Key. Once the new license key has been entered, press **Enter** to finish.



Configuring the Witango Studio for a JDBC driver

JDBC drivers may only be used once the JVM has been loaded by the Witango Studio. If the JVM fails to load so too will the JDBC interfaces fail to load and will not appear as a datasource type in the workspace.

Configure the Classpath

The Witango Studio can only use a JDBC driver once the driver files have been added to the CLASSPATH of the Witango Studio. The simplest way to install a JDBC driver is to place it in the `/Library/Java/Extensions` directory before starting the Witango Studio.

Before you attempt to setup a JDBC connection you should consult the documentation that came from the supplier of the JDBC driver. It should as a minimum provide you with the driver class and connection string information. The connection string informations should be used to form the URL to access the JDBC connection to the database.

e.g. A connection to a database using MySQL's Connector/J may have the following parameters:

| | |
|-----------------|-----------------------|
| DriverClass | com.mysql.jdbc.Driver |
| Connection Type | jdbc:mysql |
| Host | 127.0.0.1 |
| Port | 3306 |
| Database Name | Testdb |

The WitangoStudio has a graphical interface to add/delete/modify and test a JDBC datasource. A screen shot of this interface is shown below:

JDBC Datasource

JDBC Datasource

Name: Testdb

Driver Class: com.mysql.jdbc.Driver

URL: jdbc:mysql://127.0.0.1:3306/Testdb

Properties:

| Name | Value |
|------|-------|
|------|-------|

▼ Testing... Delete Cancel Modify

Username: root

Password:

Results: Connection established.

Test

The jdbc.ini file

The `jdbc.ini` file is a simple XML structure. It is saved as a UNIX text file with Latin-1 encoding.



Caution If the file is saved as an OS 9 text file with Mac Roman encoding the server will fail to parse the datasources.

The structure for the jdbc.ini file looks like this:

```
<?xml version="1.0" encoding="ISO-8859-1" ?>
<!DOCTYPE JDBCINI SYSTEM "jdbcini.dtd" >
<JDBCINI Version="0x00010000">
  <DataSources>
    <DataSource ID="">
      <DSN></DSN>
      <DriverClass></DriverClass>
      <URL></URL>
      <Properties>
        <Property ID="">
          <Name></Name>
          <Value></Value>
        </Property>
      </Properties>
    </DataSource>
  </DataSources>
</JDBCINI>
```

Note: The Datasource
ID is the same as the
DSN name.

Note: The Property ID
is the same as the
Name value.

Configuring Witango Studio for Oracle Call Interface (OCI)

The Witango Studio for OS X has an updated OCI interface which is now optimised for the Oracle 8i v8.1.7.1 OCI for Mac OS X driver. This delivers a faster and more reliable interface for connecting to Oracle databases.

To install the OCI Driver on OS X 10.2 following step by step procedure.

Install the OCI driver

- 1 Download the oci driver driver file (MacOSX_8171.cpio) from:

```
http://otn.oracle.com/software/htdocs/  
distlic.html?/software/tech/java/sqlj_jdbc/htdocs/  
macsoft.html
```

Before you can download this driver you will need to register with the site. Membership is free.

- 2 Create a new folder.
- 3 Drag the MacOSX_8171.cpio file into that folder.
- 4 Open a terminal window.
- 5 Type in `cd` followed by a space.
- 6 In the Finder navigate to the folder you placed the MacOSX_8171.cpio file in and drag the folder onto the terminal window (this should put the path to the directory in the terminal window) and hit return.
- 7 In the terminal window, type:

```
cpio -idvnc < MacOSX_8.1.7.1.cpio
```
- 8 The command in step 7 will result in three files being generated:
 - **Oracle_8.1.7.1_Client.zip** which will expand into Oracle_8.1.7.1_Client Folder;
 - **MacOSX_8.1.7.1_OCI_Demo.zip** which will expand into ocidemo folder; and
 - **Release_Notes.zip** which will expand into a Release notes folder
- 9 Doubleclick the Oracle_8.1.7.1_Client.zip file or drag its image over the icon for Stuffit Expander.
- 10 In the `/Library/` directory at the root of OS X boot disk, create an Oracle directory.
- 11 Inside that directory, create another, called OCI.

