Handbook Dedicated Servers - Memories of Mars

Introduction

The Memories of Mars Dedicated Server is available via Steam as a Dedicated Server. It can be hosted by players who do not own the game themselves as well as on dedicated servers which can log into Steam anonymously.

The server is available for Windows and Linux 64 bit versions.

Requirements

The server currently has the following requirements:

CPU	The server should have 2 cores/hyperthreads (we made changes to the stock Unreal Engine 4 that allows the game server to run multithreaded). The higher the CPU frequency the better.
Memory	~5 GB during normal operation
Disk	The server is around 3 GB, but this can grow depending on logs and the file-based database

Installation

Via Steam GUI

You can find the dedicated server (without having to own Memories of Mars) in your Steam library as "Memories of Mars - Dedicated Server" in the Tools category. You can install it the same way as any other game on Steam.

Via `steamcmd`

For dedicated servers and platforms without a graphical user interface, you can use Valve's steamcmd tool to install the dedicated server. Use the following steps to install the dedicated server via steamcmd

1. Make sure you are not logged in as `root` on Linux. The server will not start when root rights are detected.
2. Download `steamcmd` (see https://developer.valvesoftware.com/wiki/SteamCMD#Package_from_repositories)
    a. Probably easiest with something like `sudo apt-get install steamcmd`
3. Start steamcmd by typing `steamcmd`
4. If it is required that you login (valid until the server has been released), login using `login <username>`
5. Unless you want to install to the default directory, choose your install directory by using `force_install_dir`.
6. Download the server by issuing `app_update 897590`

Updating

While Memories of Mars is in Early Access, there will be quite frequent updates. The game client will always be updated to the latest version via Steam. Most patches during Early access will break compatibility of existing clients with the servers due to major code and content changes being made, therefore, the dedicated server will have to be updated in order to see servers. If you don't see your dedicated server in the Steam server browser or in-game, make sure it has the same version as the game client.

If you installed your Dedicated Server via the Steam UI, just wait for the update to be applied.

If you installed via `steamcmd`, use the same command again to update the server to the latest state:

```
app_update 897590
```

Database-breaking patches

We are taking care that no database-breaking changes are put into the server code during a season of Memories of Mars. If, for some reason, we have to patch the database itself, we will announce this beforehand in patch notes.

To make sure you are up to date with the information about the game and upcoming patches, please follow the news on the Steam page ([htt

Configuring a server

Your private server is configurable via the file `DedicatedServerConfig.cfg` that you can find in the main folder where Steam downloaded the private server to. The following is an example file:

```
{
 "ServerName": "My Private Server",
 "ServerPassword": "password123",
 "ServerID": "PS_01",
 "MapName": "Main",
 "MaxPlayers": 2,
 "EnablePVP": false,
 "EnablePVPBuildings": false,
 "EnablePVPAreas": true,
 "EnableEAC": true,
 "DailyRestartUTCHour": "12",
 "Headless": false,
 "UserWhitelist": "",
 "UserBlacklist": ""
}
```

The available fields are:

Name	Type	Example	Required	Comments
ServerName	String	My Private Server	Yes	This is the server name that you will find the server under in the in-game Server Browser or in the Steam Server Browser.
ServerPassword	String	password123	No	The password for your server. If not specified (or empty string), this will create a non-password protected server.
ServerID	String	MyServer1	Yes	By changing this, you can switch between different versions of the database (see section on database management).
MapName	String	Main	No	This must be set to Main, so leave the default.
MaxPlayers	Integer	2	No	Maximal number of players for the server. Default is 64.
EnablePVP	Boolean	false	No	If set to true, the server will be a full PVP server. If set to false, the server will be PVE. If not present, will default to PVP.

EnablePVPBuildings	Boolean	false	No	If enabled, builds will be damageable. If set to false, buildings will not be damabegable. If not present, will default to destroyable buildings. Can be set on a PVP server.
EnablePVPAreas	Boolean	true	No	If set to true, this enables PVP areas around hotspots with active FLOPs events. If not present, defaults to having PVP areas on PVE servers. Has no effect on a PVP server.
EnableEAC	Boolean	true	No	If enabled, the server will be secured with EasyAntiCheat. If not present, defaults to having EasyAntiCheat on.
DailyRestartUTCHour	String	12	No	This will issue two restarts of the server: 1. The indicated hour (UTC+0) on the hour. 2. The indicated hour (UTC+0) plus 12 hours on the hour. Times are specified in the 24 hour system. Daily restarts are necessary for server stability and for countering floating-point issues.
Headless	Boolean	false	No	If set to true, this will not open a window with log outputs. Defaults to true if not present.
UserWhitelist	Array of Strings	12345678910111213,13 121110987654321	No	A whitelist for the server. If there is any entry here, only the Steam IDs thats are in this list are allowed to join the server. This way you can allow only a couple of people to join the server. For finding the Steam ID of another user, please use the following guide: https://steamcommunity.com/sharedfiles/filedetails/?id=209000244
UserBlacklist	Array of Strings	12345678910111213,13 121110987654321	No	A blacklist for the server. If a Steam ID is on this list the person will not be able to join the server. This way you can exclude players from joining.
Port	Number	7777	No	The port on which players connect. Make sure that this port is open in order for players to connect. Defaults to 7777.

`SteamQueryPort`	Number	27015	No	Port for Steam. Make sure it is open. Defaults to 27015.

