

INTRODUCTION TO GAME MAKER: USING ROOMS AND BACKGROUNDS

A **Room** in GameMaker is where you place all the different parts of your game. Any game you create will need at least one room. It is in these rooms that we will be placing our objects. Once the game starts the first room is shown and the objects in it come to life because of the actions and events we will be creating. After you finish creating your resources – i.e. sounds, sprites, and objects – we will be ready to place instances of our objects in the room. But first we have to create a room.

1. To create a new Room, click the **Create a Room** icon. Alternatively, you can use the keyboard shortcut **SHIFT + CTRL + R**, or select **Resources > Create Room** from the menu bar.



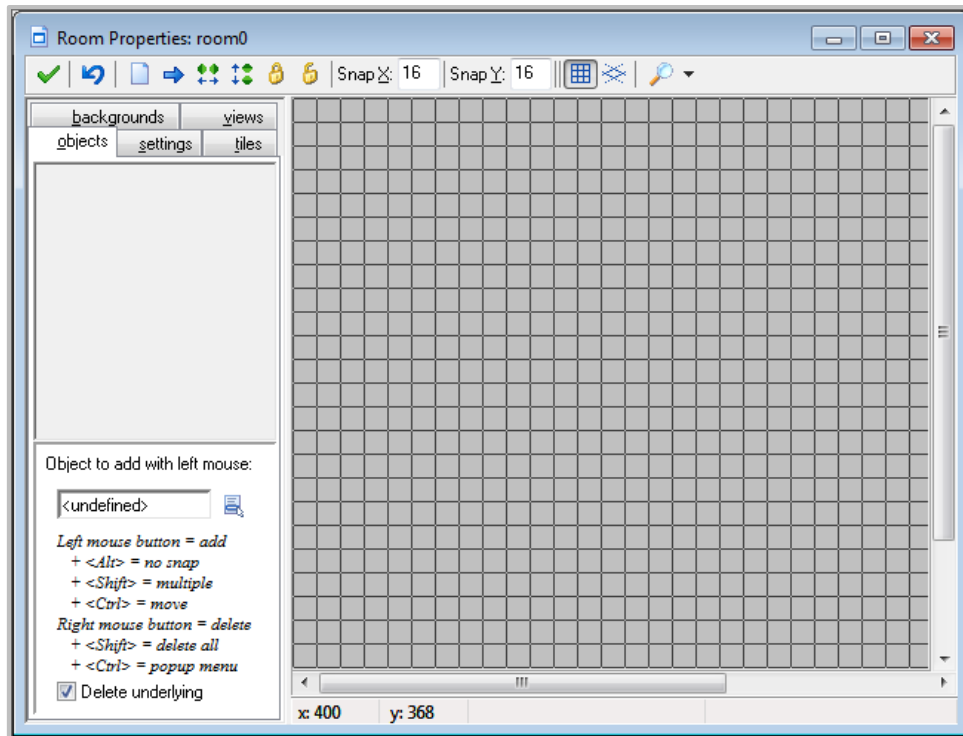
2. The **Room Properties** window has several tabs of features including:

Backgrounds: Here, you can set the background color, or choose a background image that you can tile to fill the room.

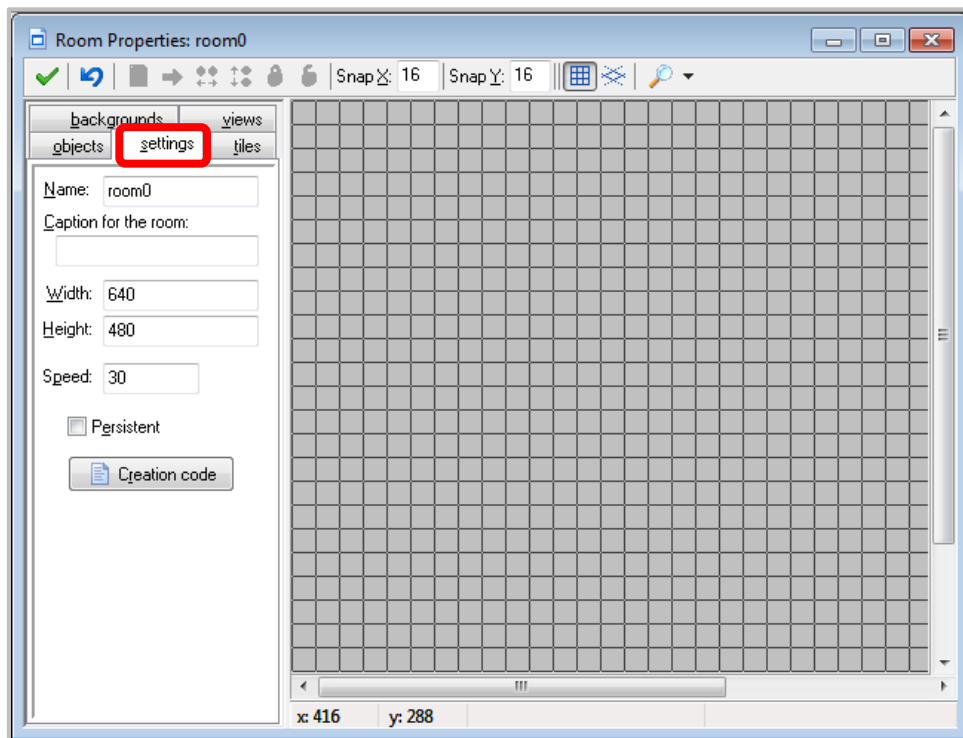
Objects: Here, you can select objects in order to place instances of those objects in the room.

