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GemStone®

# *GemBuilder® for Smalltalk Installation Guide*

For Instantiations VA Smalltalk Environment

Version 5.4.1

October 2012

vmware®

GEMSTONE<sup>™</sup>  
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GemStone software is covered by U.S. Patent Number 6,256,637 "Transactional virtual machine architecture", Patent Number 6,360,219 "Object queues with concurrent updating", Patent Number 6,567,905 "Generational garbage collector with persistent object cache", and Patent Number 6,681,226 "Selective pessimistic locking for a concurrently updateable database". GemStone software may also be covered by one or more pending United States patent applications.

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## About This Documentation

This document explains how to install GemBuilder® for Smalltalk version 5.4.1. This documentation is also available on the GemStone Technical Support website.

For information regarding new features and changes in this release of GemBuilder for Smalltalk, please refer to the *GemBuilder for Smalltalk Release Notes* for version 5.4.1.

## Terminology Conventions

The term “GemStone” is used to refer to the server products GemStone/S 64 Bit and GemStone/S; and may also be used to refer to the company, previously GemStone Systems, Inc., now a division of VMware, Inc.

## Technical Support

### GemStone Website

<http://support.gemstone.com>

GemStone’s Technical Support website provides a variety of resources to help you use GemStone products:

- ▶ Documentation for released versions of all GemStone products, in PDF form.
- ▶ Downloads and Patches, including past and current versions of GemBuilder for Smalltalk.
- ▶ Bugnotes, identifying performance issues or error conditions you should be aware of.
- ▶ TechTips, providing information and instructions that are not otherwise included in the documentation.
- ▶ Compatibility matrices, listing supported platforms for GemStone product versions.

This material is updated regularly; we recommend checking this site on a regular basis.

## Help Requests

You may need to contact Technical Support directly, if your questions are not answered in the documentation or by other material on the Technical Support site. Technical Support is available to customers with current support contracts.

Requests for technical support may be submitted online, or by email or by telephone. We recommend you use telephone contact only for serious requests that require immediate attention, such as a production system down. The support website is the preferred way to contact Technical Support.

**Website:** <http://techsupport.gemstone.com>

**Email:** [techsupport@gemstone.com](mailto:techsupport@gemstone.com)

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

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. Please also open a ticket on the website, and include error and log information. Non-emergency requests received by telephone will be placed in the normal support queue for evaluation and response.

When submitting a request, please include the following information:

- ▶ Your name, company name, and GemStone server license number.
- ▶ The versions of all related GemStone products, and of any other related products, such as client Smalltalk products.
- ▶ The operating system and version you are using.
- ▶ A description of the problem or request.
- ▶ Exact error message(s) received, if any, including log files if appropriate.

GemStone Technical Support is available from 8am to 5pm Pacific Time, Monday through Friday, excluding VMware/GemStone holidays.

## 24x7 Emergency Technical Support

GemStone Technical Support 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, for issues impacting a production system. For more details, contact your GemStone account manager.

## Training and Consulting

Consulting is available to help you succeed with GemStone products. Training for GemStone software is available at your location, and training courses are offered periodically at our offices in Beaverton, Oregon. Contact your GemStone account representative for more details or to obtain consulting services.

## ***Chapter 1. Installation***

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# Installation

This document describes how to install GemBuilder for Smalltalk v5.4.1.

Please review the *GemBuilder for Smalltalk Release Notes* for details of the changes, before upgrading to this version.

This version of GemBuilder for Smalltalk is compatible only with GemStone/S 64 Bit 3.x. Support for 32-bit GemStone/S, and for earlier versions of GemStone/S 64 Bit, are provided in separate releases.

Version 5.4.1 of GemBuilder for Smalltalk supports VA Smalltalk only.

