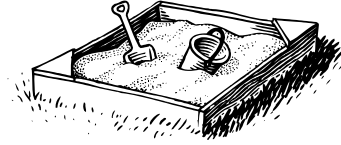


# MinecraftEdu

## What is Minecraft?

Minecraft is a game. Unlike most games, it does not have a story, a goal, or objectives. It cannot be finished, won, or completed. Children playing on a beach do not have assigned goals, they simply enjoy building castles and exploring for shells. This game works in much the same way. Minecraft is an environment in which players can explore and build.



## What is MinecraftEdu and how is it different from Minecraft?

MinecraftEdu is version of Minecraft that has been modified for use in schools and libraries. The consumer version of Minecraft requires each user purchase an account and use this account to sign into the client each time they play. MinecraftEdu allows a school or library to purchase licenses for each concurrent user and bypasses the need to login to the client. It also offers special building modes and administration tools that make it easier for teachers and librarians to design worlds and manage users.

## Parts of a MinecraftEdu Installation

- MinecraftEdu Server – Creating a MinecraftEdu server allows you to generate multiplayer environments for your patrons.
- MinecraftEdu Client – Each computer on which you want to offer MinecraftEdu requires the client be installed. Patrons can use the client to generate their own world or connect to your multiplayer server.

## Useful Links:

MinecraftEdu Wiki - Lots of good information

[http://minecraftedu.com/wiki/index.php?title=Main\\_Page](http://minecraftedu.com/wiki/index.php?title=Main_Page)

EduElfie's MinecraftEdu Video Tutorials

<http://www.youtube.com/user/EduElfie>

Other Tutorials

[http://minecraftedu.com/wiki/index.php?title=Tutorial\\_Videos](http://minecraftedu.com/wiki/index.php?title=Tutorial_Videos)

MinecraftEdu Change Log - Details changes in each new version.

<http://minecraftedu.com/wiki/index.php?title=Changelog>

MinecraftEdu Support Chat

<http://www.minecraftedu.com/chat/>

Minecraft Teachers Google Group

<https://groups.google.com/forum/#!forum/minecraft-teachers>

## Note from the author:

This document is meant as a brief introduction to MinecraftEdu and primer for setting up MinecraftEdu in a library. This is not intended to be a complete manual. For additional information, please visit the URLs above.

– Anthony Martocello, Northport-East Northport Public Library

# MinecraftEdu Server Installation

## Server Requirements:

Please see the following URL for official Server Recommendations:

<http://minecraft.gamepedia.com/Server/Requirements/Server>

The following is based solely on my experience:

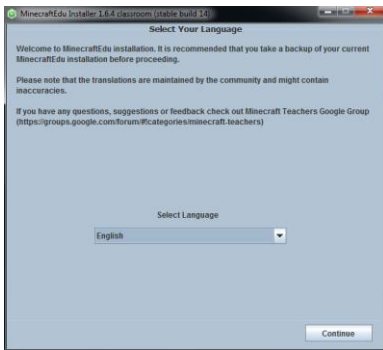
OS: Windows 2008R2 (but almost any Windows or Mac OS should work)

RAM: OS + 2GB of RAM per Server Instance

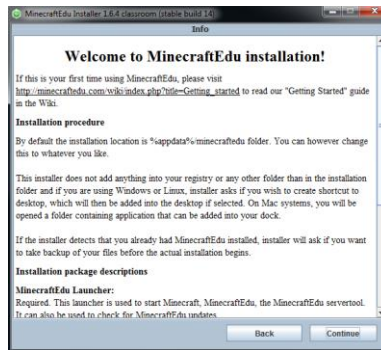
Hard drive: Store the MinecraftEdu server instance folders on a SSD or RAM Disk

## Installation

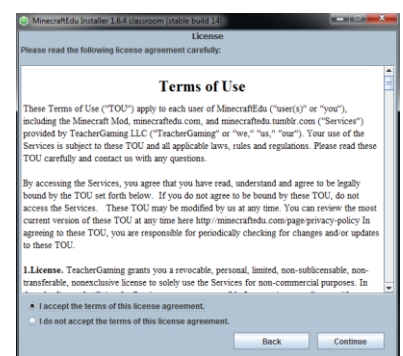
1. Download the latest Stable release from the MinecraftEdu customer portal.
2. Create a folder for each instance of the server you want to run.  
(NOTE: Each concurrent world requires its own instance of the server)
3. Run the downloaded installation file.