Overriding with Commandline Arguments

The following variables can be overwritten via commandline argument. In the case of `"MULTIHOME"` there is no applicable variable in the DedicatedServerConfig, so the variable can only be set via commandline argument.

If no commandline argument is set, the value from the config file is used.

Name	Type	Usage	Comments
`Port`	Number	-port=#### (i.e. -port=7778)	The port on which players connect. Make sure that this port is open in order for players to connect. Defaults to 7777.
`SteamQueryPort`	Number	-queryport=#### (i.e. -queryport=27016)	Port for Steam. Make sure it is open. Defaults to 27015.
`MULTIHOME`	String	-MULTIHOME="###.###.###.###" (i.e. -MULTIHOME=192.168.1.26)	Overrides the IP address the server is running on. Used in Multi-IP environments.
`MaxPlayers`	Number	-maxplayers=## (i.e. -maxplayers=12)	Maximal number of players for the server. Default is 64.

Start the Server

Restarts

The Memories of Mars server needs to be restarted twice daily, this is set up with the option `DailyRestartUTCHour`. Before the restart, the server will announce that it will restart in the in-game chat. After the server has been shut down, its process will end.

You are provided with two options for starting the game server:

- Without automatic restarting after the twice-daily shutdown
- With automatic restarting after the twice-daily shutdown

The server will shut down regardless of which option you choose. We currently don't support disabling this automatic shutdown system. If you don't need to run the server for 24h a day, you can set the `DailyRestartUTCHour` to a time outside of your regular playtime to not have the server shut down during play.

Windows

Either use the Steam UI to start the server, or navigate to the install folder of the game. In both cases, make sure to edit the config file for setting up the server beforehand.

Without automatic restarts

You can start the server and it will run until it shuts down by starting the game

- in the Steam UI with the default start option
- directly by starting the file `Game\Binaries\Win64\MemoriesOfMarsServer.exe`.

With automatic restarts
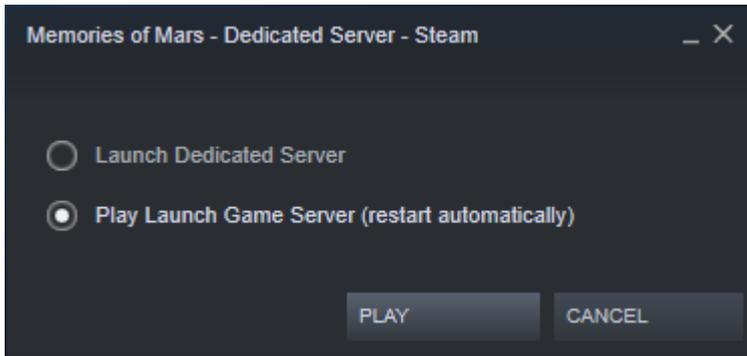
To run the server with automatic restarts:

* in the Steam UI choose the start option Launch Game Server (restart automatically)
* Run the batch script `Run Server.bat`.

Linux

Without automatic restarts

To start the server, start the script `MemoriesOfMarsServer.sh` in the installation folder of the game.

With automatic restarts

To start the server with automatic restarts, start the script `RunServer.sh` in the installation folder of the game. You might consider running this in the background or in a `screen` so it persists your login session.

LAN servers, Firewall issues

LAN server

Every server is automatically available on LAN, as long as it is run correctly with Steam or SteamCMD. If you want a LAN-only server you have to set a password or block the outgoing ports of the server in the router, so that it can't connect to the internet.

Steam server

In order to run a server that will show up in the Steam server browser, you will have to make sure that the computer that you are running the server on has direct connection to the internet. If the server can't connect to the steam servers, it is automatically treated as a LAN-only server.

Connecting to a private server

In-game browser

Choose either `ALL` or `PRIVATE` in the filter settings of the in-game server browser and connect to your server.

Steam server browser

You can join a server from the Steam server browser.

Database maintenance

The files for the database will be stored in the following folder: `Game/Saved/DB/{ServerID}/{SeasonID}`.

You can create an easy backup of your files by copying everthing inside this folder and paste it elsewhere.

Once the game reaches a new season the database folder will create a new database inside a new season folder. The data from the previous season is still stored, but will not be used for the new season. The reason for that is, that we can not guarantee that the way the data is stored will not change between seasons. So you will start with a clean database in a new season, just like on the public servers.

If you are still willing to try to save your old data somehow you can try to manually copy the data over from the previous season. This might or might not work, depending on the changes made. So expect your game to cause some problems afterwards. If you can't get the game to run anymore after this just delete all the files you put in there and make sure you have a clean database.

NOTE: There will be no support for manually moving old databases to your newer server in case of database-breaking changes between seasons.

Reporting Errors

In case you encounter an error with the server, please inform us about it by using the game's support page at https://fs30.formsite.com/505games/mars/index.html

Please attach any information that can help us track down the error. Especially server logs and crash dumps are interesting for us. This information can be found in:

Windows

The subfolder `Game\Saved` contains the data written by the servers. Especially the Game.log in the subfolder `Game\Saved\Logs` is good for us, as well as the contents of the latest crash report in a subfolder of `Game\Saved\Crashes`.

Linux

The subfolder `Game/Saved` contains the data written by the servers. Especially the Game.log in the subfolder `Game\Saved\Logs` is good for us. Additionally, the server creates a core dump, which you will find in the root folder of the game server as a file starting with `core`.