

Cincom

VisualWorks®

Installation Guide 7.2.1

P46-0105-10



© 1995–2004 by Cincom Systems, Inc.

All rights reserved.

This product contains copyrighted third-party software.

Part Number: P46-0105-10

Software Release 7.2.1

This document is subject to change without notice.

RESTRICTED RIGHTS LEGEND:

Use, duplication, or disclosure by the Government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013.

Trademark acknowledgments:

CINCOM, CINCOM SYSTEMS, and the Cincom logo are registered trademarks of Cincom Systems, Inc. ParcPlace and VisualWorks are trademarks of Cincom Systems, Inc., its subsidiaries, or successors and are registered in the United States and other countries. ObjectLens, ObjectSupport, ParcPlace Smalltalk, Database Connect, DLL & C Connect, COM Connect, and StORE are trademarks of Cincom Systems, Inc., its subsidiaries, or successors. ENVY is a registered trademark of Object Technology International, Inc. All other products or services mentioned herein are trademarks of their respective companies. Specifications subject to change without notice.

The following copyright notices apply to software that accompanies this documentation:

VisualWorks is furnished under a license and may not be used, copied, disclosed, and/or distributed except in accordance with the terms of said license. No class names, hierarchies, or protocols may be copied for implementation in other systems.

This manual set and online system documentation © 1995–2004 by Cincom Systems, Inc. All rights reserved. No part of it may be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine-readable form without prior written consent from Cincom.

Cincom Systems, Inc.

55 Merchant Street

Cincinnati, Ohio 45246

Phone: (513) 612-2300

Fax: (513) 612-2000

World Wide Web: <http://www.cincom.com>

Installing and Setting Up VisualWorks

Introduction

VisualWorks 7.2.1 is a complete release of VisualWorks including object engines, virtual image, and add-on products.

These installation notes provide instructions for installing VisualWorks from both CD and downloaded files. Both commercial and non-commercial releases of VisualWorks 7.2.1 are covered.

The CD-based installation program is developed in VisualWorks. It is also an installer framework that you can use for your own VisualWorks distributions. Explore the VWInstaller parcels in the **goodies/parc** directory.

Getting Help

If, after reading this document, you find that you need additional help, *commercial licensees* can contact Cincom Technical Support. Cincom provides all customers with help on product installation. For other problems there are several service plans available. For more information, send email to supportweb@cincom.com.

VisualWorks Non-commercial licensees can get help on-line from the resources listed in the VisualWorks *Application Developer's Guide*.

Before contacting Technical Support, please be prepared to provide the following information:

- The release number, which is displayed when you start VisualWorks.
- Any modifications (patch files, auxiliary code, or examples) distributed by Cincom that you have imported into the image.
- The complete error message and stack trace, if an error notifier is the symptom of the problem. To do so, use **Copy Stack**, or select and copy the text in the error window, and paste the text into a file that you can send to Technical Support.
- The hardware platform, operating system, and other system information you are using.

You can contact Technical Support using any of the following methods:

E-mail	Send questions about VisualWorks to: supportweb@cincom.com .
Web	Using your Web browser, go to: http://supportweb.cincom.com and choose the link to Support.
Telephone	Within North America, call Cincom Technical Support at (800) 727-3525. Outside North America, contact the local authorized reseller of Cincom products to find out the telephone and fax numbers for technical support.

System Requirements

VisualWorks 7.2.1 runs on workstations with the following minimum system configurations.

Disk and Memory Requirements

- 32 MB of memory minimum (development environment)
- Apx. 252 MB disk space for default installation
- Apx. 556 MB disk space for full, single platform installation
- Apx. 765 MB disk space for full installation with all platforms

Microsoft Windows

- A PC or compatible with an Intel 386 compatible or higher processor (Pentium or higher recommended)
- Windows 98/ME/2000/XP
- CD-ROM drive (for installation)

HP-UX

- HP 9000 Series 700 workstation
- HP-UX Release 11.x
- CD-ROM drive (for installation)

SUN

- Sun SPARC workstation
- Solaris 9
- CD-ROM drive (for installation)

SGI

- An SGI machine, either single- or multi-processing
- CD-ROM drive (for installation)

This VM has been tested on an entry-level SGI Indy under IRIX 6.2. Note that the threaded API for external interfaces is not supported yet, so VisualWorks effectively uses only one processor at a time.

Due to a problem in the processor hardware, Visualworks 7.2.1 will crash on systems with an R4000 processor of revision 2.2 or older.

IBM AIX

- AIX workstation with PowerPC processor
- AIX release 5.x and up
- CD-ROM drive (for installation)

MacOS

- Apple MacOS computer
- MacOS 9.0, 9.1, 9.2, or X
- CD-ROM drive (for installation)

Version 8.6 works with some caveats, and is supported by product support.

