TXB0661N

GridDB Standard Edition Installation Guide

Introduction

This manual describes the installation procedure and notes for GridDB Standard Edition.
Please read this manual before using GridDB Standard Edition.

There are three GridDB products, GridDB Standard Edition, GridDB Advanced Edition and GridDB Vector Edition. The database module settings and the provided operation tools are common to these products. So the manuals are also common to these products. They include the description about the functions only for GridDB Advanced Edition and/or GridDB Vector Edition, but those functions cannot be used on GridDB Standard Edition.

After finishing the installation by using RPM packages, please set up the database environment by referring to the GridDB Quick Start Guide (GridDB_QuickStartGuide.html).

Trademarks

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Chapter 1 Preparation

This chapter describes about the following items.

・Installation media, installer structure and files to be installed for GridDB Standard Edition

・Hardware and Software requirements to install GridDB Standard Edition

1. Installation media

The configuration of GridDB Standard Edition installation media is shown below.

Linux folder	RPMs for GridDB Standard Edition
Windows folder	JDBC and ODBC libraries for the developments on Windows
docs folder	Manuals
misc folder	Documents and RPM of socat supporting accesses from applications outside the subnetwork Documents about the method to cooperate with the integrated monitoring software “Zabbix” and the template
Readme.txt	Release notes
Fixlist.pdf	Records of module modifications

To use the functions of GridDB Standard Edition, it is required to install the RPMs under the Linux folder.

2. RPM

RPM format installers are provided for GridDB Standard Edition. The following RPMs are prepared for each installation target.

* **griddb-se-server-X.X.X-linux.x86_64.rpm** Server package
  A GridDB server module and operation commands for the server startup, backup and restore are included.

* **griddb-se-client-X.X.X-linux.x86_64.rpm** Client package
  Operation commands other than for the server startup, backup and restore are included with an integrated operation control GUI (gs_admin).

* **griddb-se-c_lib-X.X.X-linux.x86_64.rpm** C library package
  A header file (/usr/include/gridstore.h) and a library (/usr/lib64/libgridstore.so) for C programming language are included.

* **griddb-se-java_lib-X.X.X-linux.x86_64.rpm** Java library package
  A Java library (/usr/share/java/gridstore.jar) is included.

* **griddb-se-python_lib-X.X.X-linux.x86_64.rpm** Python library package
  A Python library (griddb_python_client) is included.

* **griddb-se-docs-X.X.X-linux.x86_64.rpm** Document package
  GridDB manuals, program samples and import data samples are included.

* X.X.X: Released version

The following describes about the installing behavior, the settings for each package, etc.

(1) Server package

At the installation of the server package, the following items are performed.

* Creation of an OS user to execute a GridDB server
* Registration of a GridDB service
* Creation of a home directory for GridDB
* Setting of environment variables
* Installation of a server module

- Creation of an OS user to execute a GridDB server

An OS user to execute a GridDB server, 'gsadm', is created by the following settings.

User name:	gsadm	User ID:	124
Group name:	gridstore	Group ID:	124

When the user is already created, nothing is performed.

- Registration of a GridDB service

A service to be started at booting the OS is registered.
The service name is gridstore. The service is set to be started automatically in the OS runlevels 3-5.

- Creation of a home directory for GridDB

A default directory is created to place databases and server startup parameters.
The structure of the GridDB home directory is as follows.

/var/lib/gridstore/

admin/	Directory which the integrated operation control GUI uses. (It is created at the installation of the client package.)
backup/	Default directory where the online backup command writes data.
conf/	Directory where environment definition files (gs_cluster.json, gs_node.json) for the GridDB execution and a user definition file (password) for the authentication are stored.
data/	Directory to store persistent GridDB data (database).
log/	Directory to store server, command and message logs.
webapi/	Directory which the GridDB Web API uses. (It is created at the installation of the client package.)

- Setting of environment variables

The following environment variables are set up in the file '.bash_profile' for user 'gsadm'.

The variable to indicate the home directory:	GS_HOME	(default: /var/lib/gridstore)
The variable to indicate the log directory:	GS_LOG	(default: /var/lib/gridstore/log)

When the '.bash_profile' exists already, nothing is performed.

- Installation of a server module

Server module, server commands, templates of the definition files and licenses of free software are stored under the '/usr/griddb'. Symbolic links of the module and the commands are created under the '/usr/bin' or the '/usr/etc'.