Settings: Here, you can name the room, set the size of the room, and set the speed of the room. The default speed is 30 steps, which means there are 30 steps per second. Knowing the speed of the room is useful when it comes to setting alarms and other things we will look at later.

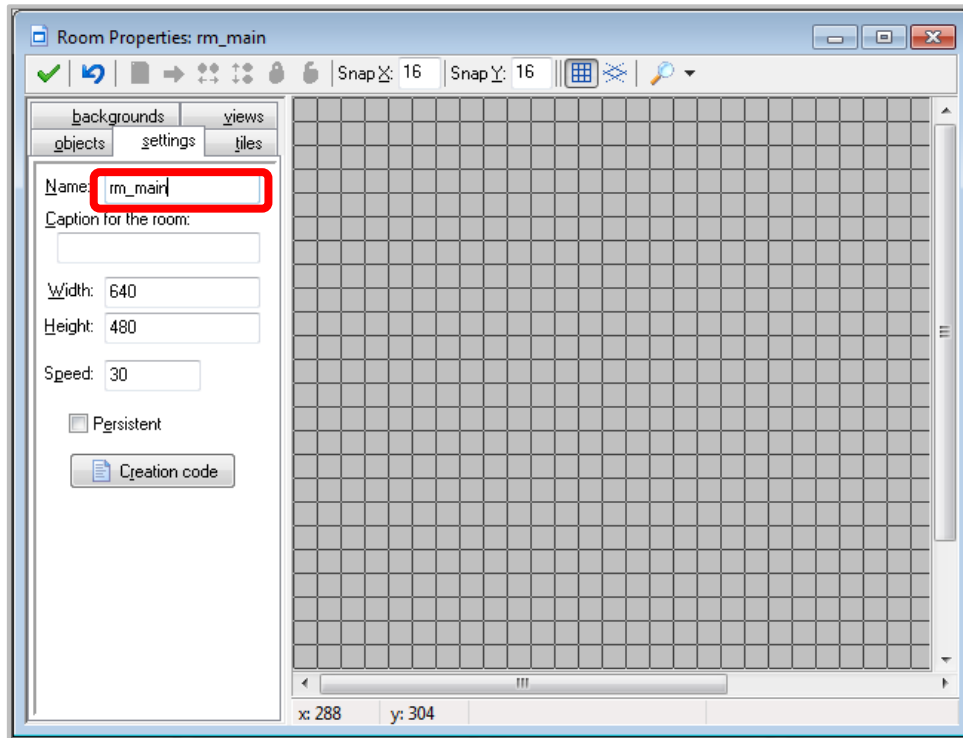
Tiles: Here, you can select and manually place different images to fill the background. This is different from the Backgrounds tab in that the Backgrounds tab can automatically fill the room for you, while the Tiles tab is manual.



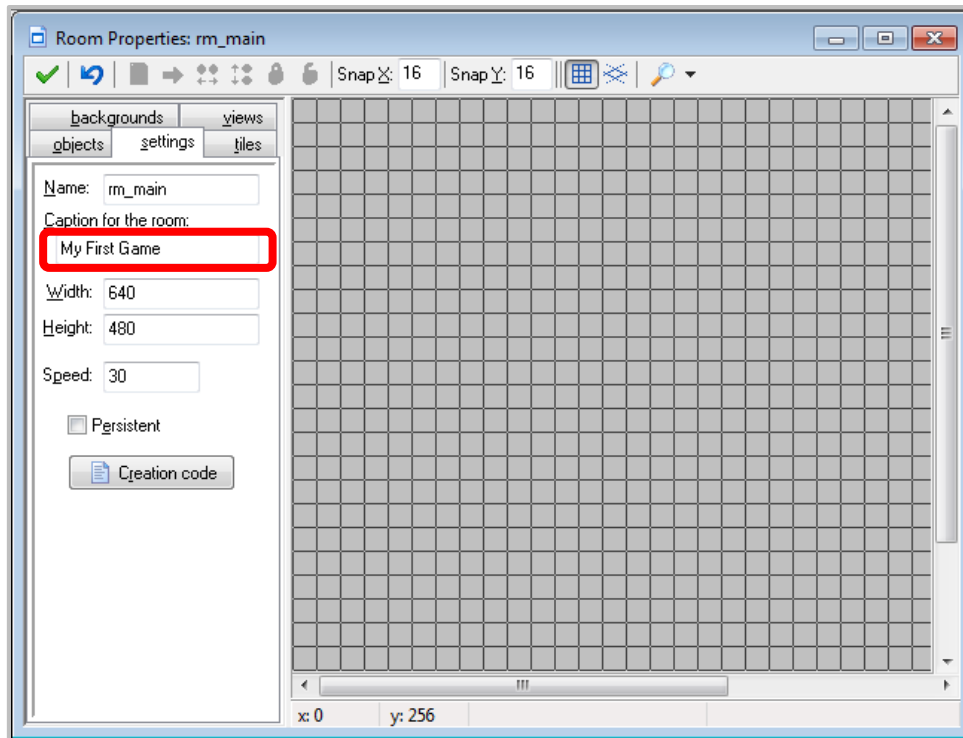
3. Click the **Settings** tab.