Linux i386

- A PC or compatible with an Intel 386 compatible or higher processor (Pentium or higher recommended)
- We have tested on Linux distributions supporting:
 - glibc 2.1.3 or newer
 - XWindows (X11R6)

A kernel of level 2.2 or newer should meet these requirements.

Some distributions (e.g., RedHat) include multiple compiles of the glibc libraries, provided in `/lib`, `/lib/tls`, and `/lib/i686` or similar directories which contain libraries for different OS ABI versions. For more information, see: <http://people.redhat.com/drepper/assumekernel.html>. If you use such a system and experience seemingly random crashes, refer to this page. If the command

```
#> ldd /path/to/vwlinux86
```

indicates that `libc.so.6` is found in either `/lib/tls` or `/lib/i686`, you need to define `LD_ASSUME_KERNEL=2.2.5` in your environment prior to running VisualWorks. For example,

```
#> env LD_ASSUME_KERNEL=2.2.5 /path/to/vwlinux86 image.im
```

Or, set it for the shell. For C-shell:

```
#> setenv LD_ASSUME_KERNEL=2.2.5
```

and for Bourne/Korn shell:

```
#> LD_ASSUME_KERNEL=2.2.5; export LD_ASSUME_KERNEL
```

Doing this will cause the loader to use the correct libc files.

Installing VisualWorks from CD

The following procedure installs VisualWorks 7.2.1 from CD-ROM.

This installation program sets up the directory structure on your specified drive, and copies the selected components into that structure.

On Windows platforms, the initial screen presents the option of installing ObjectStudio in addition to VisualWorks. You may select either or both. Selecting ObjectStudio will launch its setup.exe install script once VisualWorks has been installed. Make your selections and click Next.

On UNIX and Linux systems, the installer provides directions for setting up your UNIX environment variables.

Experienced VisualWorks users may prefer simply to copy (drag-and-drop) components from the CD to a target directory and decompress their contents. Configuration issues, such as setting paths and file associations, must be performed manually, but are not described here.

Installing Base VisualWorks

Note: On Windows 2000, you must have Standard User (Power User Users group) permissions in order to install software. Restricted User (Users group) permission alone does not permit updating the system registry.

- 1 Load the VisualWorks 7.2.1 CD.
- 2 On some platforms, the installer starts automatically. If it does not start automatically, start it using the method appropriate to your platform, located in the CD's root directory:

Windows: Run the **installWin.bat** command script file (double-click on the file name in the Explorer).

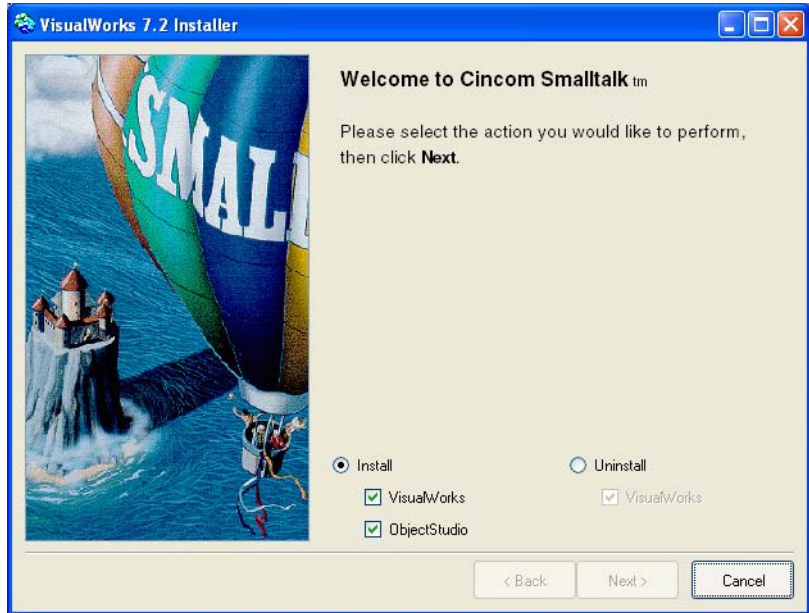
UNIX/Linux: Execute the installer shell script **installUnix**.

Mac OS9: Launch the **InstallMac** AppleScript. Alternately, view the CD's contents as a list, expand the **bin:powermac** folder and the **image** folder. Drag **install.im** onto the **visual** object engine.

Mac OSX: Double-click on the **installMacOSX.command** script file. Alternately, view the CD's contents as a list, expand the **/bin/macx** folder and the **image** folder. Drag **install.im** from the **image** folder onto the **visual** object engine in the **/bin/macx** folder.

