

---

GemStone®

# *GemBuilder for Smalltalk Installation Guide*

For Instantiations VA Smalltalk Environment

Version 5.3

October 2008

GEMSTONE ™

---

## INTELLECTUAL PROPERTY OWNERSHIP

This documentation is furnished for informational use only and is subject to change without notice. GemStone Systems, Inc. assumes no responsibility or liability for any errors or inaccuracies that may appear in this documentation.

This documentation, or any part of it, may not be reproduced, displayed, photocopied, transmitted, or otherwise copied in any form or by any means now known or later developed, such as electronic, optical, or mechanical means, without express written authorization from GemStone Systems, Inc.

Warning: This computer program and its documentation are protected by copyright law and international treaties. Any unauthorized copying or distribution of this program, its documentation, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted under the maximum extent possible under the law.

The software installed in accordance with this documentation is copyrighted and licensed by GemStone Systems, Inc. under separate license agreement. This software may only be used pursuant to the terms and conditions of such license agreement. Any other use may be a violation of law.

Use, duplication, or disclosure by the Government is subject to restrictions set forth in the Commercial Software - Restricted Rights clause at 52.227-19 of the Federal Acquisitions Regulations (48 CFR 52.227-19) except that the government agency shall not have the right to disclose this software to support service contractors or their subcontractors without the prior written consent of GemStone Systems, Inc.

This software is provided by GemStone Systems, Inc. and contributors "as is" and any expressed or implied warranties, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose are disclaimed. In no event shall GemStone Systems, Inc. or any contributors be liable for any direct, indirect, incidental, special, exemplary, or consequential damages (including, but not limited to, procurement of substitute goods or services; loss of use, data, or profits; or business interruption) however caused and on any theory of liability, whether in contract, strict liability, or tort (including negligence or otherwise) arising in any way out of the use of this software, even if advised of the possibility of such damage.

## COPYRIGHTS

This software product, its documentation, and its user interface © 1986-2008 GemStone Systems, Inc. All rights reserved by GemStone Systems, Inc.

## PATENTS

GemStone is covered by U.S. Patent Number 6,256,637 "Transactional virtual machine architecture", Patent Number 6,360,219 "Object queues with concurrent updating", and Patent Number 6,567,905 "Generational Garbage Collector". GemStone may also be covered by one or more pending United States patent applications.

## TRADEMARKS

**GemStone**, **GemBuilder**, **GemConnect**, and the GemStone logos are trademarks or registered trademarks of GemStone Systems, Inc. in the United States and other countries.

**UNIX** is a registered trademark of The Open Group in the United States and other countries.

**Sun**, **Sun Microsystems**, **Solaris**, and **SunOS** are trademarks or registered trademarks of Sun Microsystems, Inc. All **SPARC** trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. **SPARCstation** is licensed exclusively to Sun Microsystems, Inc. Products bearing SPARC trademarks are based upon an architecture developed by Sun Microsystems, Inc.

**HP** and **HP-UX** are registered trademarks of Hewlett Packard Company.

**Intel** and **Pentium** are registered trademarks of Intel Corporation in the United States and other countries.

**Microsoft**, **MS**, **Windows**, **Windows 2000** and **Windows XP** are registered trademarks of Microsoft Corporation in the United States and other countries.

**Linux** is a registered trademark of Linus Torvalds and others.

**Red Hat** and all Red Hat-based trademarks and logos are trademarks or registered trademarks of Red Hat, Inc. in the United States and other countries.

**AIX** and **POWER4** are trademarks or registered trademarks of International Business Machines Corporation.

Other company or product names mentioned herein may be trademarks or registered trademarks of their respective owners. Trademark specifications are subject to change without notice. All terms mentioned in this documentation that are known to be trademarks or service marks have been appropriately capitalized to the best of our knowledge; however, GemStone cannot attest to the accuracy of all trademark information. Use of a term in this documentation should not be regarded as affecting the validity of any trademark or service mark.

### **GemStone Systems, Inc.**

1260 NW Waterhouse Avenue, Suite 200  
Beaverton, OR 97006

---

## Preface

This document explains how to install GemBuilder for Smalltalk® version 5.3. This information is also available on the GemStone customer website.

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

## Typographical Conventions

This document uses the following typographical conventions:

- ▶ Commands and user input are shown in **bold** typeface. For example:

**copydbf**

- ▶ Smalltalk methods, environment variables, file names and paths, and screen dialogue examples 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:

execute: *aString*

## 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 GemBuilder for Smalltalk is provided in PDF format. This is the same documentation that is included with your GemBuilder for Smalltalk 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 Links** provide 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 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](mailto: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.