- 12 Inside OCI, create another called 8.1.7.1.
- 13 Inside 8.1.7.1, place all of the contents from Oracle_8.1.7.1_Client Folder.
- 14 Edit /Library/Oracle/OCI/8.1.7.1/network/admin/tnsnames.ora to add a SID or Service.

Environment Variables for the OCI driver

- 1 We now need to create a file to automatically set some environment variable for the oracle driver. If it does not exists already, in your home directoy (example: ~ is the path to your home directory), create a directory named "~/.MacOSX", (don't forget the period "." before the MacOSX)
- 2 Create a text file named environment.plist and copy and paste the text of the sample environment.plist into it (see below). Save the file to the ~/.MacOS/ directory. You may need to edit the file paths to match the location where you installed the OCI driver.
- 3 If you do not wish to use the environment.plist, you will need to set the following environment variables and values with an appropriate mechanism:

```
ORACLE_HOME /Library/Oracle/OCI/8.1.7.1
DYLD_LIBRARY_PATH /Library/Oracle/OCI/8.1.7.1/lib
ORA_NLS33 /Library/Oracle/OCI/8.1.7.1/ocommon/nls/admin/data
TNS_ADMIN /Library/Oracle/OCI/8.1.7.1/network/admin
```

- 4 For the Studio to be able to access the native unix OCI driver shared library, you need to make an OracleOCI framework. To do this type the following commands into a terminal window. You will need to change the paths if you did not use the paths in the previous steps. This involves two steps, performed in your terminal window:

- Make OracleOCI.framework directory, type the following in your terminal:

```
sudo mkdir /Library/Frameworks/OracleOCI.framework
```

- Make a link to libcIntsh.dylib, type the following in your terminal:

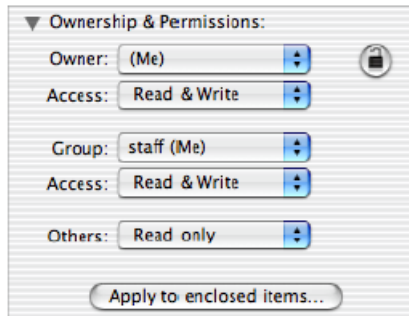
```
sudo ln -s /Library/Oracle/OCI/8.1.7.1/lib/
libcIntsh.dylib/Library/Frameworks/OracleOCI.framework/
OracleOCI
```

Tightening the permissions on the OCI Driver

This is an optional step to secure the permissions on the OCI installation.

In order to do this, change the permissions on /Library/Frameworks/OracleOCI.framework, /Library/Oracle and ensure that read/write access has been given to the file owner and staff. (the user 'witango'

which owns the witangod server process if it is installed should belong to the 'staff' group, this is automatic upon user creation



Sample ~/.MacOS/ environment.plist

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plist SYSTEM "file://localhost/System/Library/DTDs/PropertyList.dtd">
<plist version="0.9">
<dict>
    <key>LD_LIBRARY_PATH</key>
    <string>/Library/Oracle/OCI/8.1.7.1/lib</string>
    <key>ORACLE_HOME</key>
    <string>/Library/Oracle/OCI/8.1.7.1</string>
    <key>ORA_NLS33</key>
    <string>/Library/Oracle/OCI/8.1.7.1/ocommon/nls/
admin/data</string>
    <key>TNS_ADMIN</key>
    <string>/Library/Oracle/OCI/8.1.7.1/network/admin</
string>
    <key>WITANGO_PATH</key>
    <string>/Applications/Witango/Server</string>
</dict>
</plist>

