

GAUSSTM 12

Quick Start Guide



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Introduction 1

Product Overview

GAUSS is a complete analysis environment suitable for performing quick calculations, complex analysis of millions of data points, or anything in between. Whether you are new to computerized analysis or a seasoned programmer, the GAUSS family of products combine to offer you an easy to learn environment that is powerful and versatile enough for virtually any numerical task.

Since its introduction in 1984, GAUSS has been a standard for serious number crunching and complex modeling of large-scale data. Worldwide acceptance and use in government, industry, and the academic community is a firm testament to its power and versatility.

Getting Started 2

Installation Under Linux/Solaris

1. Make a directory to install GAUSS in.
2. cd to that directory.
3. Unzip the .gz or .zip file if there is one.
4. Untar the .tar file.
5. In a terminal window at your GAUSS directory, run ./ginstall.
6. Put the installation directory in the executable path.
7. Put the installation directory in the shared library search path.
8. Install the license; please refer to Chapter 5: Licensing for instructions.

For last minute information, see README.term.

Installation Under Mac OS X

From Download

1. Download the file from your Premier Support site or from the download instructions provided by Aptech Systems.
2. Unzip the software in a temp directory.
3. Run GAUSS12_MacOSX_Installer.pkg by browsing to the folder where you saved the file and double-clicking on it to launch the installation process.
4. Install the license; please refer to Chapter 5: Licensing for instructions.

From CD

1. Insert the GAUSS 12 CD into the CD-ROM drive. Browse to the CD and double-click on the GAUSS12_MacOSX_Installer.pkg file.
2. Install the license; please refer to Chapter 5: Licensing for instructions.

Installation Under Windows

From Download

1. Download the file from your Premier Support site or from the download instructions provided by Aptech Systems.
2. Unzip the software in a temp directory.
3. Run GAUSS_12_Win*.msi by browsing to the folder where you saved the file and double-clicking on it to launch the installation process or by clicking on Start, then Run, browse to the folder where you saved the file, and click on GAUSS_12_Win*.msi.
4. Install the license; please refer to Chapter 5: Licensing for instructions.

From CD

1. Insert the GAUSS 12 CD into the CD-ROM drive. If the installation does not start automatically, browse to the drive where you have inserted the disc and double-click the GAUSS_12_Win*.msi file.
2. Install the license; please refer to Chapter 5: Licensing for instructions.

Documentation **3**

GAUSS Quick-Start Guide

- Introduction
- Getting Started
- Documentation
- Support Services
- Licensing

GAUSS User Guide

- Introduction
- Getting Started
- Introduction to the Graphical User Interface
- Navigating the Graphical User Interface
- Using the GAUSS Debugger
- GAUSS Graphics
- Using the Command Line Interface
- Language Fundamentals
- Operators
- Procedures and Keywords
- Random Number Generation in GAUSS
- Sparse Matrices
- N-Dimensional Arrays
- Working With Arrays
- Structures
- Run-Time Library Structures
- Multi-Threaded Programming in GAUSS
- Libraries
- Compiler

File I/O
Foreign Language Interface
Data Transformations
The GAUSS Profiler
Time and Date
ATOG
Error Messages
Maximizing Performance
Fonts Appendix
Publication Quality Graphics Appendix
Reserved Words Appendix
Singularity Tolerance Appendix

GAUSS Language Reference

Introduction
Commands by Category
Command Reference
Obsolete Commands Appendix
Colors Appendix

Ordering Documentation

Documentation in PDF format is available from our website at <http://www.Aptech.com>.

- GAUSS User Guide and Language Reference set (Part No. 008028)

For pricing information on printed documentation, please contact us at:

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E-mail for Government Sales: govsw@Aptech.com OR info@Aptech.com

Support Services 4

Contacting Our Support Services

To contact our support technicians under your Premier Support contract, please e-mail us at: support@Aptech.com and include the following information:

- Brief description of problem
- Operating system version (Windows 7, Vista, XP, RedHat, CentOS, SuSE, Ubuntu, Mac OS X, etc.)
- GAUSS version and revision number
- License ID of GAUSS
- Your phone number and/or email address
- Your name

Our contact information:

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Our Web address is: www.Aptech.com.

Licensing 5

Licensing Under Linux, Solaris and Mac

After you install GAUSS or the GAUSS Engine, go to the `gauss12` directory. If a file called `myhostid.txt` does not already exist, run the following command from a terminal window:

```
lm/./rlmhostid > hostid.txt
```

Send the resulting `hostid.txt` file to license@aptech.com along with your GAUSS serial number (found on the license certificate) and your completed registration form to request a license.

If you are requesting a floating network license, please include the hostname of your server, which can be either the friendly name of the computer or the IP address. You will be sent a license code with instructions for installing it. Save the license file in the main `gauss12` folder.

Licensing Under Windows

After you install GAUSS or the GAUSS Engine, go to the `gauss12` directory. If a file called `myhostid.txt` does not already exist, browse to the `res` folder under GAUSS or the GAUSS Engine 12 main folder and double-click on `linfo.exe`. This will generate the information needed to issue your license and display it on the screen as well as save it in a file called `linfo.txt` in the `res` folder. Send that information to license@aptech.com along with your GAUSS serial number (found on the license certificate) and your completed registration form to request a license. If you are requesting a floating network license, please include the hostname of your server, which can be either the friendly name of the computer or the IP address.

Aptech will send you a license with instructions for installing it. Save the license file in the main `gauss12` folder.