- 3 On Windows platforms, an initial screen prompts you to select which products to install. You may select either or both ObjectStudio or VisualWorks. Selecting ObjectStudio will launch its **setup.exe** install script once VisualWorks has been installed. Make your selections and click **Next**.

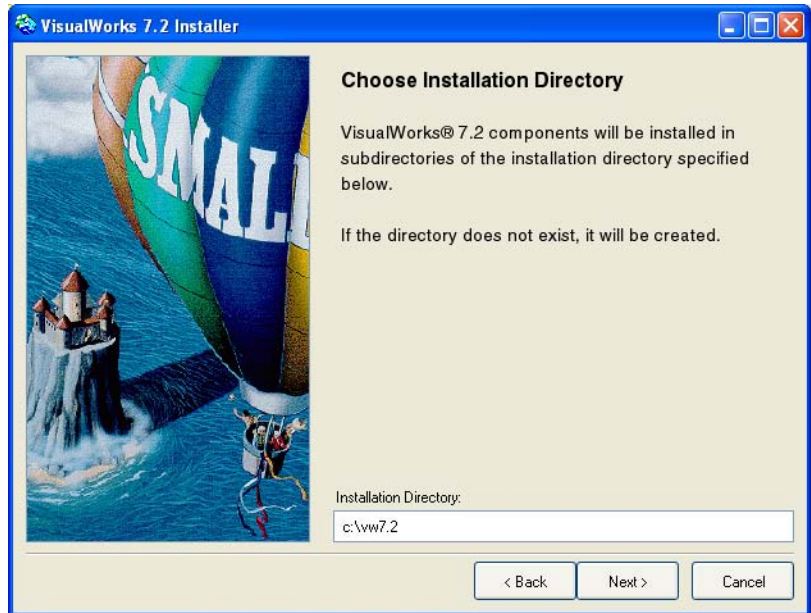
A Welcome screen explains the installation process.



- 4 Make sure the **Install** radio button is selected, and click **Next**.

The install button is initially selected, unless the **install.map** file cannot be found. This has been reported only rarely, and always as the result of deviating from the installation instructions. In such a case you will be prompted for the root source directory. Specify the full path to the install.map file found in the root of the CD.

- 5 You are prompted for the installation directory. Leave the default directory, or edit it as appropriate.

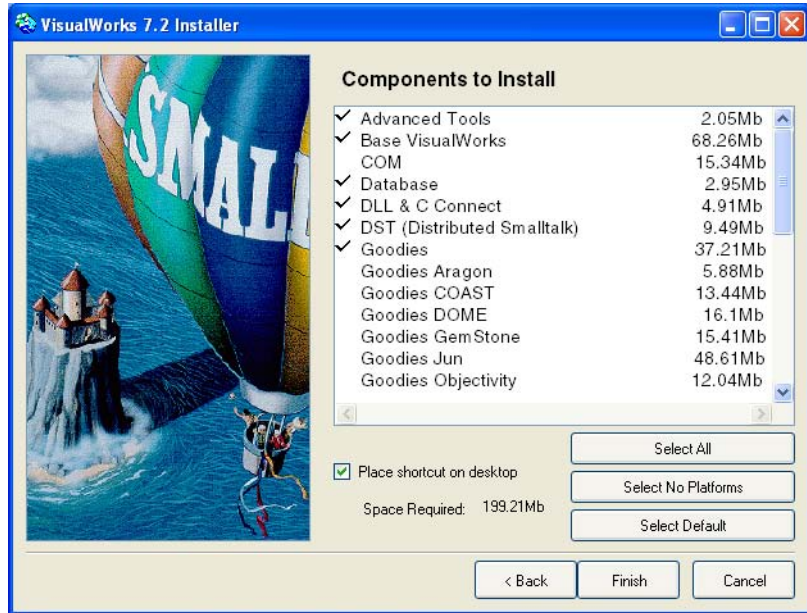


The default directory is typical for the platform you are installing. If the default does not suit your needs, edit it to specify the new install directory for VisualWorks. For example, **c:\Program Files\vw7.2.1** on Windows systems, or **/usr/local/vw7.2.1** on UNIX or Linux systems.

Note that, if you have previous versions of VisualWorks installed, we recommend installing into a new directory rather than installing over the previous version. This allows you to run the previous version as well.

If the directory does not exist (as is typically the case for a new installation), it will be created when you click **Next**.

You are now prompted to select the VisualWorks components you want to install:



- 6 By default, the most typical components are selected. To select or deselect a component, click on it in the list. Select at least the **Base VisualWorks** component and the **VM** component for your platform, which is the minimum for a working installation. Then click **Next**.

The components are (refer to their release notes and documentation for fuller descriptions):

Advanced Tools - Advanced tools, including a full protocol browser, performance profiler, and code checker.

Base VisualWorks - the base product image, installer, and goodies.