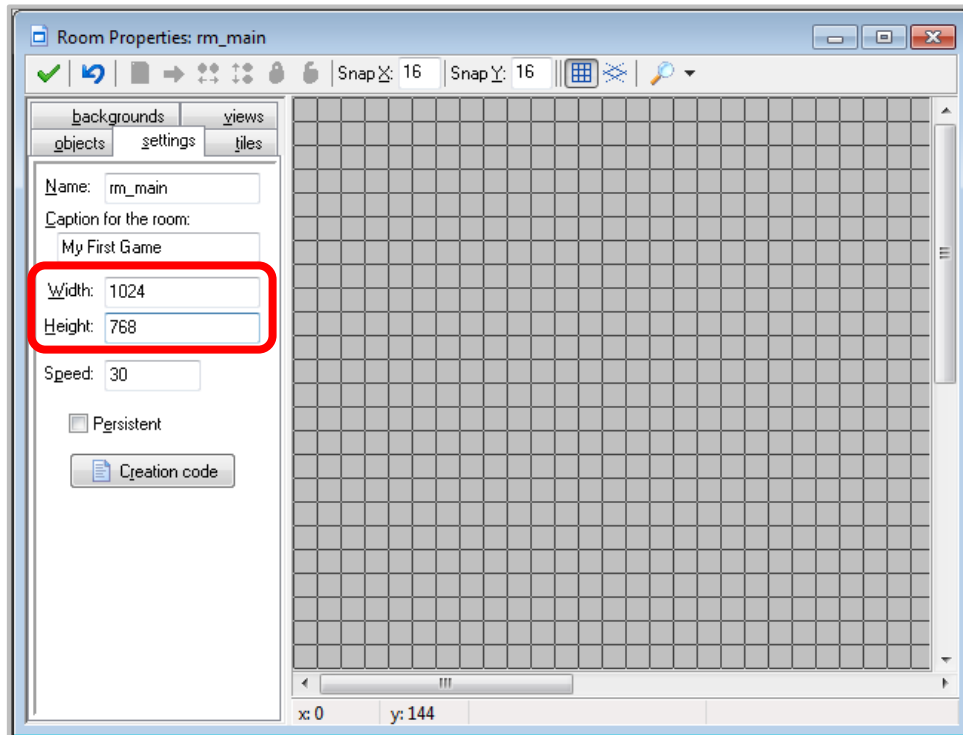
4. The first thing you will want to do is name your room. A room should begin with the two-letter prefix "rm" followed by the underscore character. Let's name our room **rm_main**.



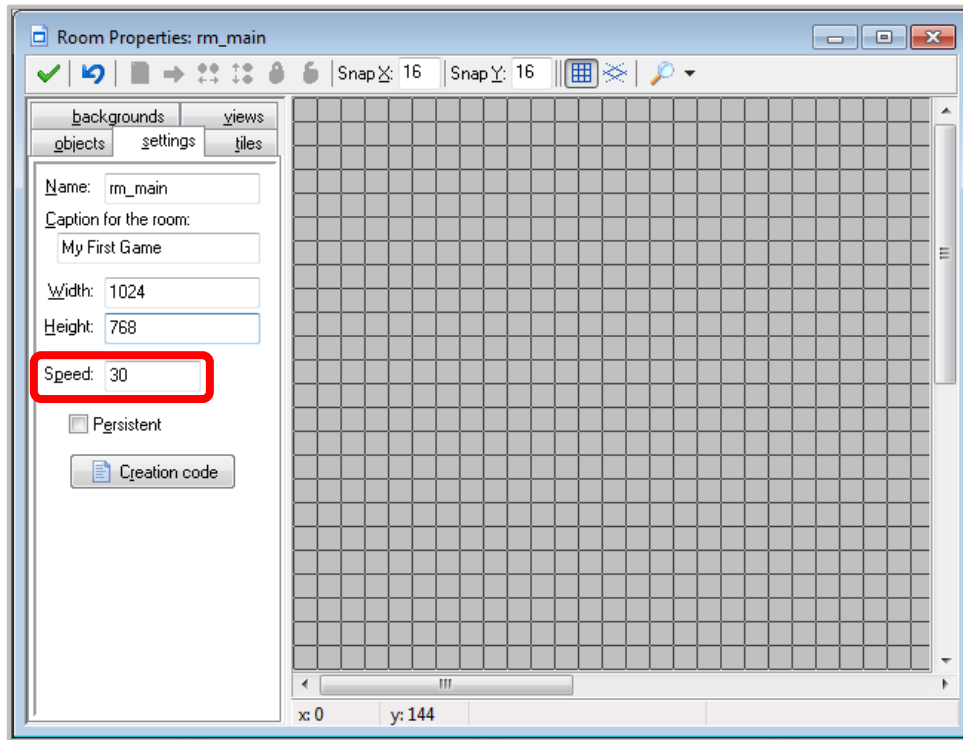
5. The next thing we should do is set the caption for the room. This will display text in the title bar of the window when the game launches. For this example, let's set the caption to **My First Game**.