(2) Client package

The following items are performed in installing the client.

* Creation of an OS user to execute a GridDB server
* Setting of environment variables
* Installation of a client module
* Installation of an integrated operation control GUI
* Installation of a Web API module

- Creation of an OS user to execute a GridDB server

An OS user to execute a GridDB server, 'gsadm', is created by the following settings.

User name:	gsadm	User ID:	124
Group name:	gridstore	Group ID:	124

When the user is already created, nothing is performed.

- Setting of environment variables

The following environment variables are set up in the file '.bash_profile' of the user 'gsadm'.

The variable to indicate the home directory:	GS_HOME	(default: /var/lib/gridstore)
The variable to indicate the log directory:	GS_LOG	(default: /var/lib/gridstore/log)

When the '.bash_profile' exists already, nothing is performed.

- Installation of a client module

The client commands are registered under the '/usr/griddb'. A symbolic link for the program is created under the '/usr/bin'.

The configuration files for the command 'gs_import', 'gs_export' and 'gs_sh' are created under the '/usr/griddb/prop'.

- Installation of an integrated operation control GUI

The Web application (a war file) of the integrated operation control GUI is created under the '/usr/griddb/web'.
The war file is used for deploying the application by a Web application server. See the GridDB Operation Control Guide (GridDB_OperationGuide.html) for the details.

- Installation of a Web API module

The Web application (a war file) of the Web API is created under the '/usr/griddb/webapi'.
The war file is used for deploying the application by a Web application server. See the GridDB Web API Guide (GridDB_Web_API_Guide.pdf) for the details.

(3) C library package

At the installation of the C library, the library is created under the '/usr/griddb/lib' and the symbolic links are created under the '/usr/include' and '/usr/lib64'. And the shared libraries are registered.

(4) Java library package

At the installation of the Java libraries, the libraries are created under the '/usr/griddb/lib' and the symbolic links are created under the '/usr/share/java'.

(5) Python library package

At the installation of the Python library, the library is created under the '/usr/griddb/lib/python'. It is separately needed to install a Python package by using the library.

(6) Document package

At the installation of the document package, the electronic manuals and program samples are created under the '/usr/griddb/docs'.

3. Checking hardware requirements

The system is required to meet the following hardware requirements.

Item	Requirement
Physical Memory (RAM)	1GB (Recommendation: more than 32GB)
Disk space for the installation	300MB
Disk space for the GridDB data	more than 100GB (recommendation)

It can be checked by the following OS commands whether the hardware requirements are satisfied.

Item	Command
Physical memory size	# grep MemTotal /proc/meminfo
Disc space	# df –h

4. Checking software requirements

The system is required to meet the following software requirements.

Item	Requirement
Operating system	One of the following operating systems must be running. Red Hat Enterprise Linux Server Release 6.2/6.3/6.4/6.5/6.6/6.7/6.8/6.9/7.2/7.3 (AMD64/EM64T) CentOS Release 6.2 /6.3/6.4/6.5/6.6/6.7/6.8/6.9/7.2/7.3(AMD64/EM64T)
OS package group	Select the following package group. 'Basic Server' for the server environment 'Software Development WorkStation' for the application development environment

It can be checked by the following OS command whether the software requirements are satisfied.

Item	Command
The version of operating system	# cat /etc/redhat-release

The integrated operation control GUI is required to meet the following requirements.

Item	Requirement
Web application server	Apache Tomcat 7.0, 8.0
Java	Oracle Java7 , 8

Chapter 2 Installation

1. Installation

Please insert the CD labeled “GridDB Standard Edition (for Linux)” into a CD-ROM or DVD-ROM device.

(1) Installation on a server machine

Install both the server package and the client package on the server machine.

Specify rpm’s upgrade option for the installation.

```
# cd    <the mount path to the CD-ROM or DVD-ROM device＞/Linux/rpm
# rpm –Uvh griddb-se-server-X.X.X-linux.x86_64.rpm
# rpm –Uvh griddb-se-client-X.X.X-linux.x86_64.rpm
```

* Please specify the release version number at “X.X.X”.

(2) Installation on an application development machine

Install the Java/C/Python library packages for GridDB application developments.

When installing the Python library package, install the C library package before the installation.