COM - Support for defining and using COM objects, Windows platforms only.

Database - Support for connecting to external databases.

DLL & C Connect - Support for interfacing external C code, libraries, and platform APIs.

DST (Distributed Smalltalk) - An extension to VisualWorks for creating distributed applications using CORBA compliant interfaces.

Goodies - Unsupported software provided either by Cincom or third parties, supplying extended functionality. Some are quite large installations, and require separate selection.

Internationalization Catalogs - This installs the directory for message catalogs and the English version of catalogs, for international users. A new “locale” is also needed for this to be useful. Refer to the *Internationalization Guide* for more information. For English-only installations, we recommend that you *not* install this directory.

Opentalk - The Opentalk core classes, for implementing communications protocols and creating distributed applications.

PlugIn - An extension allowing VisualWorks applications to run as applets in an internet browser.

Preview - Additions to **VisualWorks** that are currently in “beta test”.

Store - VisualWorks native team development and source code revision management environment.

Web Application Server - An extension to VisualWorks for developing and deploying web-based, e-business applications.

VM <platform> - The virtual machine (the VisualWorks executable) for the platform named.

Web Services - Support for Web Service protocols, such as SOAP, WSDL and UDDI.

When you have made your selections, click **Finish**.

7 The files are then installed.

If you are installing over a previous installation (such as a pre-release), you will be prompted for the action to take if a file already exists. “Overwrite” replaces the currently installed file; “Update” replaces the currently installed file only if it is older than the new one; “Skip” keeps the original file. A checkbox allows you to specify to use the choice for all subsequent actions.

At the end of the process:

Windows: the system registry is updated automatically.

UNIX: an informational screen is displayed with instructions for setting your UNIX system variables.

MacOS 9.x: a special environment variable file is created in the **Preferences:VisualWorks Prefs** folder of the current operating system installation.

- 8 The final installation screen reminds you to register your VisualWorks product(s) at <http://www.cincom.com>. Click **Quit** to exit the installer.

Install VisualWorks Components

After the initial VisualWorks CD installation, you can install additional add-on components.

- 1 Load the VisualWorks Installation CD.
- 2 Start the installer:

Windows: Go to **Start → Programs → VisualWorks 7.2.1 → Install_Uninstall**

UNIX: Execute the script **vw7.2.1/Install_Uninstall**

MacOS: Double-click on the installation image file

vw7.2.1:image:install.im

- 3 A Welcome screen is displayed explaining the process that will be performed. Click **Next** a few times to advance to the component selection screen.
- 4 Select the components you wish to add, and click **Next**.
- 5 When the installation is complete, click **Quit** to exit.

Note: If you are using previous versions of the installer, the procedure may be somewhat different. We recommend using the latest version of the installer on the 7.2.1 CD.

Installing VisualWorks from Downloaded Files

The non-commercial release of VisualWorks 7.2.1 is available for free download from the Cincom Smalltalk web site:

<http://www.cincom.com/smalltalk/>

Then follow the download links. This distribution is provided as a set of files, each file containing some major component of VisualWorks. You probably do not need to download the entire distribution, but are free to do so.

There is no installer program for the downloaded distribution. Rather, you simply extract the files from the compressed files and configure VisualWorks appropriately for your operating system platform.

The compression format, **.tar.gz**, is common on UNIX platforms, but is handled well by decompression utilities on other platforms as well. (The PowerMac virtual machine is in another format, **.sit**, which is common on that platform.)

- On Windows platforms, use WinZip 7.0 or later, available from <http://www.winzip.com>.
- On PowerMac systems, use Dropstuff (5.5 or later) or Stuffit Deluxe (5.5 or later), with Expander

UNIX and Linux Installation

- 1 Create an installation directory called **vw7.2.1** in an appropriate directory, for example **/usr/local/vw7.2.1**.

- 2 Download the compressed files to the installation directory.

The product is divided into several files, and you probably do not need to download them all. You do need at least the VisualWorks Base and a virtual machine file. The files are described on the download page to guide your selection.

- 3 Change (**cd**) to installation directory, where you downloaded the files.
- 4 Extract each file using these commands:

```
%gunzip <file_name>.tar.gz
%tar -xvf <file_name>.tar
```

All VisualWorks files are extracted into it in the correct directory structure. Additional subdirectories are created as needed.

- 5 Configure your environment to set these variables:

```
VISUALWORKS - e.g., to the value: /usr/local/vw7.2.1
```

```
SOURCE_PATH - e.g., to the value: /mnt/cdrom
```

Set these in the appropriate startup file.

This completes the installation.

Windows Installation

Note: On Windows 2000, you must have Power User permissions in order to install software. User permission alone does not permit updating the system registry.