---

*Contents*

***Chapter 1. Installation***

System Requirements . . . . . 2  
Distribution Files. . . . . 2  
Shared Library Files . . . . . 3  
Loading GBS into Your Development Environment . . . . . 3  
    Importing into your ENVY Repository . . . . . 3  
    Loading into an Image . . . . . 4  
Test Your Installation by Logging into GemStone . . . . . 4





# Installation

Version 5.3 of GemBuilder for Smalltalk supports VA Smalltalk only. It does not support VisualWorks; VisualWorks support is provided in a separate release.

This version of GemBuilder for Smalltalk is compatible only with GemStone/S 64 Bit 2.x. If you are using GemStone/S, or GemStone/S 64 Bit 1.x, you cannot upgrade to this version of GBS.

For details on changes in this version of GemBuilder for Smalltalk, see the *GemBuilder for Smalltalk Release Notes*.

Installing GemBuilder for Smalltalk is a five-step process:

1. Ensure that your system has the necessary disk space, RAM, GemStone object server version, operating system version, and a supported client Smalltalk version.
2. Copy the GemBuilder for Smalltalk files to the desired directory.
3. Ensure that the shared library files can be found in your path.
4. Load the GemBuilder for Smalltalk code into your Smalltalk image.
5. Test the installation.

## System Requirements

### Disk space

- ▶ Unzipping the distribution file will require 13 megabytes.
- ▶ Shared library files require approximately 1.5 megabytes of free disk space.
- ▶ Installing GemBuilder for Smalltalk into your ENVY repository will increase its size by approximately 9 megabytes.
- ▶ Adding GemBuilder for Smalltalk to your Smalltalk image adds about 2 MB to the image file size.

### RAM

Logging into a GemStone server requires a Gem session, which is a component of the GemStone server. With GemStone/S 64 Bit, the Gem session will be a separate RPC Gem process, running on a platform supported by GemStone/S 64 Bit. Consult the GemStone/S 64 Bit documentation for memory requirements for Gem processes.

### Operating system

Operating systems are listed in Table 1.

### GemStone server product

A supported GemStone/S 64 Bit version, installed on a network-accessible host. GemBuilder for Smalltalk 5.3 supports GemStone/S 64 version 2.2.5.4 and later only.

The following table lists the supported operating system, client Smalltalk, and GemStone server version configurations for this version of GBS.

**Table 1 GemStone/S shared library versions compatible with GBS 5.3 on each platform and client Smalltalk**

	Windows XP, Service pack 1 or later	Windows 2003	Windows Vista
<b>Instantiations VA Smalltalk 7.0.1</b>	GemStone/S 64 Bit 2.2.5.4 and 2.3 (RPC logins only)	GemStone/S 64 Bit 2.2.5.4 and 2.3 (RPC logins only)	
<b>Instantiations VA Smalltalk 7.5.2</b>	GemStone/S 64 Bit 2.2.5.4 and 2.3 (RPC logins only)	GemStone/S 64 Bit 2.2.5.4 and 2.3 (RPC logins only)	GemStone/S 64 Bit 2.3 (RPC logins only)

## Distribution Files

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:

**gbs5.3.dat** — The GemBuilder for Smalltalk ENVY data file.

A directory named **docs** that contains online copies of the printed documentation in the form of searchable PDF files:

GemBuilder\_VA.pdf (unchanged from previous releases)  
 GBS-ReleaseNotes-5.3.pdf  
 GBS-InstallGuide-5.3.pdf

## Shared Library Files

GemBuilder for Smalltalk 5.3 requires access to a set of shared library files that are compatible with the specific GemStone/S 64 Bit version.

The detailed instructions on configuring the shared libraries to work with your GemStone/S 64 Bit server product are provided in the Installation Guide for GemStone/S 64 Bit.

1. Copy the shared library files to the appropriate location, per the instructions in the Installation Guide for GemStone/S 64 Bit.
2. Ensure that your library search path includes the directory to which they were copied, and that your client has read and execute privileges on these files.
3. By default, GBS loads the shared library named `libgcirpc.dll`, and as long as the library can be located, you do not need to do anything further.

If you want to explicitly specify the name of the shared library, you can set *libraryName* to the name of the shared library, which is provided in Table 2. This is described in the section “Test Your Installation by Logging into GemStone” on page 4.