Sample tnsnames.ora file
# This file contains the syntax information for
# the entries to be put in any tnsnames.ora file
# The entries in this file are need based.
# There are no defaults for entries in this file
# that Sqlnet/Net3 use that need to be overridden
#
# Typically you could have two tnsnames.ora files
# in the system, one that is set for the entire system
# and is called the system tnsnames.ora file, and a
# second file that is used by each user locally so that
# he can override the definitions dictated by the system
# tnsnames.ora file.
```

```
#
# The entries in tnsnames.ora are an alternative to using
# the names server with the onames adapter.
# They are a collection of aliases for the addresses that
# the listener(s) is(are) listening for a database or
# several databases.
#
# The following is the general syntax for any entry in
# a tnsnames.ora file. There could be several such entries
# tailored to the user's needs.

ORCL =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS = (PROTOCOL = TCP) (HOST = 192.168.73.3) (PORT = 1521))
    )
    (CONNECT_DATA =
      (SERVICE_NAME = ORCL)
    )
  )
```

Configuring the Witango Studio for an ODBC driver

For the Witango Studio to be able to access the native ODBC driver manager (`libiodbc.dylib`), it needs to be able to access the library through a Framework.

The Frameworks that are needed to access the Apple installed iodb driver manager are automatically created as part of the Witango Studio installation process. If you need to recreate the framework for iODBC and iODBCinst after an upgrade you will need to follow the instructions below.



Note This process does not need to be completed if you have purchased the Openlink branded iODBC driver manager as it installs itself as an OS X Framework which the Witango Studio uses.

Manually configuring the iODBC and iODBCinst Frameworks

- I Run the following commands in a terminal window to create a symbolic link to the dylib of the iODBC installed.

```
ln -s /Library/Frameworks/iODBC.framework/Versions/  
Current/iODBC /usr/lib/libiodbc.dylib
```