- 1 Create an installation folder called **vw7.2.1**, for example **c:\vw7.2.1**.
- 2 Download the compressed files to the installation folder.

The product is divided into several files, and you probably to not need to download them all. You do need at least the VisualWorks Base and a virtual machine file. The files are described on the download page to guide your selection.
- 3 Start WinZip 7.0 or later.

Open **Options** → **Configuration** → **Miscellaneous**, and uncheck **TAR file smart CR/LF conversion**.
- 4 Open the base VisualWorks downloaded file in WinZip.

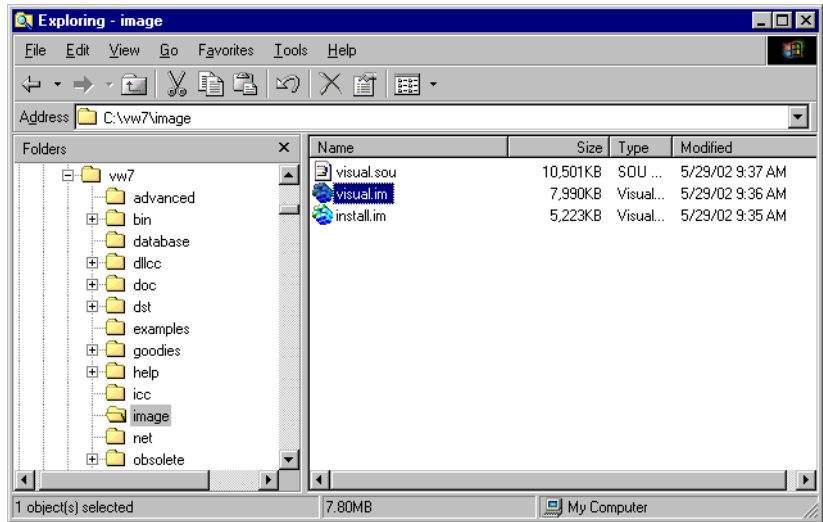
You will be prompted, asking whether WinZip should decompress the single file into a temporary folder and open it. Click **Yes**. The temporary file is created in **\windows\temp**, and has the same file name except for having only a **.tar** extension. This file will be deleted when WinZip exits.

WinZip then displays the contents of the **.tar** file.
- 5 Extract the contained files into the installation directory (**vw7.2.1**).

All VisualWorks files are extracted into it in the correct directory structure. Additional subdirectories are created as required.
- 6 Repeat steps 3 and 4 for each of the other files as well, selecting the same installation directory (e.g., **c:\vw7.2.1**) each time.

When you have extracted all of your downloaded files, the VisualWorks files are all installed in their proper locations. The directory structure, viewed in the Windows Explorer, should look

something like this (though you will probably have more directories than shown here):



That's all there is for installation. But now there is some Windows configuring to make launching reasonably easy.

- 7 Explore the **vw7.2.1\image** directory, select an image file (**visual.im**), and double-click on it.

The **.im** file type so far should have no association, so a prompter opens asking for the executable.

- 8 Click **Other...** to open a file browser. Find and select **visual.exe** (probably in **c:\vw7.2.1\bin\win**), and click **Open**.

(The **visualworks.exe** file is an alternative option, but really only useful if you have multiple versions of VisualWorks installed. This is described in the *Application Developer's Guide*.)

- 9 Check the **Always use this program...** checkbox, and click **OK**.

VisualWorks is now installed, and you can launch it by double-clicking on an image (**.im**) file in the Windows Explorer.

This completes the installation.

MacOS Installation

- 1 Create an installation folder called **vw7.2.1**.
- 2 Download the compressed file(s) to the installation folder.

The product is divided into several files, and you probably to not need to download them all. You do need at least the VisualWorks Base and a virtual machine file. The files are described on the download page to guide your selection.
- 3 Start Dropstuff or StuffIt Deluxe with Expander.

Open the Expander **Preferences** and, in the **Cross Platform** options, choose **Never** for **Convert Text Files to Macintosh text format**.
- 4 Extract each file. A separate **vw7.2.1** folder is created for each file.
- 5 Move the contents of all **vw7.2.1** folders to a single folder.
- 6 (OS 9.x) Open the folder **vw7.2.1:bin:powermac** and find the compressed VisualWorks virtual machine, named **vw7.2.1.sit**. Extract this file (using StuffIt) into the same directory.

(OS X) Open the folder **vw7.2.1/bin/macx** and find the compressed VisualWorks virtual machine, named **vw7.2.1.sit**. Extract this file (using StuffIt) into the same directory.

This completes the installation

Starting VisualWorks the First Time

With VisualWorks installed, you can now launch a VisualWorks session.