Floating Network Licenses

Licenses are not issued based on the hostid and hostname of the client machines, only on the hostid and hostname of the machine acting as the license server. Any machine may act as a license server so long as the client machines can ‘ping’ that machine to request license codes. For advanced instructions on setting up floating network licenses through a firewall, with special services, or to start up automatically at power up, see the RLM End User Manual available online at http://www.reprisesoftware.com/RLM_Enduser.html.

You can manage the license service from a browser window after the service by entering the IP address of the server followed by a colon (:) and 5054. For example, if the server IP address is 100.100.100.100, you would enter the URL as:

<http://100.100.100.100:5054>

From this window, you can check the status of the service, shutdown, reread/restart the service, switch reporting, new reporting, manage Windows services (Windows only), run diagnostics, etc.

More detailed information on the license manager used in GAUSS is available at <http://www.reprisesoftware.com/support/end-users.php>.

Important Information on Virtual Machines

If you wish to use a virtual machine as your license server, you **must** notify Aptech Systems at the time you request a license code. Reprise, the license manager used by GAUSS, requires a special license that enables use of a virtual machine as a license server; GAUSS will not work until this is issued.

Start License Server

1. Open a command prompt/terminal window and go to the `gauss12` directory (usually `C:\gauss12`). Run the following command to start the service:
`rlm.exe` (Windows) or
`./rlm` (Linux/Solaris/Mac)
2. Test by starting GAUSS on the Server.
3. Minimize the command window or follow the instructions in the RLM End User Manual for setting up GAUSS as a service. Closing the command window without starting GAUSS as a service will shut down the service.

Configure Clients

Copy the license file used for the server or create an abbreviated client license to the `gauss12` on each client workstation where GAUSS is installed. The client license needs to contain simply the word `HOST` and the hostname or IP address of the server. The name of the file should be `aptechclient.lic`. If you have specified ports in the server license, the client license will also need to include port information. You can choose to use a copy of the server license on the client machine or create a simplified client license that contains the word `HOST`, the hostname or IP address of the server, and the port specified in the first line of the server license, then on a separate line the word `ISV`, the word `aptech`, and the port specified on the second line of the server license.

GAUSS is now ready to run.

Firewall Information

Note that if a firewall exists between your server and client, you will need to specify ports in both the `HOST` line and `ISV` line of the license file and open those ports in order for the client machines to obtain licenses as well as create an empty options file in the same folder as the `rlm.exe` file with the name `aptech.opt`. Use Notepad or some other plain text editor to create an empty file and save it with that name.

In the license file, add the port you are opening at the end of the `HOST` line, then on the `ISV` line add the path to the `gauss.exe` file, the `aptech.opt` file, and the port you want the vendor daemon to use. For example, if the `rlm.exe`, `gauss.exe`, and `aptech.opt` files are all in the `gauss12` folder and you want the license manager and vendor daemon to use ports 10000 and 21000 respectively on a server named `GAUSSSERVER`, the first two lines of your license file would look something like this:

```
HOST GAUSSSERVER 0000123456ab 10000
ISV aptech gauss aptech.opt 21000
```

If you've placed the files referenced in the license somewhere other than the same directory where the `rlm` executable and license are located, include the full path in the `ISV` line (`c:\a\b\aptech c:\a\b\gauss c:\a\b\aptech.opt` on Windows, `/a/b/aptech /a/b/gauss a/b/aptech.opt` on Linux/Mac/Solaris).

In this case, put a copy of your server license on the client machines in order for them to access the license rather than creating a simplified client license.

Windows: Setting up RLM to Run as a Windows Service

Start rlm from a command prompt window so the service is running as indicated above in “Start License Server.” Minimize the window but do not close it.

Next, open a browser (Internet Explorer, Firefox, etc.). Enter

<http://100.100.100.100:5054>

(replace 100.100.100.100 with the actual IP address of your server)

This will bring up the RLM web server that will allow you to manage the license manager service. From this window, you can check the status of the service, shutdown, reread/restart the service, switch reporting, new reporting, manage Windows services, run diagnostics, etc. Note: It is advisable to set up an options file to limit or allow access to the web interface; details on how to do that are included in the RLM End User Manual at <http://www.reprisesoftware.com/support/end-users.php>.

This web interface is only available after the service has been started as indicated above.

On the left there is a button that says “Manage Windows Service.” Click that button to set up RLM to run as a Windows service.

Select the service action INSTALL service. Adjust the paths if needed to reflect how you have your system set up. Click Apply to install RLM as a Windows service. This will make RLM a service that can be started automatically, but it does not start the service yet; you will probably see a message to that effect come up now. Click Continue, then you can close the browser window.

Open up Windows Control Panel and select Administrative Tools, then select Services. Select RLM (or the name you gave the service above), then select the option to Start the service. The column “Status” should now say “Started,” and under “Startup Type” it should say “Automatic” for rlm. If it does not, right mouse click the rlm option and select Properties; you can change the startup type to Automatic on the General tab.

Now you should be able to close all windows including the command prompt window where you had RLM running and still start up GAUSS from either the icon or from a command prompt window. As long as the RLM service

More detailed information on the license manager used in GAUSS along with screen shots of the license manager screens is available at <http://www.reprisesoftware.com/support/end-users.php>.

Linux and Mac: Starting the RLM Server at System Boot Time

RLM can be configured to start up automatically at system boot time on both Linux and Mac systems. You will need to have root privileges and set up a script to do this. See [http://www.reprisesoftware.com /support/end-users.php](http://www.reprisesoftware.com/support/end-users.php) for detailed information on what is required and example scripts that can be used to do this.

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