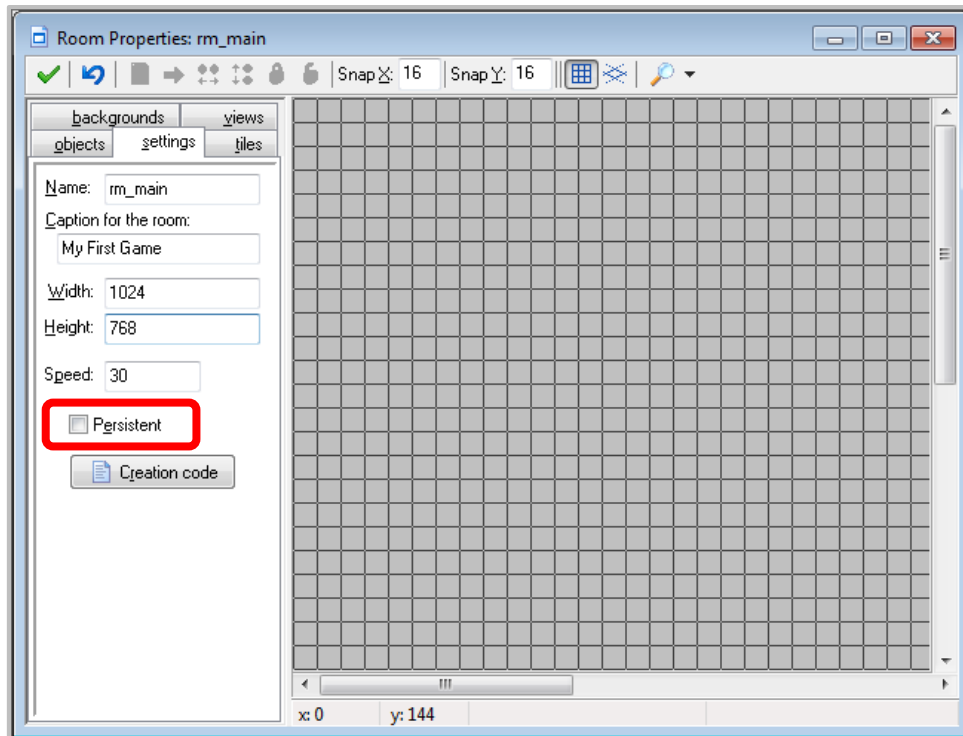
6. You can also set the width and height of the room. The width and height is measured in pixels. For this example, let's set the width and height to 1024 x 768.



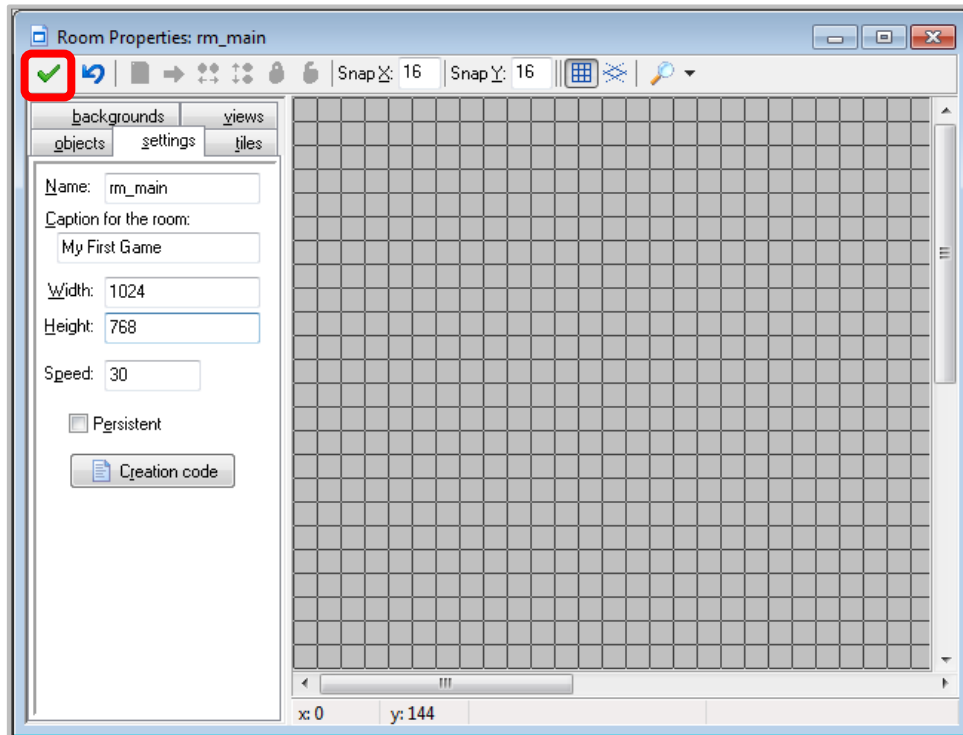
- The **Speed** setting allows you to set the running speed of the room, or the number of steps per second. Note that this is **not** the FPS (frames per second) but rather the number of game steps that GameMaker will try to maintain each second.



- The **Persistent** setting is something you will need to set if you want the room to be in the same state after you leave it. Normally, when you leave a room and return to the same room later, the room is reset to its initial settings. However, if you want the room to not be reset when you return to it, you will need to make sure the checkbox is selected. For our purposes, we will leave this setting unchecked.