Installing GBS is a multi-step process:

1. Ensure that your system has the necessary GemStone server version, operating system version, and client Smalltalk version.
2. Import the GemBuilder for Smalltalk configuration map into your ENVY repository.
3. Load the GemBuilder for Smalltalk code into your Smalltalk image.
4. Set up access to the server shared library files and configure GBS to locate these libraries.
5. Test the installation.

## System Requirements

### Operating system

Supported operating systems are listed in Table 1.

### Client Smalltalk

This version of GBS is supported with the 32-bit VA Smalltalk environment, as listed in listed in Table 1.

### GemStone Server

Supported GemStone/S 64 Bit 3.x platforms are listed in Table 1.

### GemStone Server Shared Library Files

GemBuilder for Smalltalk requires access to a set of shared library files that are compatible with the specific GemStone/S server product and version.

The required libraries must be for the platform on which GBS will be running, regardless of the platform on which the server is running. With 32-bit VA Smalltalk, you must use 32-bit shared libraries.

Details of the required libraries are listed in Table 2 on page 10.

**Table 1 Supported GemStone/S 64 Bit Server versions - RPC logins only**

	VA Smalltalk 8.5.2	VA Smalltalk 8.5	VA Smalltalk 8.0.3
<b>Windows 2008 (64-bit)</b>	3.1.0.1	3.1.0.1	3.1.0.1
<b>Windows 7 (64-bit)</b>	3.1.0.1	3.1.0.1	3.1.0.1
<b>Windows XP, SP 1 or later (32-bit)</b>	3.1.0.1	3.1.0.1	3.1.0.1

## Installation Process

### Unzip GBS Distribution

GemBuilder for Smalltalk is provided in zipped form. Prior to following the installation instructions, unzip the distribution.

The GemBuilder for Smalltalk distribution includes the following:

**gbs5.4.1.dat** – The GemBuilder for Smalltalk ENVY data file.

A directory named **docs** that contains the product documentation in PDF form:

**GBS-UsersGuide-VA-5.4.pdf** (unchanged from previous release)

**GBS-ReleaseNotes-5.4.1.pdf**

**GBS-InstallGuide-5.4.1.pdf**

## Loading GBS into Your Development Environment

Installing GemBuilder for Smalltalk is a two-step process:

- ▶ Import the GemBuilder for Smalltalk configuration map into your ENVY repository.
- ▶ Load GemBuilder for Smalltalk from your ENVY repository into your image.

### Importing into your ENVY Repository

You need to perform this procedure only once per ENVY repository. You can then load GBS from that repository into any number of Smalltalk client images.

1. Start a client Smalltalk image which does not have any previous versions of GemBuilder for Smalltalk loaded.
2. In the Configuration Maps Browser, choose **Names > Import > Selected Versions...**
3. A dialog will open requesting **Enter the IP address or host name of the server.** Leave the field blank and click on **OK.**
4. In the resulting dialog, navigate to the GBS distribution location and select the file `gbs5.4.1.dat`.
5. Click **Open.**
6. In the Name pane on the left, select the `GBSGemBuilder` configuration map to import.
7. In the middle versions pane, select version `5.4.1`, and click **>>** to move it to the Selected versions pane on the right.
8. Click **OK** or **Accept.**
9. Check in the Configuration Maps Browser to ensure that the configuration map was imported.

### Loading into an Image

1. Start a client Smalltalk image which does not have any previous versions of GemBuilder for Smalltalk loaded.
2. From a Configuration Maps Browser, select the newly imported `GBSGemBuilder` map in the Names pane on the left. Version `5.4.1` appears in the middle Editions and Versions pane.
3. In the Editions and Versions pane, select `5.4.1` and choose the menu item **load** to load the configuration map.
4. Save your image.

## Setup Server Shared Library Access

To allow GBS to login to the GemStone/S server, the correct shared libraries must be available and GBS must be configured to find these libraries. There are a number of options on where to locate the shared libraries and how to configure GBS to access them. Depending on these decisions, you may also need to update the machine library path %PATH%.

