
GemStone®

GemConnect Installation Guide

For use with GemStone/S
on Windows 2000, XP and 2003 on Intel-
compatible Systems

May 2008

Version 2.1

GEMSTONE ™

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Preface

About the Documentation

This document provides instructions for installing GemConnect version 2.1. You should read through this document before beginning the installation process, to ensure that you understand the installation process and that all system requirements are satisfied.

This installation guide is also available on the GemStone customer support website, as described in the next section.

For information about changes in this release, refer to the *GemConnect Release Notes*.

Typographical Conventions

This document uses the following typographical conventions:

- ▶ Commands issued at a command prompt are shown in **bold** typeface. For example:

copydbf

- ▶ Smalltalk methods, GemStone environment variables, file names and paths, listings, and prompts are shown in monospace typeface. For example:

markForCollection

- ▶ Place holders that are meant to be replaced with real values are shown in *italic* typeface. For example:

StoneName.conf

Technical Support

GemStone provides several sources for product information and support. The product-specific manuals and online help provide extensive documentation, and should always be your first source of information. GemStone Technical Support engineers will refer you to these documents when applicable.

GemStone Web Site: <http://support.gemstone.com>

GemStone's Technical Support website provides a variety of resources to help you use GemStone products. Use of this site requires an account, but registration is free of charge. To get an account, just complete the Registration Form, found in the same location. You'll be able to access the site as soon as you submit the web form.

The following types of information are provided at this web site:

Help Request allows designated support contacts to submit new requests for technical assistance and to review or update previous requests.

Documentation for GemConnect is provided in PDF format. This is the same documentation that is included with your GemConnect product.

Release Notes and **Install Guides** for your product software are provided in PDF format in the Documentation section.

Downloads and **Patches** provide code fixes and enhancements that have been developed after product release. Most code fixes and enhancements listed on the GemStone Web site are available for direct downloading.

Bugnotes, in the Learning Center section, identify performance issues or error conditions that you may encounter when using a GemStone product. A bugnote describes the cause of the condition, and, when possible, provides an alternative means of accomplishing the task. In addition, bugnotes identify whether or not a fix is available, either by upgrading to another version of the product, or by applying a patch. Bugnotes are updated regularly.

TechTips, also in the Learning Center section, provide information and instructions for topics that usually relate to more effective or efficient use of GemStone products. Some Tips may contain code that can be downloaded for use at your site.

Community provides customer forums for discussion of GemStone product issues.

Technical information on the GemStone Web site is reviewed and updated regularly. We recommend that you check this site on a regular basis to obtain the latest technical information for GemStone products. We also welcome suggestions and ideas for improving and expanding our site to better serve you.

You may need to contact Technical Support directly for the following reasons:

- ▶ Your technical question is not answered in the documentation.
- ▶ You receive an error message that directs you to contact GemStone Technical Support.
- ▶ You want to report a bug.
- ▶ You want to submit a feature request.

Questions concerning product availability, pricing, keyfiles, or future features should be directed to your GemStone account manager.

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

- ▶ Your name, company name, and GemStone/S server license number
- ▶ The GemStone product and version you are using
- ▶ The hardware platform and operating system you are using

- ▶ A description of the problem or request
- ▶ Exact error message(s) received, if any

Your GemStone support agreement may identify specific individuals who are responsible for submitting all support requests to GemStone. If so, please submit your information through those individuals. All responses will be sent to authorized contacts only.

For non-emergency requests, the support website is the preferred way to contact Technical Support. Only designated support contacts may submit help requests via the support website. If you are a designated support contact for your company, or the designated contacts have changed, please contact us to update the appropriate user accounts.

Email: support@gemstone.com

Telephone: (800) 243-4772 or (503) 533-3503

Requests for technical assistance may also be submitted by email or by telephone. We recommend you use telephone contact only for more serious requests that require immediate evaluation, such as a production system that is non-operational. In these cases, please also submit your request via the web or email, including pertinent details such error messages and relevant log files.

If you are reporting an emergency by telephone, select the option to transfer your call to the technical support administrator, who will take down your customer information and immediately contact an engineer.

Non-emergency requests received by telephone will be placed in the normal support queue for evaluation and response.