And in the case of doing the GridDB management operations on the machine, such as checking the status of GridDB by gs_stat, install the client package too.

```
# cd    <the mount path to the CD-ROM or DVD-ROM device＞/Linux/rpm
# rpm –Uvh griddb-se-c_lib-X.X.X -linux.x86_64.rpm          for the C language
# rpm –Uvh griddb-se-java_lib- X.X.X -linux.x86_64.rpm      for the Java language
# rpm –Uvh griddb-se-python_lib- X.X.X -linux.x86_64.rpm    for the Python language
# rpm –Uvh griddb-se-client- X.X.X -linux.x86_64.rpm        for the GridDB management
```

For using the Python library, install the Python package (griddb_python_client) by the following command.

```
$ pip install /usr/griddb/lib/python
```

The command ‘pip’ must have been installed in that case.

(3) Installation of documents

Install the GridDB documents into proper machines.

```
# cd    <the mount path to the CD-ROM or the DVD-ROM device＞/Linux/rpm
# rpm –Uvh griddb-se-docs-X.X.X -linux.x86_64.rpm
```

The zip files of the documents and the program samples are created under the ‘/usr/griddb/docs’.

The file names are as the following.

Japanese documents: griddb-documents-X.X.X.zip

English documents: griddb-documents-en-X.X.X.zip

2. Operations after the installation

Do the following operations after installing the packages.

* Set a password of OS user 'gsadm'
* Change passwords of GridDB managers
* Set GridDB parameters
* Check the setting on GridDB service
* Set GridDB service parameters

(1) Set a password of OS user 'gsadm'

This operation is required after installing the server package or the client package.

The OS user 'gsadm' is created when installing the server package or the client package.

Set a password of the 'gsadm' to manage the GridDB by the user.

```
# passwd gsadm
Changing password for user gsadm
New UNIX password:
Retype new UNIX password:
passwd: all authentication tokens updated successfully.
```

(2) Change passwords of GridDB managers

This operation is required after installing the server package.

The following users are registered as the initial GridDB managers just after installing the server package.

User name	Password
admin	admin
system	manager

It is needed to use the command 'gs_passwd' for changing the passwords.

```
# su - gsadm
$ gs_passwd admin
Password:
Retype password:
```

(3) Set GridDB parameters

Set GridDB parameters by checking the "2.3 Setting the environment-dependent parameters" in the "GridDB Quick Start Guide".

(4) Check the setting on GridDB service

The check and the operations are required after installing the server package.

When installing the server package, the GridDB service is set to start automatically. The home directory of the GridDB service is '/var/lib/gridstore'.

- The operations of the service

  The service is controlled by start, stop, status, restart or condrestart commands.

  See the "2 Service" in the "GridDB Operation Control Guide" for the details.

  Stopping the service is performed by the following command.

```
# /sbin/service gridstore stop
```

  The setting on the GridDB service is checked by the following command.

```
# /sbin/chkconfig --list gridstore
gridstore          0:off    1:off    2:off    3:on    4:on    5:on    6:off
```

- Use the following command to disable the automatic startup of the service

```
# /sbin/chkconfig gridstore off
```

(5) Set GridDB service parameters

The service can configure a cluster at the node startup. For the cluster configuration, set the parameters of the service beforehand.

Set the parameters of user name, password, cluster name and the number of nodes in the cluster by updating the configuration file (/etc/sysconfig/gridstore/gridstore.conf).

See the "2 Service" in the "GridDB Operation Control Guide" for the details.

Chapter 3 Uninstallation

For uninstalling a GridDB RPM package, execute the package with the option '-e'.

```
# rpm –e griddb-se-server
# rpm –e griddb-se-client
# rpm –e griddb-se-java_lib
# rpm –e griddb-se-c_lib
# rpm –e griddb-se-python_lib
# rpm –e griddb-se-docs
```

* Even if GridDB is uninstalled, all the files under the GridDB home directory (/var/lib/gridstore) are not removed.

* It is required to stop GridDB before uninstalling the server package.

The following message is displayed at the uninstallation when the GridDB has not stopped.

```
# rpm -e griddb-se-server
------------------------------------------------------------
Uninstallation Error:
   GridDB server is running. Please stop GridDB server.
------------------------------------------------------------
error: %preun(griddb-se-server-X.X.X-linux.x86_64) scriptlet failed, exit status 1
```

For uninstalling the Python package (griddb_python_client), use the command 'pip' to uninstall the package.

```
$ pip uninstall griddb_python_client
```

Installation guide update history

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TXB0661N	2017/11/20	V1.0 The first version was published