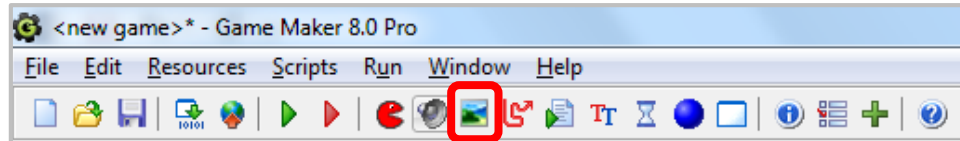
9. Once you have established the settings for your room, close the form and save the changes by clicking the CLOSE icon.



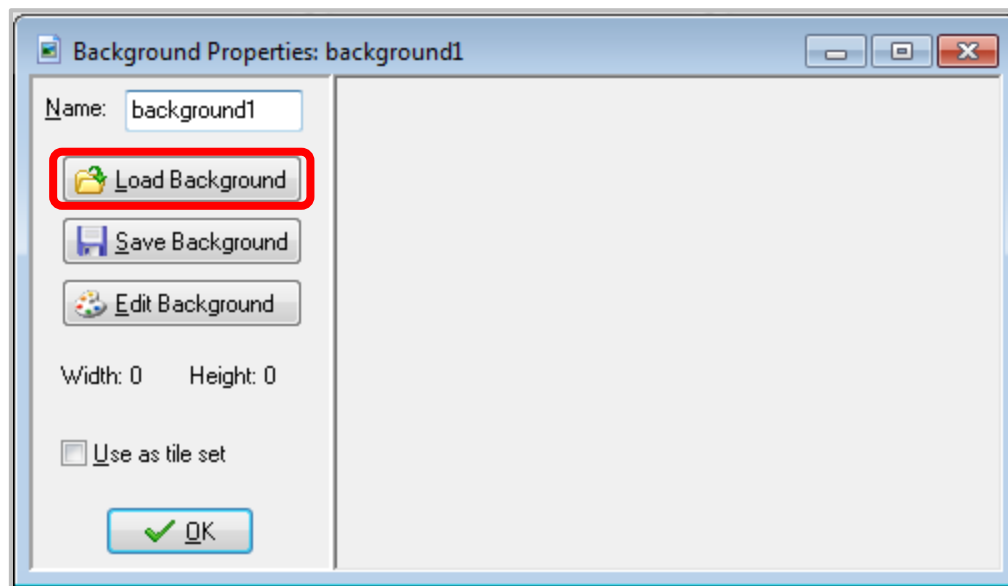
CREATING A BACKGROUND FOR YOUR ROOM

Now let's create a background for our game.

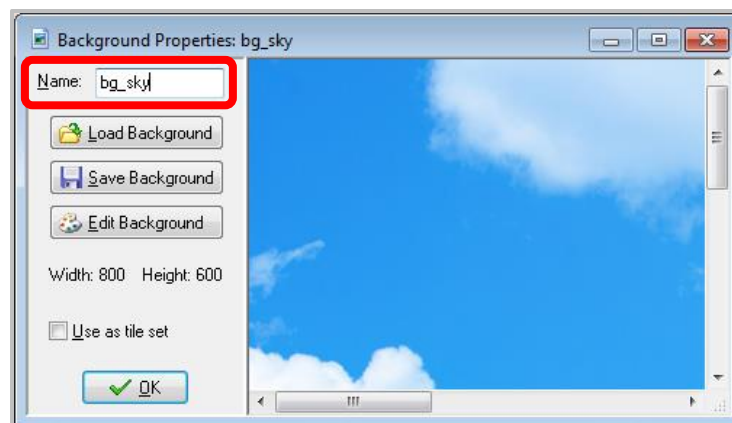
1. To create a Background, click the **Create a Background** icon. Alternatively, you can use the keyboard shortcut **SHIFT + CTRL + B**, or select **Resources > Create Background** from the menu bar.



2. Click the **Load Background** button and select an image file you want to use as your background. For this example, I will be using an image file called **sky.png** which you can find on the shared directory.



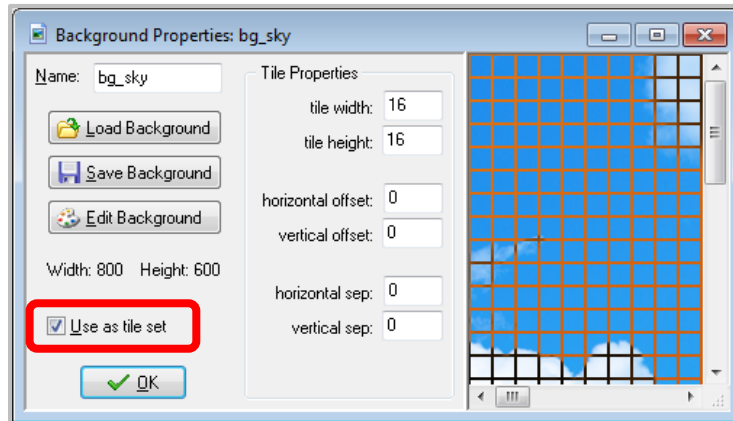
3. Once you have selected the image file, name the background starting with the two-letter prefix **bg**. I will call my background **bg_sky**.