Depending on your operating system, there may be several ways to launch a session. For example, on Windows systems, a VisualWorks launcher icon is added to your **Start** menu, or you can double-click on an image file to launch using the file association feature, or you can run a command line in a shortcut.

Regardless of the operating system, however, the various shortcuts do the same thing. The following describes how to launch VisualWorks on any system. This information will make it clear what to do to make any platform launcher features work as well.

Launching from the Command Line

To start VisualWorks, you run the object engine (also called the virtual machine) with the image file passed as the argument:

```
object_engine image_file
```

On Microsoft Windows systems, the virtual machine name is **visual.exe**, and on Macintosh and Unix system it is simply **visual**. By default, the virtual machine is installed in the **bin/<platform>** subdirectory of the root VisualWorks installation directory.

The initial image file on all platforms is **visual.im**, (**visualnc.im** for non-commercial) and is installed in the **image** subdirectory. The image is exactly the same on all platforms. This file should be write-protected, and you should never save over it. Instead, you will want to save one or more “working” images and use those for your development work.

To launch VisualWorks the first time then, using this command line interface, start by changing to the **image** subdirectory, and execute the object engine with the image as argument. For example, on Windows:

```
> cd c:\vw7.2.1\image\  
> ..\bin\win\visual.exe visual.im
```

and on a UNIX or Linux system:

```
$ cd /usr/local/vw7.2.1/image  
$ exec ../bin/linux86/visual visual.im
```

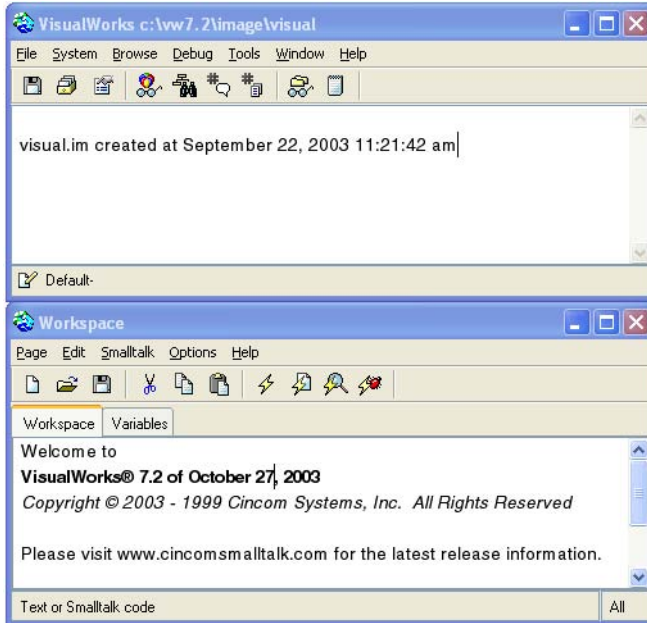
Note that the paths may be different on your system. This approach makes the image directory the current directory for execution, so images will be saved there by default.

On Mac OS X, the engine path is longer:

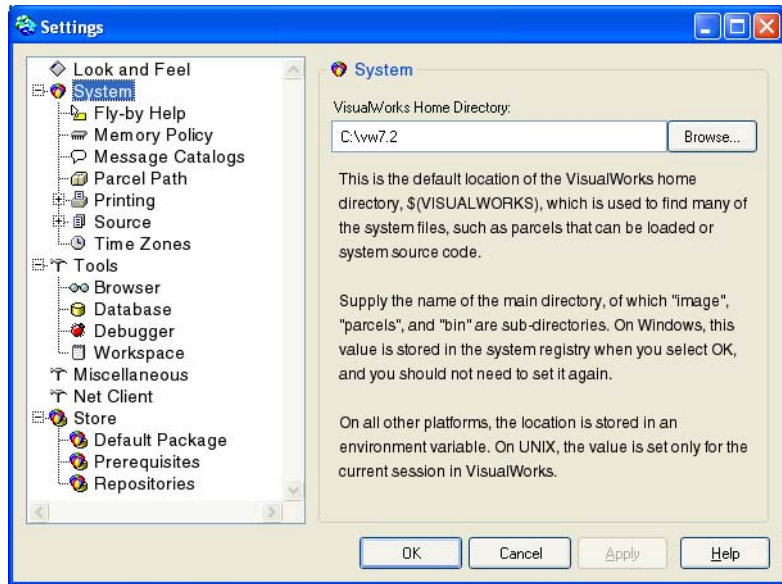
```
$VISUALWORKS/bin/macx/visual.app/contents/MacOS/visual  
imageName.im
```

There are several engines you can use, as described in the [Application Developer's Guide](#). For development work, it is recommended that you use the engines named **vw<platform>**, such as **vwnt.exe** for Windows platforms, and **vwlinux86** on Linux. Using these engines can make debugging easier in case of an engine crash.