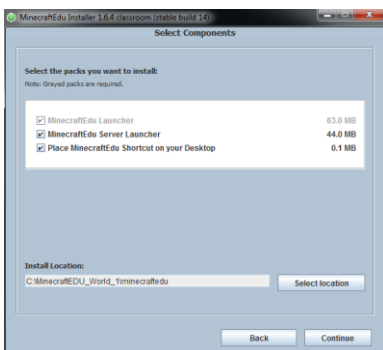
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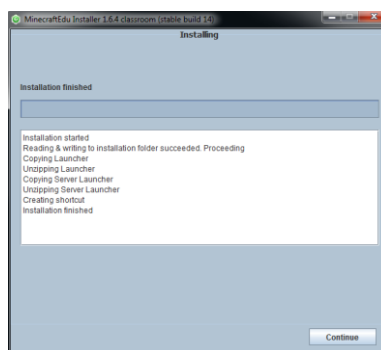
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4. In Step D, make sure “**MinecraftEdu Server Launcher**” is checked and change the install location to one of the folders created in step 2.
5. (Optional) Multiple server instances
  - a. Rename the desktop shortcut (ex. “MinecraftEdu World 1”).
  - b. Repeat steps 3 & 4 for each server instance you wish to create.

# MinecraftEdu Server Setup



Start the MinecraftEdu Launcher using the desktop shortcut.



## Updates:

New versions of MinecraftEdu are released frequently.

- Most of these are “Development” (beta) and should **NOT** be used in production. I recommend waiting for “Stable” releases.
- In order for a client to be able to connect to a server, they must run the same version.
- Installing an update on one instance of the server does not upgrade the other instances.
- It is a good idea to try a new version of MinecraftEdu, including mods, in a test environment before deploying it to all server instances and clients.
- Deploying updates requires the email address and password used to setup your MinecraftEdu account.

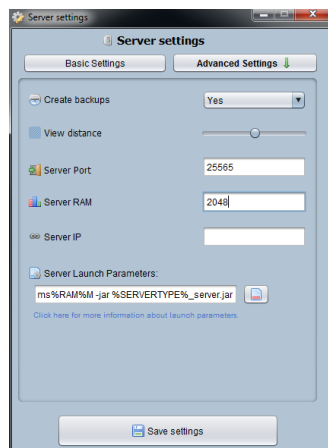
## Mods:

Mods (modifications) can be downloaded that change the user experience of the player. Their effects on the game range from being simply cosmetic to adding content, such as new building blocks and mobs. Others can fundamentally change how the game is played.

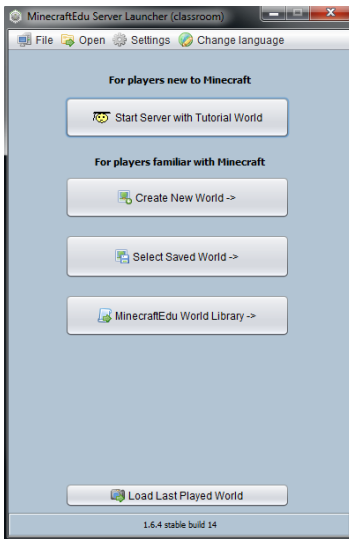
## Start MinecraftEdu Server Launcher:

The Server Launcher is the platform from which you will create and start your multiplayer Minecraft worlds.

- The first time you open the Server Launcher, you will be prompted to create a *Teacher Password*. This password can be used by a librarian to make changes to the world from within the game. It can be changed by going to *Settings* -> *Change Teach Password*.
- From within the Server Launcher, go to *Settings* -> *Server Settings*, then click on the *Advanced Settings* button.



- View Distance – Adjusts how far players can see and how far the server needs to render the world for each user. The further that players can see, the harder the server needs to work.
- Server Port – The default port is 25565. Each server instance running on the same physical server needs its own port.
- Server RAM – Enter the maximum amount a RAM this server instance can use. Each server instance can be allocated different amounts of RAM.
- Click *Save settings* and close the Server settings window.



Start Server with Tutorial World – The server will run a pre-built world that was designed to help new users learn how to play MinecraftEdu. Any librarians who will be involved in managing your MinecraftEdu environment and who have not previously played Minecraft, should spend some time in this world.