**Table 2 Shared Library Files for Windows**

Server Product and version	Shared Library Files
GemStone/S 64 Bit 2.2.5.4	<code>libgcirpc.dll</code> <code>libgcirpc64-225.dll</code>
GemStone/S 64 Bit 2.3	<code>libgcirpc.dll</code> <code>libgcirpc64-230.dll</code>

## Loading GBS into Your Development Environment

Installing Gembuilder for Smalltalk is a two-step process:

1. Import the GemBuilder for Smalltalk configuration maps into your ENVY repository.
2. 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 `gbs5.3.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 `5.3`, 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 maps were imported.
10. Quit the image if you wish (you need not save it), or proceed to the next task.

## 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 `5.3` appears in the middle Editions and Versions pane.
3. In the Editions and Versions pane, select `5.3` and choose the menu item **load** to load the configuration map.
4. Save your image.

You may find it helpful to create an additional copy of this GBS image to use as a backup during application development.

## Test Your Installation by Logging into GemStone

1. If you have not already done so, start a GemStone server (`stone` process) and NetLDDI process on the server host. For example:

```
% startstone gs64stone
...
% startnetldi
...
```

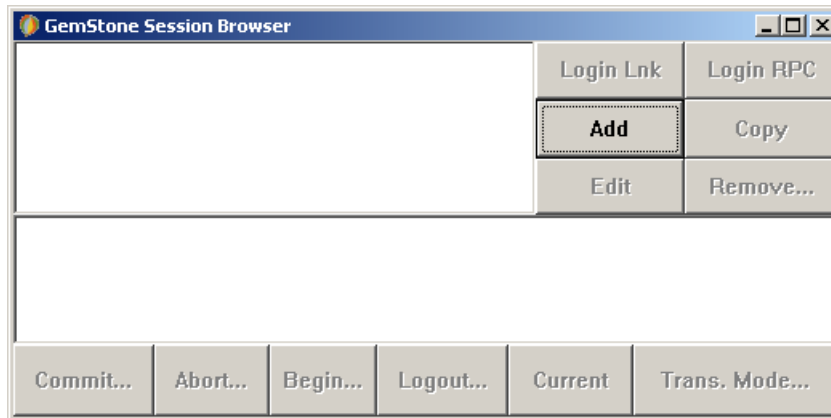
2. Start your client Smalltalk using the image into which you have loaded GemBuilder for Smalltalk.
3. Optionally, set the `GbsConfiguration` parameter *libraryName* to the name of the appropriate shared library. When left at the default, an empty string, GBS attempts to load the library named `libgcirpc.dll`, which is correct for all supported platforms for GemBuilder for Smalltalk version 5.3. The library names are listed in Table 2. You may set the *libraryName* by executing:

```
GbsConfiguration current libraryName: 'libraryname'
```

Alternatively, `libraryName` can be set using the Settings tool. Selecting **GemStone > Tools > Settings**, and go to the tab **Server Communication**.

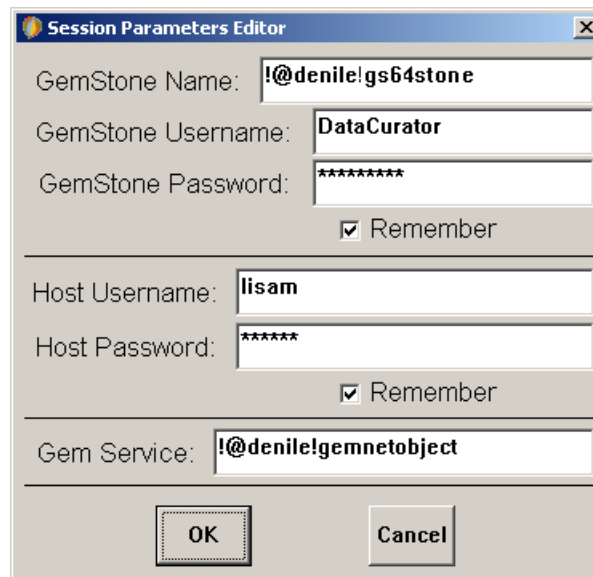
4. Select **GemStone > Sessions**.

**Figure 1 The Session Browser Before Adding a Session**



5. Select the **Add** button to add a set of session parameters. A Session Parameters Editor dialog opens, prompting you for the session parameters (Figure 2).