When successfully launched, the VisualWorks splash screen is displayed for a few moments. (For VisualWorks Non-Commercial installations, the NC licensing agreement is displayed; read it and click **I Accept** or **Quit**.) The VisualWorks Visual Launcher and a workspace are displayed.

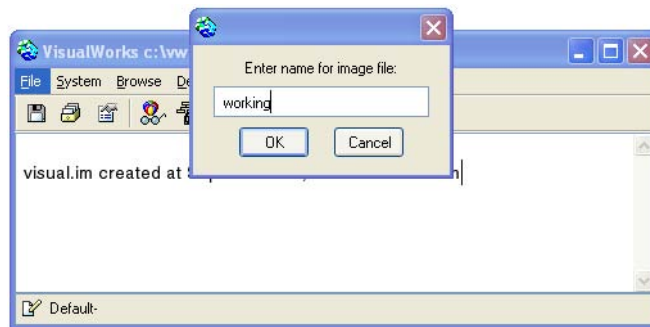


In order to correctly find additional files, the VisualWorks Home directory must be properly set. Select **File** → **Set VisualWorks Home** in the Visual Launcher.



Set the directory to the root VisualWorks installation directory, typically **c:\vw7.2.1** on Windows systems or **/usr/local/vw7.2.1** on UNIX or Linux systems. Then click **OK**. On Windows systems, the VisualWorks Home is saved in the system registry. On UNIX and Linux systems, it needs to be set in a system variable, as described in an information screen at the end of the installation.

Now, before doing any other work, save a working image. This will be the image you use to save your work, leaving **visual.im** unchanged. Select **File → Save Image As...** in the Visual Launcher to display the Save Image dialog:



Enter a name for your **working** image, such as `working`, and click **OK**. This will save the image as `working.im` and create a `working.cha` file also (see the *Application Developer's Guide* for further discussion of these files). *Do not* include either extension (`.im` or `.cha`) when specifying the file name in this dialog.

Because we launched VisualWorks with `image` as the current directory, `working.im` and `working.cha` will be saved into that directory. For another directory, specify either a relative or absolute path.

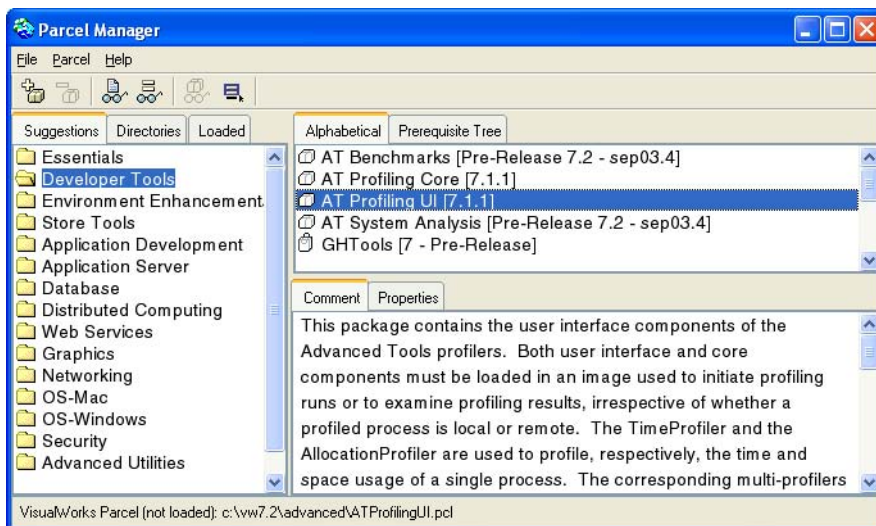
You are now ready to start working with VisualWorks. Additional setup suggestions are provided below, but the essential setup is now complete.

Loading Parcels

VisualWorks is divided into separate parcels, which are external Smalltalk binary and source code modules. By selectively loading and unloading parcels, you can control the size of the image by loading only functionality you need. Loading parcels is much faster than loading and compiling Smalltalk source code.

To load a parcel/component that has already been installed:

- 1 Start VisualWorks, and open the Parcel Manager (**System** → **Parcel Manager** in the launcher).



- 2 Browse the categories of parcels, especially the **Essentials** and **Developer Tools** categories.

VisualWorks has default parcel paths for many products. If the path for the product you are installing is not set, or is set incorrectly, the parcel will not show up in the parcel list, and needs to be added.

To add or correct the parcel path for the product you are installing, use the **Parcel Path** page in the Settings Tool (**System → Settings**).

- 3 Select the parcel to load and then pick **Parcel → Load**.

A dialog may open, explaining that additional code may be loaded. Typically you should click the **yes to all** button to continue.

Additional configuration may be required by add-on products. If so, instructions are provided in the configuration or installation instructions for that product.