Create New World -> - Use to create a new world for patrons to build in and explore. (See *Creating a New World*)

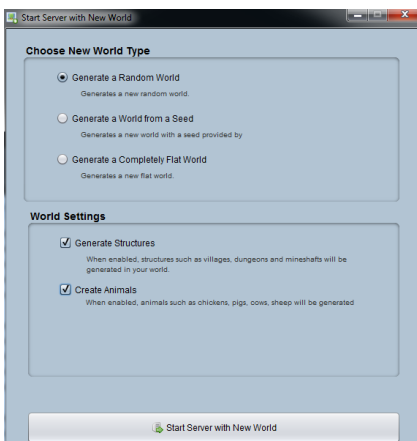
Select Saved World -> - Load a world you previously created.

MinecraftEdu World Library -> - This is a relatively new feature that allows you to download worlds created by other people. For more information, visit the following website: <http://services.minecraftedu.com/worlds/>

## Creating a New World

From the Server Launcher, click *Create New World ->*

### World Types



Generate a Random World – This will create a world with various features (e.g. mountains and caves) and regions (e.g. forests, oceans, and deserts) randomly generated throughout.

Generate a World from a Seed – To generate a world, the Minecraft algorithm uses a “seed.” Usually the seed is randomly generated, but this option allows you to specify the seed to be used. This can be useful to generate the same world multiple times or on multiple computers. To see an existing world’s seed, use the command *“/seed”*.

Generate a Completely Flat World – As the name implies, this option is used to generate a flat world. This can be useful if the goal is strictly to build something rather than exploring.

### World Settings

Generate Structures – This option controls whether your new world will include villages, dungeons, and mineshafts.

Create Animals – This option determines whether your new world will include animals, such as sheep, wolves, pigs, and chickens. While there are other forms of food in the game, if the server uses a game mode that has *Hunger* enabled, it’s a good idea to enable animals.

(See *Configuring the World*)

Click *Start Server with New World* when you are ready to create your world.

# Configuring the World

## World Settings

Once a world is started, it can be configured by clicking on the *World Settings* button.

## Gamemodes

MinecraftEdu can be played in different ways, depending on the tastes or objectives of the players.

### MinecraftEdu (default):

Players have to gather materials to build structures and craft items. Health and Hunger are disabled, and blocks must be broken with the correct tools.



### Survival:

This mode requires player to seek out food and shelter in order to survive. Players have to gather all their materials to build structures and craft items. Health and Hunger are enabled, and blocks must be broken with the correct tools. Generally, Survival mode is played with monsters enabled.



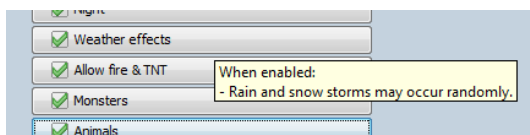
### Creative:

This mode is for players who just want to build without worrying about their Health or Hunger. Players have an infinite amount of blocks and items. They are invulnerable and can fly.



**Health** – With Health enabled, each player has a health gauge with 10 hearts. When players are damaged, they lose ½ of a heart. The player dies when they run out of hearts. Any items they are carrying are left where they died and the player respawns where they started. Health regenerates when player's hunger gauge is nearly full.

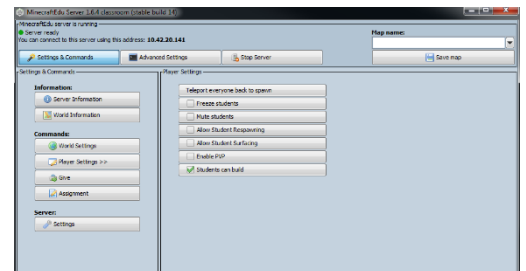
**Hunger** – With Hunger enabled, each player has a hunger gauge with 10 drumsticks. Hunger is a bit more complex than health, but basically the hunger gauge gradually decreases over time and eating restores it. See <http://minecraft.gamepedia.com/Hunger> for more information.



There are many other options under World Settings. Hovering over an item will bring up a small box with a description of its function.

## Player Settings

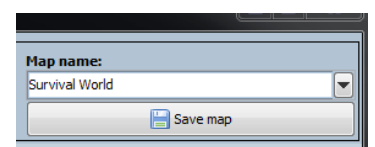
You can change how players interact with the world and each other by clicking on *Player Settings* the button. Here we found the *Mute Students* and Enable PVP options to be the most useful. As with the World Settings, hovering over an option will bring up a small box with a description of its function.