**Figure 2 The Session Parameters Editor**



6. Fill in the session parameters:

**GemStone repository:** provide the name of the Stone process that you started running in Step 1. For a Stone running on a remote server, be sure to include the

server's hostname in Network Resource String (NRS) format. For example, for a Stone process called 'gs64Stone' running on node 'denile', specify the NRS string:

```
!@denile!gs64stone
```

**GemStone username:** Your GemStone username, such as DataCurator.

**GemStone password:** Your GemStone password. Click on **Remember** if you do not wish to supply this password each time you log in. When this is set, the password is stored in the client image.

**Host username:** Supply the username for your account on the server host.

**Host password:** The password for your account on the server. Again, click on **Remember** if you do not wish to supply this password each time you log in. When this is set, the password is stored in the client image.

*NOTE*

*If you start your NetLDI process in guest mode (startnetldi -g), you do not need to supply a host username and password.*

**Gem Service:** Specify gemnetobject. For a remote Gem process, you must provide the Gem host name in NRS format. For example,

```
!@denile!gemnetobject
```

For NetLDI processes with names other than the default, insert the NetLDI name or port number as well:

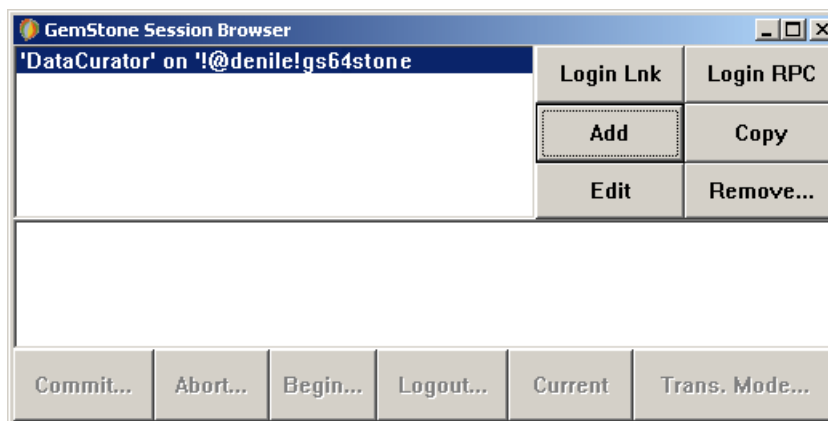
```
!@denile#netldi:<processNameOrPort>!gemnetobject
```

For more information on Network Resource Strings, see the *GemBuilder for Smalltalk User's Guide*.

When you're done, click **OK**. The dialog closes, and the session parameters you have provided appear in the top left pane of the Session Browser.

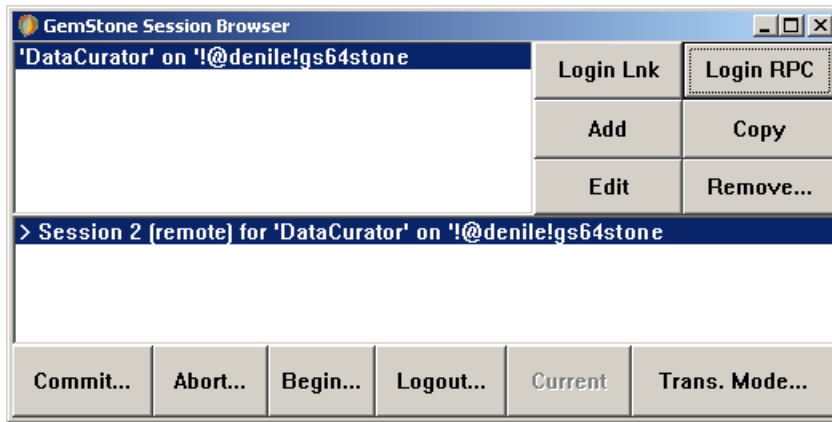
7. In the Session Browser, select the newly-defined session parameters (Figure 3) and click on **Login RPC** to log in to GemStone.

**Figure 3 The Session Browser Before Login**



8. A successful login results in the session information appearing in the lower pane of the Session Browser, with the bottom row of buttons enabled (Figure 4).

**Figure 4 The Session Browser After Login**



9. Successfully logging in to GemStone verifies that your GBS installation is complete. To end the session, click **Logout**. If you wish to save your session parameters, save your Smalltalk image when you exit.

If the login attempt did not succeed, see your GemBuilder for Smalltalk User's Guide for details on login parameters. Highlight the session parameters in the upper pane of the browser and select **Edit** to change your settings and try again.