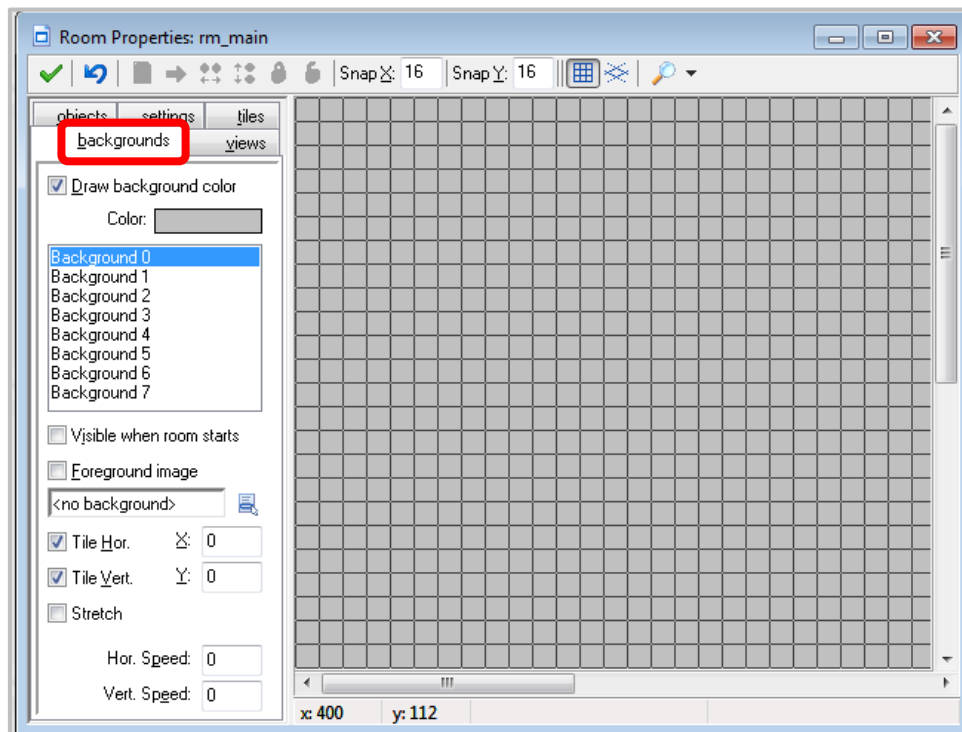
4. Sometimes you may want to use a background as a set of tiles, which is a collection of smaller images in one big image. To use a background as a tile set, simply check the box labelled **Use as tile set**.

You can then set the Tile Properties by setting the width and height of the tiles (measured in pixels), the horizontal and vertical offset (which is where the top leftmost tile starts), and how much separation you want between the tiles.

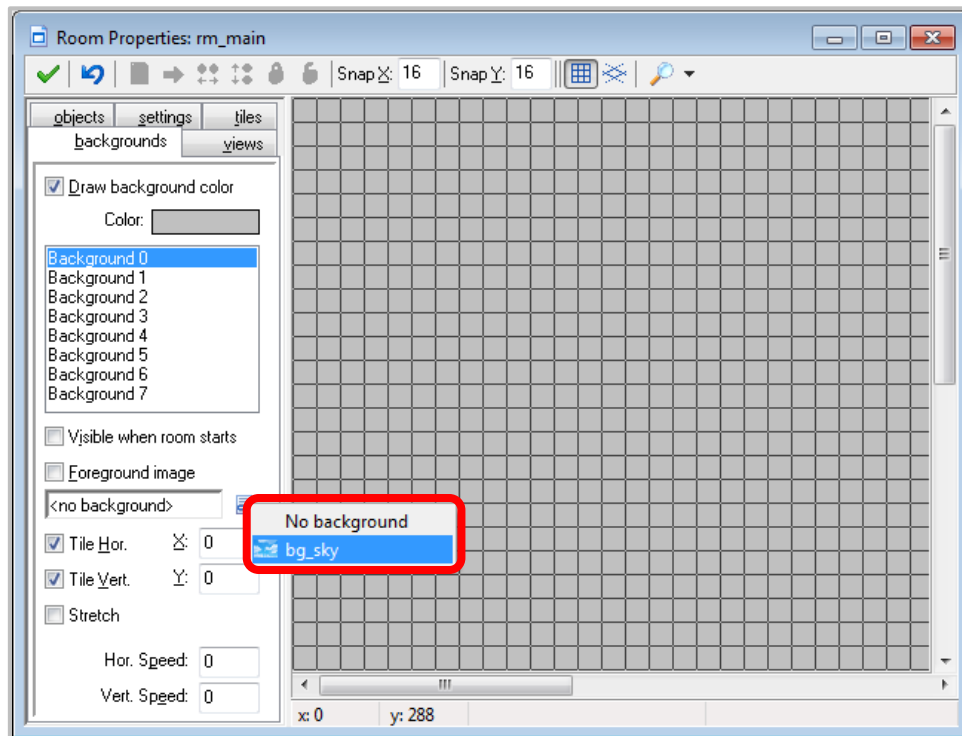
For our purposes, we are not going to use our background as a tile set. So we will leave it unchecked and then click **OK**.