**NOTE:** Most of *World* and *Player* settings can be modified from within the game using the Teacher Mode. (See the *Teacher Mode* section)

## Saving a World

To save a world, enter a name in the *Map name* field in the top right corner. This will save the current state of the world, including player modifications. You can save the same world under multiple names. (ex. World1\_PrePlayers)



# MinecraftEdu Client Installation

## Client Requirements:

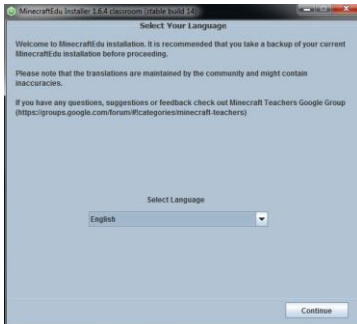
Please see the following URL for official Server Recommendations:

<https://help.mojang.com/customer/portal/articles/325948-minecraft-system-requirements>

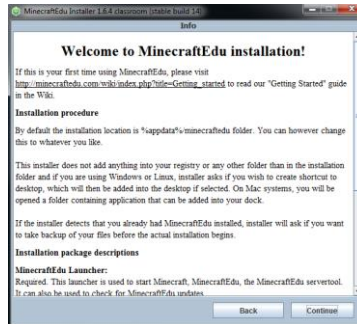
## Installation

1. Run the same installation program used for the server.

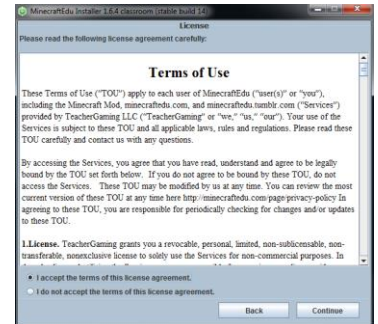
(Note: The client and server must run the same version of MinecraftEdu)



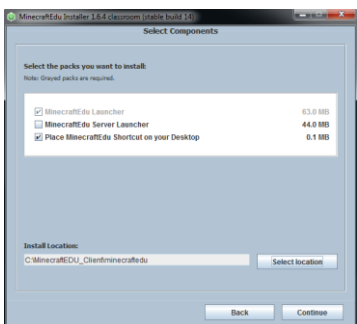
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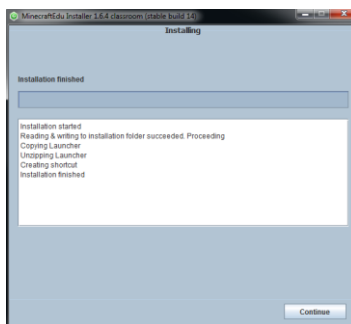
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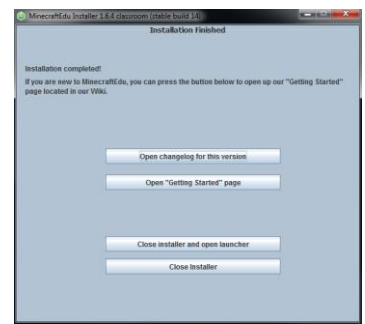
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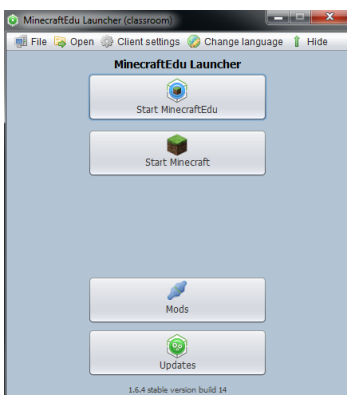


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2. In Step D, make sure “**MinecraftEdu Server Launcher**” is un-checked. You may also want to change the installation directory, depending on how you plan to deploy the client.

## Setting up the Clients

To start the game on the client, use the desktop shortcut created during the install or run the following command: `<install directory>\minecrafte\startlauncher.jar`



This will start the *MinecraftEdu Launcher*. As of now, there is no way to start the game without going through the launcher, but several requests have been made to the development team. The launcher can be adjusted to remove options you do not want patrons to have. (See *Editing the Launcher*)

**Note:** Do not run Updates, unless you did so on the server.

- Go to *Client Settings*-> *Client Settings*
  - Basic
    - **Client RAM** – Set the max. RAM the game can use on the client computers. On PCs with 4GIG or more of RAM, I have this set to 2048.
    - **Keep Launcher Running in the Background** – I don't see a reason to keep the launcher running while playing the game, so I *uncheck* this option.
  - Remember to click *Save settings* before closing this window.