Each parcel file (**.pc1**) has an associated source file (**.pst**) that holds the source for all the code in the parcel. Both files are effectively binary and must not be altered except by the parcel publishing mechanism. If you extract parcels from an archive (zip) format, you should disable any conversion options provided by your archiver. For example, if you use WinZip, turn-off **Tar file smart CR/LF conversion**. Failure to do so will result in errors when trying to browse the source for a parcel within VisualWorks.

Setting Up a Network Environment

The section “**Starting VisualWorks the First Time**” above included instructions for configuring a workable, single-user environment. In a networked system there are additional considerations. The following recommendations are targeted at this networked style of configuration.

Here is a recommended setup:

- 1 Make all the original installation files and directories read-only.

While this is a good idea in a single-user environment as well, it is especially important in multi-user environments. Allowing several developers to write to the same files will cause serious data corruption errors.

- 2 Each user creates directories for their own images and parcels.

Typically, this will be on the users’ local drives or in their private working area of a network drive. For example, they might set up directories like:

On Windows:

c:\vwwork\myimages

c:\vwwork\myparcels

On UNIX/Linux

<yourhome>/myimages

<yourhome>/myparcels

- 3 Set up a launcher mechanism (e.g., shortcuts on Windows, or execution scripts on UNIX) to run the shared virtual machine, but with the programmer's personal image directory as the "current" directory.

For example, in a Windows shortcut, specify the user's personal image directory as the **Start in:** directory. On UNIX systems, a startup command file can be created in the user's **bin/** directory which can be executed while the personal image directory is "current," but invoking the shared object engine. (Examples of both of these setups are included by the installer.) Refer to the VisualWorks [Application DevelopersGuide](#) for more setup details.

- 4 Start VisualWorks on the original image (**visual.im**), and open the Settings Tool (**System → Settings**). On the **Parcel Path** page, add your parcels directory (created in step 2).

This will include the user's personal working parcels in lists of parcels available for loading. You can drag the new name to the top of the list to have it searched first.

- 5 Select **File → Save Image As...** in the Visual Launcher, and save a *working* image.

Enter a name for the image, such as **working**, including path information to your own image directory (step 2).

Because the original image is a read-only (step 1) file, you will not be able to save over it.

- 6 When saving a parcel, programmers specify the path to their personal parcels directory.

Specifying a relative pathname, especially one relative to the VisualWorks home directory, facilitates moving the image to other platforms. The directory path specified is remembered and proposed as the path in subsequent saves of that parcel.

- 7 When starting VisualWorks, make the directory containing your image file the current directory before launching VisualWorks.

Uninstalling Products

The VisualWorks installer comes with an uninstall option. To uninstall a VisualWorks product:

- 1 *Windows:* Go to the Start menu, select **Start → Programs → VisualWorks 7.2.1 → Install/Uninstall**.

UNIX: Execute the script `~vw7.2.1:/Install_Uninstall`.

MacOS: Double-click `~vw7.2.1:image:install.im`

- 2 Click **Uninstall** and then **Next**.
- 3 The installer will display all VisualWorks 7.2.1 products. Select the product(s) you wish to uninstall and click **Uninstall**.
- 4 The uninstaller will prompt you for disposition of various aspects of the VisualWorks installation, such as whether you want to delete non-empty directories. Answer those prompts accordingly.
- 5 When the uninstaller is finished, you may need to manually remove files and/or directories, such as files and directories containing files that you created using VisualWorks.

Thank You...

... for installing and trying VisualWorks. We hope, and expect, that you will find this to be an enjoyable and productive development environment.

There are a variety of resources available to help you become productive with VisualWorks. Complete documentation is provided with VisualWorks, and is listed for easy access in [Welcome](#). Also, [The VisualWorks Walk Through](#) provides a simple overview of building an application in VisualWorks.

A variety of web sites also provide information about VisualWorks. See in particular:

- The Cincom Smalltalk Wiki:
<http://www.cincomsmalltalk.com>
- A wiki server for VisualWorks is running and can be accessed at:
<http://wiki.cs.uiuc.edu/VisualWorks>

Additional resources are listed in the preface to the VisualWorks [Application Developer's Guide](#).

Reader Comment Sheet

Name: _____

Job title/function: _____

Company name: _____

Address: _____

Telephone number: () - _____ Date: / /

How often do you use this product? Daily Weekly Monthly Less

How long have you been using this product? Months Years

Can you find the information you need? Yes No

Please comment. _____

Is the information easy to understand? Yes No

Please comment. _____

Is the information adequate to perform your task? Yes No

Please comment. _____

General comment: _____

WE STRIVE FOR QUALITY

To respond, please fax to Larry Fasse at (513) 612-2000.