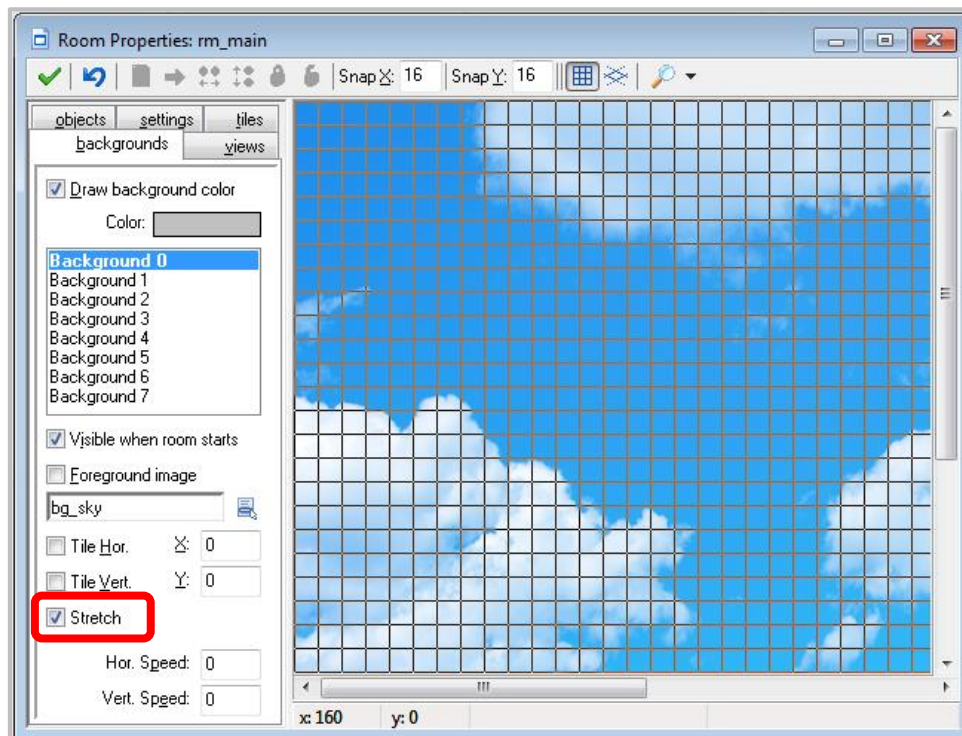
5. To apply the background to our room, we are going to need to go back to our room and click the **Backgrounds** tab.



- Click the drop-down menu to select the background you created.

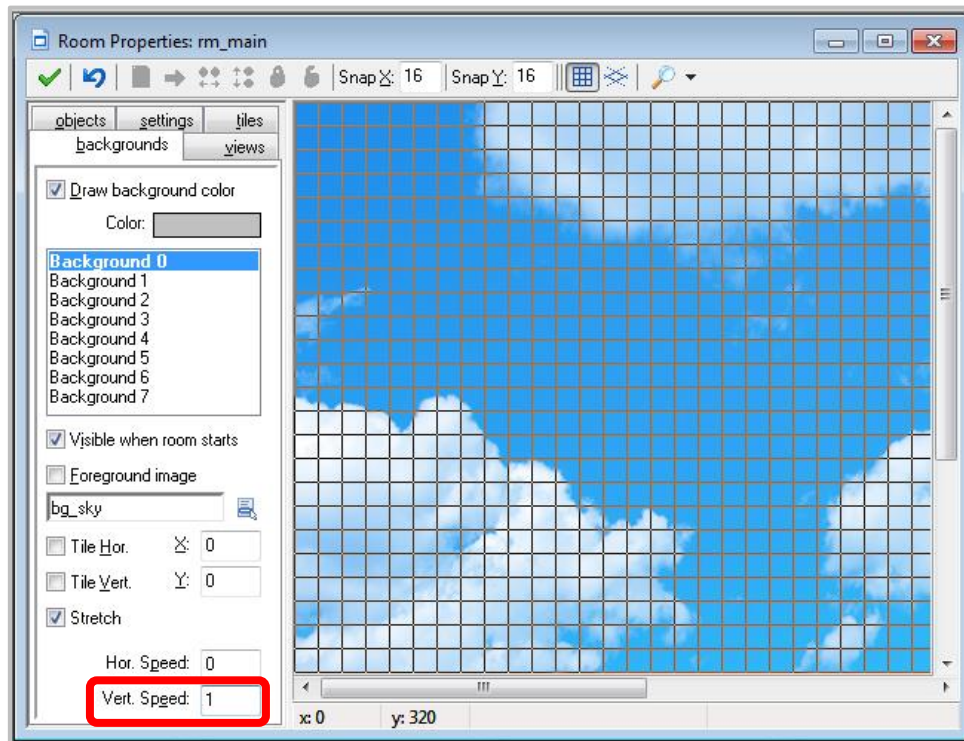


- If your background image is not big enough to fill the room, you need to make sure the **Stretch** check box is selected. If the background image is big enough to fill the room, you can leave this option unchecked.