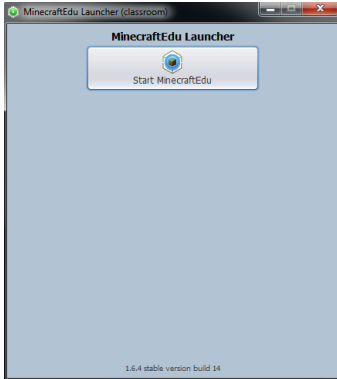


## Editing the Launcher

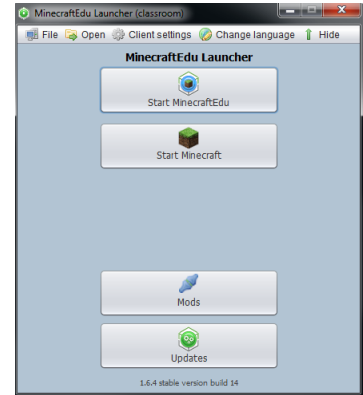
By default the launcher has a lot of options, many of which you may not want available to patrons. To simplify this menu, edit the following file with options listed in the change log (1.6.4 Builds 5)

<Install Folder>\minecraftedu\launcher\_res\settings\launchersettings.ini

On my clients, I add the following lines to disable everything except the MinecraftEdu client:



```
disable-launcher-top-menu=true
disable-launcher-top-menu-file=true
disable-launcher-top-menu-open=true
disable-launcher-top-menu-settings=true
disable-launcher-top-menu-change-language=true
disable-launcher-minecraftedu-button=false
disable-launcher-minecraft-button=true
disable-launcher-minecraft-custom-button=true
disable-launcher-servertool-button=true
disable-launcher-updates-button=true
disable-launcher-mods-button=true
```



## Launching the Game – Setting the defaults



- Click on the *Start MinecraftEdu* button.
- On the next window, make sure *MinecraftEdu* is selected as the Login Mode and click *Launch*.
- When the game starts, you will be prompted to enter a name and select a gender. These choices are not saved between sessions and can be changed at any time.



The following are the changes I made on our patron computers. Patrons can change these settings to suit their preferences.

- Main Menu
  - Options
    - Music: 25%
    - Video Settings
      - GUI Scale: Normal
      - View Bobbing: Off
      - (Optional) Brightness: 50% (Younger players may have trouble navigating caves if it's too dark)
      - (Optional) Render Distance: Normal (Increases game performance on older PCs)
      - (Optional) Graphics: Fast (Increases game performance on older PCs)
  - Multiplayer
    - Add Server (repeat for each world your server is running)
      - Server Name: <descriptive name> ex. Survival Mode
      - Server Address: <IP Address of the server>:<Port Number> (ex. 192.168.1.42:25566)
      - Hide Address: Yes

Once you are happy with the way client is configured, exit the game. There is no need to install and configure the client on every PC. Simply copy the installation directory of the client you just configured to all the PCs. We have a startup script that syncs the contents of a folder on a server with a folder on the public PCs. In this way, we can change the default settings on all of the patron PCs with a single change on the server.

## Teacher Mode

Librarians can manage most of *World* and *Player* settings within the game using the Teacher Mode. When connecting to a server, players can choose their appearance, before clicking *Connect*. At the top of this window, there is a button labeled *I am a Teacher*. To log in with Teacher privileges, click this button and enter the password that was set the first time the server was started. If you forget the password, it can be reset on the server.

Once you are logged in as a teacher, you can access the Admin Panel by pressing *P* on the keyboard.



**Personal Settings** – Options on this menu only affect the Teacher.



**World Settings** – Options on this menu change features of the world.



**Player Settings** – Options on this menu affect what patrons are allowed to do in the world.



**Building Tools** – These are a powerful set of tools for building structures and modifying the landscape. Build Mode is also useful for flying through the ground to find dungeons for players to explore.

Visit the following site for more information about using the Admin Panel

[http://minecraftedu.com/wiki/index.php?title=Admin\\_Panel](http://minecraftedu.com/wiki/index.php?title=Admin_Panel)