Sparkle Pharo IDE for GemStone/S 64 Bit™

DRAFT ReadMe and Install Guide

Version 1.0 Alpha 1

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PATENTS

GemStone software is or has been covered by U.S. Patent Number 6,256,637 "Transactional virtual machine architecture" (1998-2018), Patent Number 6,360,219 "Object queues with concurrent updating" (1998-2018), Patent Number 6,567,905 "Generational garbage collector with persistent object cache" (2001-2021), and Patent Number 6,681,226 "Selective pessimistic locking for a concurrently updateable database" (2001-2021).

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DRAFT ReadMe and Install Guide for 1.0 Alpha 1

Overview

Sparkle 1.0 Alpha 1 is a development version of the Pharo IDE for GemStone project, which provides GemStone development tools in the Pharo client Smalltalk environment.

This initial version of Sparkle provides a very limited set of development tools:

▶ a login dialog, allowing you to create login configuration parameters and login; you may also edit, persist, and restore the login configurations.

▶ Object inspectors, allowing you to examine the contents of GemStone server objects.

▶ a debugger, allowing you to view the debugger call stack and examine objects.

Sparkle is under active development and information in this document is likely become out of date without notice.

See the project on github: https://github.com/GemTalk/Sparkle

Requirements

With Sparkle, you must use GemStone/S 64™ Bit v3.7, which has some additional features that are required for Sparkle support. v3.7 is not released, but alpha builds are available.

You should have GemStone v3.7 installed on a supported Linux server, with a Stone running and available for use.

For the Pharo client, you should have a Windows environment in which you will install Pharo. You may install the Pharo client on Linux, the instructions are similar; this is not described in this ReadMe.

Pharo 9 is under active development and not all updates are stable. The current build in use is 1134.

Client Installation on Windows

The following instructions are for the Sparkle client, which is expected to be run on Windows. The instructions should work on Linux clients as well.

Pharo Installation

1. Download the installer for the given platform from https://pharo.org/download, and install.

2. Run PharoLauncher to open the Launcher.

3. Click on ✳ **New**.

4. In the Template Category list, select **Pharo 9.0 (development version)**. Note that the desired download is not under Official Distributions.

5. Select the specific build (currently 1134); this may require scrolling through more recent build numbers. Be sure you select the 64-bit image.

6. Select ✳ **Create image**. This will create a new Pharo image based on the selected template.

7. Use the right-click menu item ▶ **Launch** to launch the image.

Clone Sparkle from GitHub

On the client, you need to clone RemoteServiceReplication in addition to Sparkle.

1. Create or choose a directory for Git clones, and set the environment variable %ROWAN_PROJECTS_HOME% to point at that directory.

2. Clone https://github.com/GemTalk/RemoteServiceReplication.git to ROWAN_PROJECTS_HOME/RemoteServiceReplication

3. Clone https://github.com/GemTalk/Sparkle.git to ROWAN_PROJECTS_HOME/Sparkle

Install Sparkle in Pharo

1. Ensure that the %ROWAN_PROJECTS_HOME% instance variable is defined in the environment from which the Pharo VM will be launched.

2. Launch the Pharo 9.0 build 1134 image.

3. Open the Settings Browser using **Pharo > Settings**, select **Appearance**, and expand the list. Change the **UserInterfaceTheme** to "Pharo Dark." Sparkle is not yet themed and some color combinations are difficult to read in the light theme.

4. Open Iceberg using **Browse > Iceberg**.

5. In the Iceberg repository list window, click **+ Add** in the upper right.

6. Select **Import from existing clone**.

7. Click the folder icon to open a file selection dialog, and navigate to `%ROWAN_PROJECTS_HOME%\Sparkle`. Click OK.

8. Click on the OK button. Sparkle should appear in the Iceberg repository list.

9. Double-click on Sparkle to bring up the dialog titled "Working copy of Sparkle".

10. Right click on the item **BaselineOfSparkle** and select **Metacello > Install Baseline (default)**. (Not **Load**). Sparkle will load what it requires from the RemoteServiceReplication as well as Sparkle.

11. Save the image.

GemStone Server Installation on Linux

Install GemStone

1. Install GemStone/S 64 Bit v3.7. Note that v3.7 is under active development; versions other than the most recent may not work correctly.

2. Start a v3.7 Stone.

Pharo Installation

1. Download the installer for the given platform from https://pharo.org/download, and install.

2. Run the pharo-launcher to open the Launcher.

3. Click on ✳ **New**.

4. In the Template Category list, select **Pharo 9.0 (development version)**. Note that the desired download is not under Official Distributions.

5. Select the specific build (currently 1134); this may require scrolling through more recent build numbers. Be sure you select the 64-bit image.

6. Select ✳ **Create image**. This will create a new Pharo image based on the selected template.

7. Use the right-click menu item ▶ **Launch** to launch the image.

Clone Sparkle from GitHub

1. Create or choose a directory for Git clones, and set the environment variable $ROWAN_PROJECTS_HOME to point at that directory.

2. Clone https://github.com/GemTalk/Sparkle.git to ROWAN_PROJECTS_HOME/Sparkle

Install into GemStone on Linux

1. Go to a command shell that:
   ‣ has defined $GEMSTONE to the GemStone/S 64 Bit v3.7 installation directory,
   ‣ has $GEMSTONE/bin on the $PATH, and
   ‣ has $ROWAN_PROJECTS_HOME defined.

2. Change to the Sparkle GemStone directory:

```
cd $ROWAN_PROJECTS_HOME/Sparkle/src-gs
```

3. Edit `loginSystemUser.topaz` to have the correct Stone name, and the password for SystemUser is set for your Stone.

4. execute the installation script:

    ```
    ./bootstrapSparkle.sh
    ```

    The result of the "errorcount" at the end of the output should be 0.

Sparkle is now installed in the GemStone server.

Login and Logout

Logging in

Login is a two-step process; you will launch a listening Gem on the GemStone server on Linux, and connect to this Gem from the Pharo client image on Windows.

On Linux, launch a gem that will listen for a connection from Pharo

Warning
This step will launch a gem that will listen for a connection on port 29299. At present, there is no security on that port.

1. Edit `$ROWAN_PROJECTS_HOME/Sparkle/src-gs/login.topaz` to have the correct stone name, user name, and password. You can use an unprivileged user for this, such as DataCurator. SystemUser is only required for installation.

2. Execute the listening gem launch script:

    ```
    ./server.sh
    ```

    You should see a "Starting to listen" message.

On Windows, connect to the server from Pharo

1. Open the Sparkle Connection Launcher window using the **Browse > Sparkle Connections Launcher** menu item.

2. Select the **Direct** tab on the right pane. Enter a name (the name is just for identification).

3. In the field below **Host:**, enter the hostname or IP address of the Linux host. Do not change the listening port, 29299, which is defined by the listening Gem on the server.

4. Click **+ Add** to add the new profile to your list of profiles.

5. Click the **Connect** button. A Sparkle Object Explorer window on nil will open.

Logging out

To logout, click the **Disconnect** button in the **Sparkle Connect** window. This will close the Sparkle Object Explorer and any other open server windows. You will need to restart the listening Gem on the server to login again.