```
ln -s /Library/Frameworks/iODBCinst.framework/  
Versions/3.5/iODBCinst /usr/lib/libodbcinst.dylib
```



Note

For more information on `mkdir` and `ln`, type `man mkdir` or `man ln` at the command prompt.



Note

For more information on iodb go to the <http://www.iodbc.org> web site.



Note

For more information on iodb on OS X please contact your OS X support specialist.

Configuring the Witango Studio for FileMaker



Note Parts of this information have been summarized from the FileMaker Developer documentation and is presented here to aid in using the FileMaker and the FileMaker JDBC driver with Witango products. For full documentation on using the FileMaker JDBC driver we recommend reading Chapter 11 of the FileMaker Developer documentation “Using JDBC to deliver your data”.



Note The FileMaker JDBC Driver is a JDBC 1.2 API compatible driver designed to work with the Java Development Kit (JDK) 1.1.8. It is a Type 4 driver - a native protocol, pure Java driver that converts JDBC calls directly into the network protocol used by the database management system. Although the driver implements the entire JDBC 1.2 API, it cannot be classified as a true JDBC-compliant driver because it supports only a subset of SQL that matches the capabilities of FileMaker Pro Unlimited, and is therefore not fully SQL-92 Entry Level compliant.

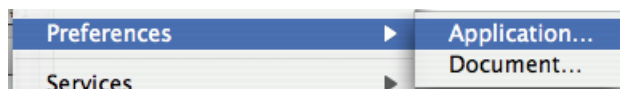
To use the FileMaker JDBC Driver with Witango Studio you must include the JDBC in the CLASSPATH of the JVM that is loaded and you must specify the correct JDBC URL from within the application or applet. You need the JDBC URL to make the connection to the database.

Installing the FileMaker JDBC Driver

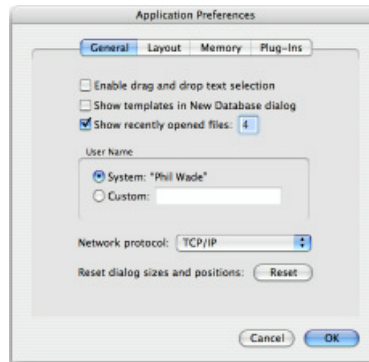
- 1 Copy the `Fmpjdbc12.jar` file to the `/Library/Java/Extensions` directory
- 2 The driver class and main entry point for the driver is named:
`com.fmi.jdbc.JdbcDriver`

Configuring FileMaker Pro Unlimited to accept JDBC connections

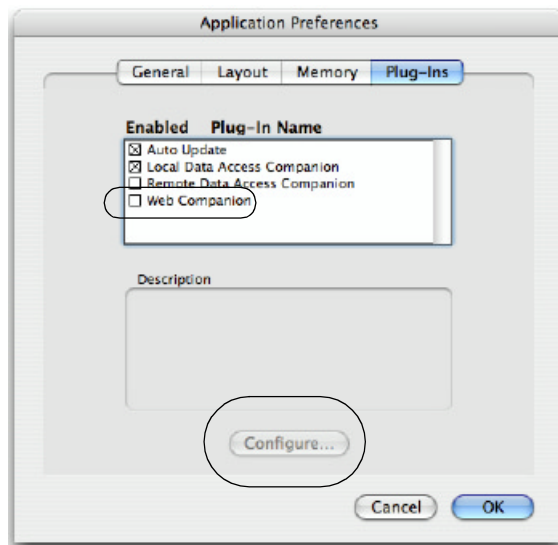
- 1 Launch FileMaker Pro Unlimited
- 2 Choose **Preferences » Application** from the **EDIT** menu.



- 3 The Preferences dialog will appear.

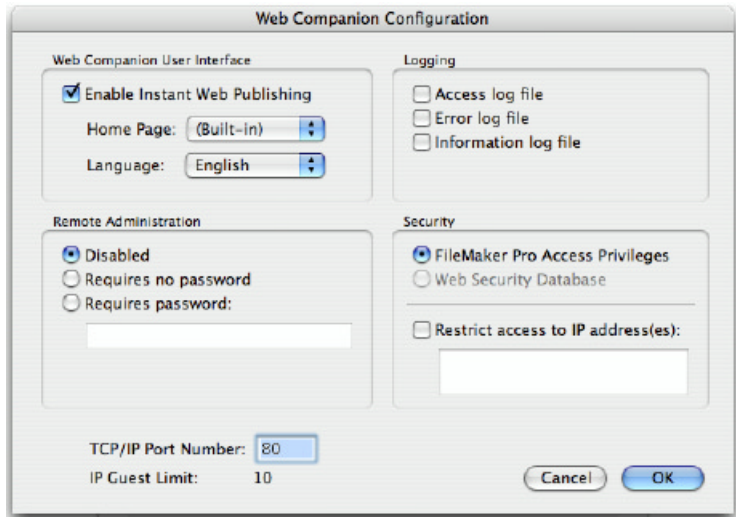


- 4 Select the **Plug-Ins** tab to view the Plug-Ins preferences.



- 5 If it is not already checked, enable the Web Companion plug-in by clicking in the checkbox. The Configure button will now become active.

- 6 Click on the **Configure** button and the Web Companion Configuration dialog will appear.



Note The TCP/IP Port number. The port number is normally 591.



Caution When using the FileMaker JDBC driver with Witango, we recommend that the FileMaker database files do not have extensions. Unpredictable results may occur if the extension is left on the db file name.

Using a JDBC URL to connect to your database

In Java, most resources are accessed through URLs (*Uniform Resource Locators*). A JDBC URL is used to identify the database so the FileMaker JDBC Driver can recognize and establish a connection with the database.

The JDBC URL consists of three main parts separated by colons:

```
jdbc:<subprotocol>:<subname>
```

The first part in the JDBC URL is always the JDBC protocol ("*jdbc*").

The **subprotocol** is the driver name or the name of the mechanism that supports multiple drivers. In this case, the subprotocol is *fmpro*, which is registered with Sun Microsystems, Inc.

The **subname** is the IP address of the machine that is hosting FileMaker Pro. The FileMaker JDBC Driver connects to FileMaker Pro through an HTTP connection. The subname in the JDBC URL includes an HTTP protocol (such as *HTTP* or *HTTPS*), an IP address or domain name, and an

optional port number preceded by a colon.