24x7 Emergency Technical Support

GemStone offers, at an additional charge, 24x7 emergency technical support. This support entitles customers to contact us 24 hours a day, 7 days a week, 365 days a year, if they encounter problems that cause their production application to go down, or that have the potential to bring their production application down. For more details, contact your GemStone account manager.

Training and Consulting

Consulting and training for all GemStone products are available through GemStone's Professional Services organization.

- ▶ Training courses are offered periodically at GemStone's offices in Beaverton, Oregon, or you can arrange for onsite training at your desired location.
- ▶ Customized consulting services can help you make the best use of GemStone products in your business environment.

Contact your GemStone account representative for more details or to obtain consulting services.

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Installation

This document describes how to install GemConnect 2.1 on workstations running the Windows 2000, XP or 2003 operating system. It also explains how to upgrade a GemStone repository for use with GemConnect.

This version of GemConnect includes a number of new features. Please review the *GemConnect Release Notes* for details of the changes before upgrading to this version. If you are upgrading from a version earlier than 2.0.1, please review the Release Notes for each intermediate version, to see the full set of changes.

We recommend that this installation be done by an experienced system administrator. If you need more information, the *Installation Guide* for your GemStone/S server tells how to install the GemStone system, and lists any additional requirements for network communications between your workstation and GemStone.

For GemConnect to work properly with the rest of the GemStone system and your relational server, you must follow every step of this installation procedure.

System Requirements

Before installing GemConnect, ensure that the following system requirements are satisfied.

GemStone server

A GemStone/S object server, installed and started according to instructions in the appropriate *Installation Guide*.

GemConnect version 2.1 is compatible with all GemStone/S versions later than 6.1. GemConnect v2.1 on Windows platforms has been tested with the following server versions:

- ▶ GemStone/S version 6.1.5 and version 6.3 beta

Platform

A supported platform for the GemStone server product and version you will be using. See the *Installation Guide* for your GemStone server product for more information.

- ▶ **GemStone/S v6.1.5** is supported for GemConnect on:
 - Windows 2000
 - Windows XP
 - Windows 2003

Disk Space

- ▶ Approximately 1 megabyte for GemConnect system files

Ram

- ▶ 2 megabytes per GemStone session (See the *System Administration Guide* for other configuration recommendations.)

Relational Database Server

- ▶ An Oracle 9i or later relational database server must be running and available via the `%ORACLE_HOME%` environment variable. GemConnect was tested with Oracle versions 9.2.0.
- ▶ If GemStone and your relational database server run on different machines, you will also need Oracle Net9/Net10 (supersedes SQL*Net). Be sure that it is installed and running on the machine where GemStone will be running, so that GemStone will be able to communicate with the relational database.

C compiler

See the *Installation Guide* for your GemStone server product and version for specific C compiler details.

A C compiler is required only for customizing GemConnect. It is used to relink with any changes you make in the C language source module provided with GemConnect. You do not need a C compiler if you do not expect to customize GemConnect.

Install GemConnect

Step 1. Log in to a machine that has the GemStone repository server installed on it.

Log in to the same user account that was used to install GemStone. Make sure the `%GEMSTONE%` environment variable is set.

Step 2. Select an installation directory.

You can install the GemConnect files into almost any directory. Administration is easier, however, if you install GemConnect in the same top-level directory you installed the GemStone server software. For example, if the GemStone server directory is:

```
c:\server\GemStone
```

then install GemConnect under `c:\server`.

From now on, we'll refer to your site's installation directory as *InstallDir*. When you see *InstallDir* in a command or pathname, substitute the name of this directory.

Move to the disk drive and directory where you will install GemConnect software:

```
c:\> cd InstallDir
```

Step 3. Copy the GemConnect distribution file to this directory. GemConnect is provided as a zipped archive file with a name similar to `GemConnect-2.1+oracle9i-x86.Windows_NT.zip`.

Step 4. Unzip the distribution file using `unzip`. For example:

```
% unzip GemConnect-2.1+oracle9i-x86.Windows_NT.zip
```

InstallDir now contains a directory with a name similar to `GemConnect-2.1+oracle9i-x86.Windows_NT`. This directory contains the following subdirectories and files:

```
PACKING.txt    verora.txt    doc    make    ualib
```

See Table 2 for tables describing the contents of each file and each directory.

