Server Build Guide

BigWorld Technology 2.1. Released 2012.

Software designed and built in Australia by BigWorld.

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Chapter 1. Server Build Instructions

1.1. Overview

This document describes how to configure a build environment required for building the server and associated tools along with the process for compiling the server and related components.

Unless you are performing specific modifications to the BigWorld server processes, it is recommended to use the official shipped binaries.

1.2. Requirements

1.2.1. Hardware Requirements

The BigWorld Server will compile on most standard "desktop" PCs.

The minimum system requirements expected for compiling the server are:

- 64 bit Intel / AMD CPU
- 512 Mb RAM

1.2.2. Linux Distribution Requirements

BigWorld supports compiling and running the server on two Linux distributions.

These distributions are:

- RedHat Enterprise Linux 5 (http://www.redhat.com)
- CentOS 5 (http://www.centos.org)

> **Note**
>
> Please be aware that we currently have not tested and are not supporting RHEL 6 / CentOS 6.

For more information on how to install CentOS, please refer to the Server Installation Guide located in `bigworld/doc`.

1.2.3. Software Requirements

All packages listed below, unless otherwise noted, are expected to be the default package installation from a RedHat or CentOS distribution. Packages from third-party repositories are not supported unless specifically mentioned.

The system software requirements expected for compiling the server are:

- GNU C / C++ compiler (packages: `gcc`, `gcc-c++`)
- GNU make (package: `make`)
- MySQL development files (package: `mysql-devel`)
- Python development files(package: `python-devel`)

It is also recommended (but not nescessary) to have the following packages available:

- GNU Debugger (packages: `gdb`)

1.2.3.1. Installing Required Software

All required packages can be installed simply by using the system package management program '**yum**'. To install a package using **yum**, you would use a command such as:

```
$ yum install <package_name>
```

For example, to install the GNU C and C++ compilers you would issue the following command as the root user, following the prompts where appropriate:

```
$ yum install gcc gcc-c++
```

1.3. Checkout the BigWorld Technology Package

You will need to checkout the BigWorld Technology package from either your local company repository or from the official BigWorld subversion repository. In either case, we recommend you place the source code in a regular user account (ie: not a root/privileged user account).

The directory name you checkout into is completely up to you, although we recommend naming it after your project, for example:

```
$ svn co http://localrepo/svn/bigworld_pristine my_game
```

1.4. Compiling the BigWorld Server

Once your build environment has been installed, compiling the server is a trivial operation.

Note

Never compile the server as the `root` user.

- Change directory to your BigWorld checkout, for example:

```
$ cd /home/builduser/bigworld_pristine
```

- Change directory to the BigWorld source code:

```
$ cd bigworld/src
```

- Run 'make':

```
$ make
```

The BigWorld server source code is located in the directory `bigworld/src/server`, with individual server components located under subdirectories.

If required, individual server components can be rebuilt by running **make** from within that component's source directory. For example in order to rebuild the DBMgr you could issue the following command:

```
$ cd bigworld/src/server/dbmgr
$ make
```

1.5. Installing the BigWorld Server

For details on how to install the BigWorld Server and related components, please refer to the Server Installation Guide.

1.6. BigWorld Server Components

Directory	Content Description
bigworld/src/	Top level BigWorld Technology source directory.
examples/	Source code for small client and server examples.
cellapp_extension/	Examples of how to extend cell entities with C++ (EntityExtra/Controllers).
client1/	Simple server connection example.
client2/	Source code extending the 'client1' example to add Entity support.
client3/	Source code extending the 'client2' example to add method calling support.
client4/	Source code extending the 'client3' example to add login support to an Account and Avatar selection capabilities.
lib/	Top level directory for all library code.
server/	Container directory for all Server specific source code.
baseapp/	BaseApp server component (source code not available in standard packages).
baseappmgr/	BaseAppMgr server component.
cellapp/	CellApp server component (source code not available in standard packages).
cellappmgr/	CellAppMgr server component (source code not available in standard packages).
dbmgr/	DBMgr server component (see also lib/dbmgr_* directories for database specific implementations).
dbmgr_extensions/	Database specific engine drivers to be loaded at runtime by DBMgr.
loginapp/	LoginApp server component.
reviver/	Reviver server component.
tools/	Container directory for C++ based server tools.
bots/	Bots server process for simulating automated client connections.
bwmachined/	BWMachined daemon for server process communication and operation.
clear_auto_load/	ClearAutoLoad program to remove any any auto loading entities from the Entity database prior to startup.
consolidate_dbs/	ConsolidateDBs process for aggregating secondary databases from the cluster on startup or shutdown of a BigWorld server.
message_logger/	MessageLogger server component for receiving log messages from server components and writing them to a permanent log file.
snapshot_helper/	Snapshot helper assistant program for taking LVM snapshots of a DBMgr database.
sync_db/	SyncDB server process for updating the DBMgr entity database structure to match the current entity definition state.
web/	Server web integration modules.

1.7. Further Reading

For more information about the BigWorld Server, please refer to the following documents:

- Server Overview
- Server Installation Guide
- Server Programming Guide
- Server Operations Guide