### Client libraries from the GemStone server product

The shared libraries are distributed with the GemStone/S server product, as part of the GemStone/S 64 Bit Windows installation. This installation provides a limited subset of server functionality, including topaz and gslis as well as the client shared libraries.

The GemStone/S 64 Bit Windows installation is provided with a distribution name similar to **GemBuilderC3.1.0.1-x86.Windows\_NT.zip**. For details on installing this, see the *Installation Guide* for your server version.

If you do not need the other utilities distributed with the GemStone/S 64 Bit Windows installation, you may copy only the libraries you need.

- ▶ You may copy these libraries to the working directory of your VA-Smalltalk image or to the bin directory of your VA Smalltalk installation.
- ▶ You may copy these libraries to an existing directory on the machine search path %PATH%.
- ▶ You may create a new directory, copy the libraries to this location, and add this directory to the machine search path.
- ▶ You may copy these shared libraries to another location, not on the path, and specify the absolute path and filename of the library using `libraryName:` or via the GBS dialog.

The names and locations within the server distribution are different for different server products, server product versions, operating systems. The required libraries for v3.1.0.1 are listed in Table 2.

**Table 2 32-bit Shared Library Names**

Server product and Version	Windows Client Shared Libraries
<p style="text-align: center;"><b>GemStone/S 64 v3.1.0.1</b></p>	<p>In %GEMSTONE%\bin: libgcirpc-3.1.0.1-32.dll libssl-3.1.0.1-32.dll msvcr90.dll</p>

## Configure GBS to locate the correct shared libraries

GBS uses the configuration parameter `libraryName` to identify the specific library to be loaded. This parameter can be set to just the name, or the full path and name of the library.

While only one specific library name is set by this parameter, other shared library files that are listed in Table 2 must be available, usually in the same location, in order for the library load to succeed and logins to work.

There are a number of ways to specify the library file that should be loaded:

- ▶ Set `libraryName` to the full path and file name of the client library file. For example, for clients logging into GemStone/S 64 Bit v3.1.0.1:

```
GbsConfiguration current libraryName:  
'InstallDir\GemBuilderC3.1.0.1-x86.Windows_NT\bin\libgcirpc-  
3.1.0.1-32.dll'
```

This does not require the library be on the `%PATH%`.

- ▶ Set `libraryName` to the file name of the client library file. For example, for clients logging into GemStone/S 64 Bit v3.1.0.1:

```
GbsConfiguration current libraryName:  
'libgcirpc-3.1.0.1-32.dll'
```

This requires that the library be in a directory on the `%PATH%`, in the current working directory, or in the VA Smalltalk executable directory.

- ▶ Use the GemBuilder Settings dialog browse button to select the library name and path. Navigate to the location of the shared library and select the file. The dialog provides filename filtering, so only valid library names will appear. Selecting a file will set `libraryName` to the full path selected.

## Save Image with `libraryName`

To preserve your `libraryName` setting, you may wish to save your image.

The `libraryName` setting controls the shared library that is loaded the first time GemStone server code is accessed after image startup. If you have a client library loaded in your image, changing the `libraryName` has no effect. If later, you want to use a different shared library (for example, to log in to a different server product or version), you will need to update the `libraryName` and save and restart the image.

## Verify installation by logging into the GemStone server

Once the shared libraries are loaded, you should test your installation by logging into the GemStone/S 64 Bit server. You will need to ensure that the Stone repository monitor, and a NetLDI (if necessary), are accessible.

See the GemBuilder for Smalltalk User's Guide, Chapter 11, for instructions on logging into the GemStone server.

Note that GemStone/S 64-bit v3.1 and later uses SRP (Secure Remote Password) and SSL to initiate login and authenticate passwords for RPC logins, and for all communication between GBS clients and gem processes that are on separate machines. See the GemStone/S 64 Bit System Administration Guide for more information.