```
jdbc:fmpro:http://1.184.21.234:80/
```

Specifying driver properties in the URL subtype

You can specify the `escape`, `fetchsize`, `user`, and `password` driver properties in the subtype of the JDBC URL. This is useful when you're using a RAD tool that doesn't support spaces, periods, or other non-letter characters.

```
jdbc:fmpro:http://127.0.0.1/
properties?escape=%20&fetchsize=100&user=fred&password=test
```



Note These are the same properties that could be passed to the connection when calling the `DriverManager.getConnection` method via the `Properties` parameter.

Property Description

| | |
|-----------|---|
| Escape | A string containing the characters to be escaped in table name, field name, and layout name SQL identifiers. The driver will escape all identifiers returned via any method in the <code>DatabaseMetaData</code> class. This will allow RAD tools that don't support spaces and periods in SQL identifiers to work with any FileMaker Pro database. The driver will automatically escape all identifiers for you. See "Using a character escape" on page 11-7 for more information. |
| fetchsize | This property allows you to set the number of records that are retrieved by the driver at any one given time. This is important for result sets (such as a result set of 20000 records) that are too large to retrieve all at once without causing memory constraints and performance problems. |
| User | The user name for the connection |
| Password | The password for the connection |

The FileMaker JDBC Driver does not provide full SQL support and only provides support for certain SQL statements or certain parts thereof, a `RecordID` pseudo column, a `ModID` pseudo column, character escaping, and FileMaker data type mapping to JDBC SQL and Java data types. The following is a list of the SQL statements and definitions that are supported by the FileMaker JDBC Driver.

SELECT

```

SELECT statement SELECT { { * | field_name ... } [
, RECORDID [ ,MODID ] ] } FROM database_name [
LAYOUT layout_name ] [WHERE { predicate [ { { AND |
OR } predicate } ... ] } ] [ ORDER BY { field_name
[ASC | DESC] } ... ]

Where predicate equals { field_name { = | <> | > |
>= | < | <= | LIKE } { value | ? } } | {field_name IS
NULL} | {RECORDID = {value |?}}

```

INSERT

```

INSERT statement INSERT INTO database_name [ LAYOUT
layout_name ] (field_name ... ) VALUES ( { value |
NULL | ? } ... )

```

UPDATE

```

UPDATE statement UPDATE database_name [ LAYOUT
layout_name ] SET {field_name = { value | NULL | ? }
} ... [ WHERE { predicate [ { { AND | OR }
predicate } ... ] } ] Where predicate equals {
field_name { = | <> | > | >= | < | <= |LIKE } { value
| ? } } | {field_name IS NULL} | {RECORDID = {value
| ? } [ AND MODID = { value | ? } ] }

```

DELETE

```

DELETE statement DELETE FROM database_name [ WHERE {
predicate [ { {AND | OR } predicate } ... ] } ] Where
predicate equals { field_name { = | <> | > |>= | < |
<= | LIKE } { value | ? } } | {field_name IS NULL} |
{RECORDID = {value |?} }

```

CALL