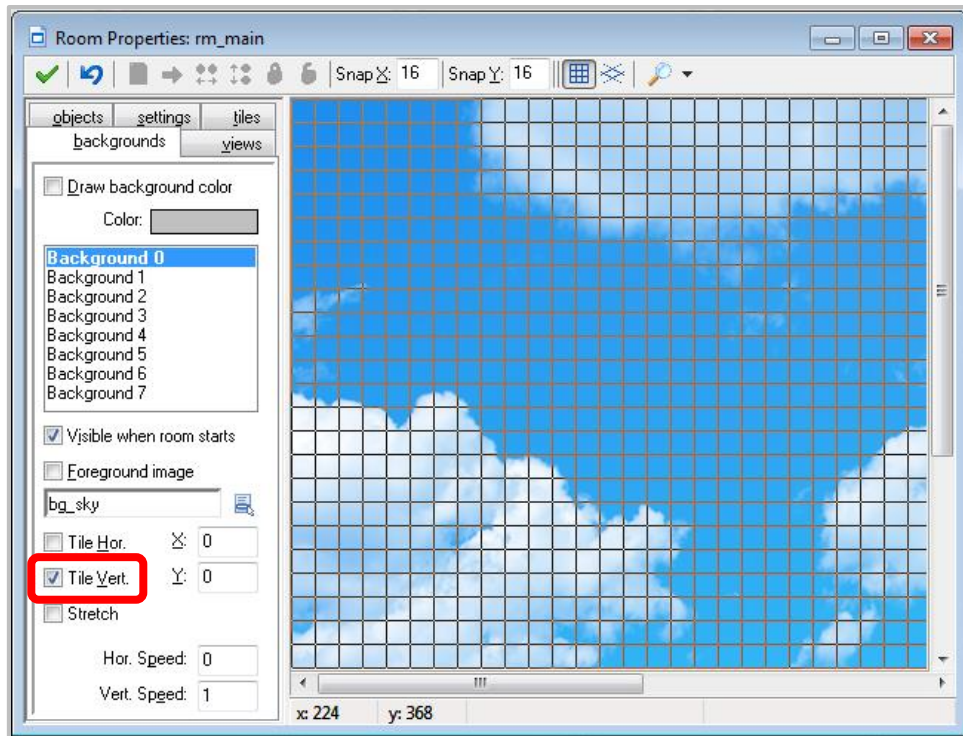


- Another useful setting you can set for your background is the **Horizontal** and **Vertical Speed**. This is used if you want a background that scrolls horizontally or vertically. So if, let's say, we want our background to scroll vertically, we would need to enter a value which will represent the number of pixels per step that the background will move. So, for this example, let's set our **Vertical Speed** to **1**. This will move our background down 1 pixel based on the speed that we set our background (in the Settings tab).

If you want the background to move vertically in the opposite direction, you would need to enter a negative value (i.e. -1).



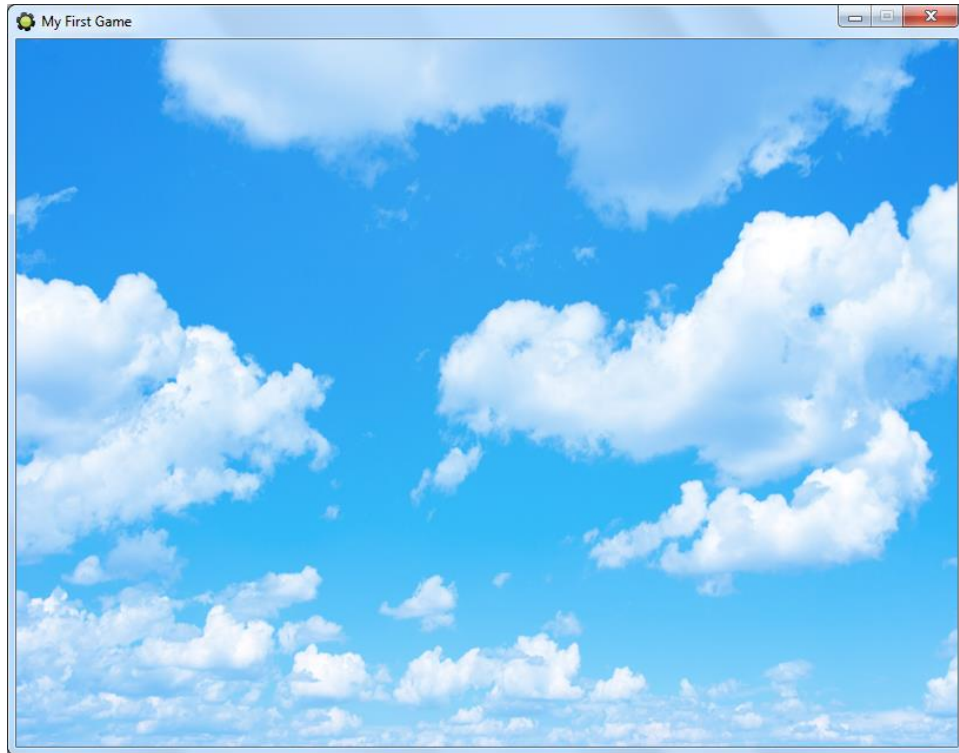
- One other thing to consider when using a scrolling a background, is making sure that you tile the background vertically (if you want to scroll vertically) or horizontally (if you want to scroll horizontally). So, in this example, we will need to ensure that the **Tile Vertically** check box is selected.



10. Now let's run our program by clicking on the **Run the Game** icon.



You should now see a window appear with your background.



In the next few lessons, we will learn to add objects, sounds, sprites, etc. to a room.