Step 5. Copy the appropriate GemConnect shared library into the GemStone object server shared library directory.

First, move to the `ualib` subdirectory of the GemConnect installation directory. For example:

```
c:\server>cd GemConnect2.1+oracle9i-x86.Windows_NT\ualib
```

Next, copy the GemConnect for Oracle `.dll` file to the `%GEMSTONE%\ualib` directory. For example:

```
c:\server\GemConnect2.1+oracle9i-x86.Windows_NT\ualib>
copy oraapi21-32.dll %GEMSTONE%\ualib
```

If you prefer, you can do this copy using the Windows Explorer GUI.

Step 6. Check the shared library file protection settings.

Check that GemConnect users have access to GemConnect directories and all the directories above them in the directory tree.

Make sure that the files have the appropriate permissions for your site.

Add GemConnect to your GemStone Repository

You add GemConnect to your existing GemStone repository with the following steps.

Note

The following examples assume a GemStone/S v6.1.5 server. Use the appropriate default names for your server installation. The procedure is the same for all server products and versions.

Step 1. Back up your GemStone repository.

Before you begin the upgrade, make sure a current backup of your GemStone repository exists. If you need to make one, use the GemStone backup method described in the *System Administration Guide*.

Step 2. Ask users to log off GemStone.**Step 3.** Check to be sure a GemStone network server (NetLDI) process is running.

To create a NetLDI service with the default name of `netldi61`, type the following command at a Windows NT command prompt:

```
c:\> netldi create
```

To start a NetLDI process on your workstation, type the following command at a Windows command prompt:

```
c:\> netldi start
```

For information about additional options for the `netldi` commands, see the *System Administration Guide*.

Step 4. Log in to the GemStone server as SystemUser, using linked Topaz. For instance:

```
c: /> topaz -l
topaz> set gemstone gemserver61
topaz> set user SystemUser password swordfish
topaz> login
[Info]: LNK client/gem GCI levels = 33/33
[Info]: User ID: SystemUser
[Info]: Repository: gemserver61
[Info]: Session ID: 3
successful login
topaz 1>
```

WARNING:

*Logging in to GemStone as SystemUser is like logging in to your workstation as root—an accidental modification to a kernel object can cause a great deal of harm. Use the DataCurator account for all system administration functions except those that **require** SystemUser privileges, such as upgrades and full restores.*

File In the New Classes**Step 5.** File in the GemConnect for Oracle classes and methods, using the following Topaz command line:

```
topaz 1> input gsoraapi.gs
```

Step 6. Check for errors in the upgrade.

The number of errors will appear at the end of the file-in process. The error line should look similar to the following:

```
topaz 1> obj ErrorCount
0
```

If the number is greater than zero, please contact GemStone Technical Support.

Step 7. Log out of GemStone.

```
topaz 1> logout
```

Step 8. Leave Topaz and return to the operating system prompt.

If you want to do something else in Topaz, reset the user name, unless you want to be SystemUser, and type the **login** command again. Otherwise, type **quit** to return to an operating system prompt.

```
topaz> quit
```

This completes the GemStone repository upgrade procedure. GemConnect is now installed and ready for use with your GemStone system.

Installed Files and Directories

This section contains a table that shows the directories and files installed by the GemConnect installation process.

Table 2 shows the directories and files installed under the GemConnect installation directory.

Table 2. Files in GemConnect installation

Directory	File Name	Function
	PACKING	Packing file for GemConnect
	verora.txt	GemConnect version information
make	Makefile32	Makefile to rebuild shared library for GemStone/S
make	gsrdbapi.hf	Exported functions and variables for the GemConnect interface (header file)
make	gsrdbapi.ht	Exported types and definitions for the GemConnect interface (header file)
make	gsoraapi.gs	GemStone Smalltalk source code for GemConnect for Oracle
make	gsoraapi.ht	Exported Oracle types and definitions for rebuilding the user-action library (header file)
make	gsorapublic.c	Public source module for adding functionality
make	liboraapi21-32.lib	Used to relink shared library (archive library) for GemStone/S
make	patchlevel.h	Patch level and version information for GemConnect
ualib	oraapi21-32.dll	User action shared library for GemStone/S