```

CALL stored { CALL script_name ( database_name [ , {
layout_name procedure (a script) | password } ] ) }

```

The outermost curly brackets { } are part of the CALL statement syntax.

Syntax Definitions

| | |
|----------------------------|--------------------------------------|
| square brackets [] | means an optional parameter |
| vertical bar | means “or” |
| ellipsis (...) | means repetition any number of times |
| periods and a comma (,...) | means repetition separated by commas |



Note To update a specific repeating field or field in a portal, add a period and the number of the row to the end of the field name and enclose the field name in double quotation marks. For example, to update the third repetition of the Telephone field for a record in the Employees.fp5 database, specify the following: UPDATE 'Employees.fp5' SET 'Telephone.3'='(555) 555-5555'



Note To add a specific repeating field or field in a portal, add a period and the number zero (0) to the end of the field name and enclose the field name in double quotation marks. For example, to add the City field to a portal in the Address relationship: INSERT INTO 'Employees.fp5' LAYOUT 'Data Entry' ('Last Name', 'Address::City.0') VALUES ('Jones', 'San Jose')

Using the RecordID pseudo column

The FileMaker JDBC Driver provides a RecordID pseudo column (*in place of a primary key used by other types of databases*) that can be specified in the column name list of a SELECT statement or in the WHERE clause of SELECT, UPDATE or DELETE statements. This lets you guarantee that the statement will operate on a specific record.

```
UPDATE "Employees.fp5" SET department='engineering'
WHERE recordid=4
```



Note All other columns are ignored when the RecordID pseudo column is used in a WHERE clause.

Using the ModID pseudo column

Each record in a FileMaker Pro database has a corresponding modification ID (*ModID*) number that increases incrementally every time the record is modified. To detect modification collisions, the FileMaker JDBC Driver provides a ModID pseudo column that can be used in the WHERE clause of an UPDATE statement in conjunction with the RecordID. The Web Companion compares the ModID in the WHERE clause to the current ModID of the record and an error is returned if they do not match.

Best Practices When Using the FileMaker JDBC Driver

When connecting to FileMaker database solution with the JDBC driver, you should keep a few "best practices" in mind. Following this list of guidelines will ease your development and implementation efforts dramatically:

- Build your databases without the ".FP5" extension.
- Do not use spaces or special characters in field (column) names.

Example of the jdbc.ini file for a FileMaker datasource

The following is an example of the contents of a jdbc.ini file for a filemaker database.

```
<DataSource ID="FileMakerDBs">
<DSN>FileMakerDBs</DSN>
<DriverClass>com.fmi.jdbc.JdbcDriver</DriverClass>
<URL>jdbc:fmpro:http://127.0.0.1:591/
properties?fetchsize=10</URL>
<Properties />
</DataSource>
```

Where to get help

Documentation for Witango is available in both PDF and HTML formats. The HTML versions of the **Studio Users Guide** and the **Programmer's Guide** are installed as part of the Witango 5.5 Studio install. These options can be found in the Witango HELP menu. A full list of current documentation in PDF format can be found on <http://www.witango.com/documentation>.

Studio Users Guide

The Studio Users Guide can be accessed by via the HELP menu within the Studio. This Guide contains all the information you need to be able to effectively use the Studio. This manual will give you an understanding of the layout of the development studio and what function each action performs. The manual covers the following topics:

- Introduction
- Using Projects and Source Control
- Using Data Sources
- Using Snippets
- Setting Preferences
- Working with Meta Tags
- Working With Variables
- Building Actions Using Witango Builders
- Configuring the Search Builder
- Configuring the New Record Builder
- Using Actions
- Grouping Actions
- Using Basic Database Actions
- Using Control Actions
- Extending Witango Functionality
- Sending Electronic Mail From Witango
- Reading, Writing, and Deleting Files
- Using Advanced Database Actions
- Understanding Objects in Witango
- Using Objects
- Witango Class Files
- Compiling Witango Application Files

Programmer's Guide

The Programmers Guide can be accessed by via the HELP menu within the Studio. This manual contains the meta language reference and all information that is required for day to day programming. The manual covers the following topics:

- Introduction
- Witango Studio Basics
- Meta Tags
- Custom Meta Tags
- Working With Variables
- Document Object Model
- Configuration Variables
- Witango Server Error Codes
- <@CALC> Expression Operators
- Lists of Meta Tags
- Using DLLs With Witango

Tutorials

Tutorials have been made available for both the Windows and the OS X Studios. When you have completed the tutorials, you should have a good grasp of the basics required to create web applications with Witango.

They consist of a pdf document, sample database files, sample data, example taf files and instruction notes. These tutorials are available from the documentation section of witango.com.

The tutorials are designed for absolute beginners although a basic understanding of HTML, Datasources, Databases and Web Servers would be an advantage.

Course Content

- **Tutorial A** - The lessons in this tutorial introduce you to the basics of developing a Witango application file. The concepts you learn include creating a dynamic web page, passing values within an application file, and setting up a database search.
- **Tutorial B** - The lessons in this tutorial show you how to create a data source. You need to create this particular data source to complete subsequent tutorials.
- **Tutorial C** - The lessons in this tutorial teach you about Witango builders and projects. You work with the Search Builder and New Record Builder to create Witango applications in which you insert new records, search for them, and display results. You also learn how to organize your Witango application files into projects.

- **Tutorial D** - The lessons in this tutorial teach you about personalization and saving user information. You learn how to create form fields for collecting user information. Then, you assign this information to variables so that it can be stored and referenced over multiple web pages.
- **Tutorial E** - The lessons in this tutorial show you how to make functional and stylistic enhancements to your application.
- **Tutorial F** - The lessons in this tutorial teach you how to create a secure login model for users of your web site.
- **Tutorial G** - The lessons in this tutorial show you how to create a Witango class file, which can be used in a number of different Witango application files. You then learn how to call a Witango class file's methods into your login model to search the record list.

Developer Resources

The developer resources listed below are available from the Developer Section of the Witango web site.

Witango-Talk List

You are encouraged to join the witango-talk list. Witango-Talk is a mailing list that is the ideal place to discuss your ideas with other Witango users. It is hosted by Witango Technologies but is an unmoderated list for the Witango community. It is also monitored by our technical support staff. To subscribe/unsubscribe to witango-talk list click [here](#) section describes each list To obtain a list of commands for the witango-Talk mailing list, send an e-mail message with the subject help to listserv@witango.com.

Mail List Archives

A searchable archive of the mail list that you can view as a threaded forum.

Metatags Online

A full searchable list of all the metatags in the Witango script language.

Component Zone

The component zone page is a list of sample Witango code. Why code from scratch? - use one of the components to kick start your project. The Component Zone is the place for Witango developers to publish tools, utilities, demos of your applications, documents and more.

Sample Code Modules

Complete mini applications to install and run without any programming. The sample modules are all wrapped up in a simple but highly secure shell that has group based permissioning. Sample modules include:

- Email Client
- Survey System
- Content Publishing System
- Mini CRM
- Threaded Forum with email feed

Feature Request/Report a Bug

The bug reporting system is your interface for requesting new features or reporting a bug in existing functionality.

Configuring Witango Server

Configuration variables set options in the Witango Server that control its behaviour. You can set up all of your configuration variables using the witango administration web application. You can download the administration web application from the witango web site. You must know the correct password, which can be found in the Witango Server's `witango.ini` file. It is strongly recommended that you change the password for reasons of security, before the server is exposed to an intranet or the internet. You can change the password by stopping Witango Server and editing the value of the configuration variable parameter, `CONFIGPASSWD=` in the `witango.ini` file, located in the configuration folder which is in the folder where Witango Server is installed. This change takes place when you restart the Witango Server.

Annual Developers Conference

Every year, Witango hosts an 2 day developers conference for the developer community to gather and learn. This conference is known as CORROBOREE. Training courses at all levels are run in conjunction with this conference.

Contacting Witango Technologies

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| Support for commercial versions of Witango 5.x | customer_support@witango.com |
| Web | http://www.witango.com/ |