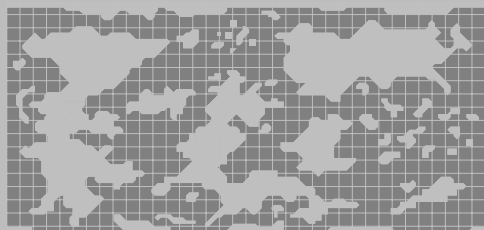


# The official **Blender 2.0** guide

- Ton Roosendaal
- Carsten Wartmann





# Preview

## Public Preview

This is the second chapter of The official Blender 2.0 guide, which will be published in January 2001 by Not a Number bv and Prima Tech.

This book is intended as a travel guide, an atlas to the Blender World. Inside, users will find help and references covering all aspects of Blender 2.03 to enable them to bring their creative ideas to completion.

You can buy the printed official Blender 2.0 guide at the Blender internet shop:  
<http://www.blender.nl/shop>

## Authors

Ton Roosendaal  
Carsten Wartmann

## Tutorial Authors

Randall Rickert  
Reevan McKay  
Willem Zwarthoed  
Bart Velhuizen  
Geno Ruffalo

## Design

Riff Raff, Amsterdam, the Netherlands

Published by Not a Number bv and Prima Tech

© Not a Number 2000-12-06

You are free to print this chapter for personal usage, all other means of distributing, copying, printing, commercial or non-commercial, is only allowed with prior written permission from the publisher.

Not a Number bv  
Van Eeghenstraat 84  
1071 GK Amsterdam  
the Netherlands

[www.blender.nl](http://www.blender.nl)  
[info@blender.nl](mailto:info@blender.nl)



# Chapter 2

## Quickstart

- 2.1 Start the engines
- 2.2 Load a scene
- 2.3 A first render
- 2.4 Adding an object
- 2.5 Position the sphere
- 2.6 Add a material
- 2.7 Texture
- 2.8 Simple animation
- 2.9 Rendering



Welcome to the wonderful world of Blender! The Quickstart will take you on a tour of the basic functions of this remarkable suite of 3D creation tools.

I am sure you have already installed Blender and know how to launch it. If not, then please refer to the “Installation” section in the appendix of this book. Basically the installation procedure consists of unpacking the archive onto your hard disk, and then starting it from there. The start procedure will depend on your operating system.

Once you have started Blender, it presents you with a screen with a big 3D view and many buttons. This is the default scene in Blender. Later in this book, you will see how to customise that default scene to suit your needs.



Usually, after experimenting with a few mouse clicks in a new program, one wants to load up some scenes to test what can be done with the program. The easiest way to do this in Blender is to use the “File” menu at the top of the screen. Click on “File” and choose “Open”. The keyboard shortcut for opening a new file is F1.

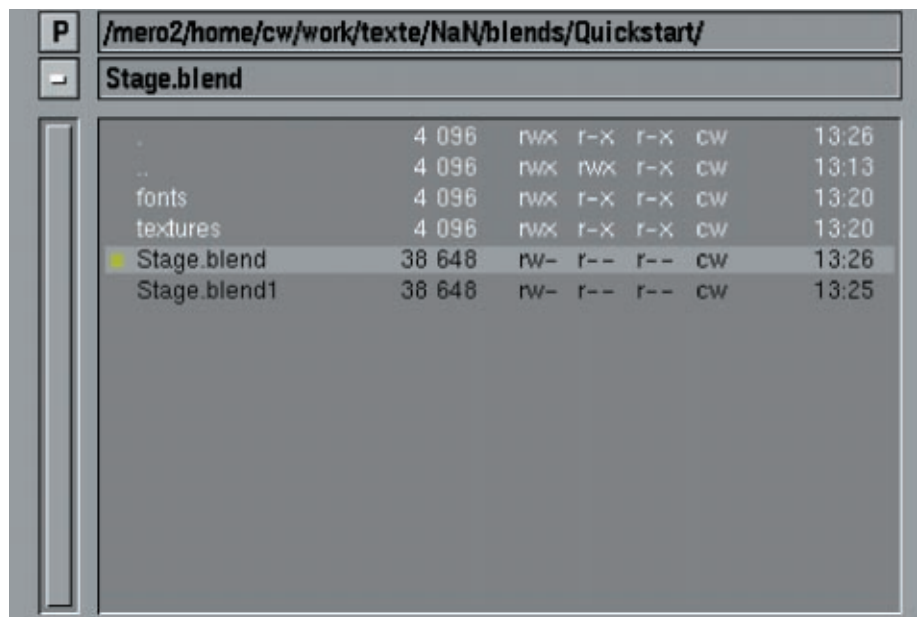
Blender makes extensive use of shortcuts for speedier functionality.

and, on Windows operating systems, a list of your drives.



The directory you are currently in is shown in the top text-field. The ParentDir button allows you to go up one directory.

Using these possibilities, go to your CD-rom drive and browse for the folder containing the file “Stage.blend”. Now click with the middle mouse button (MMB) on the filename “Stage.blend”. The file will be loaded immediately. Alternatively, you can click with the LMB and then confirm your selection with ENTER.

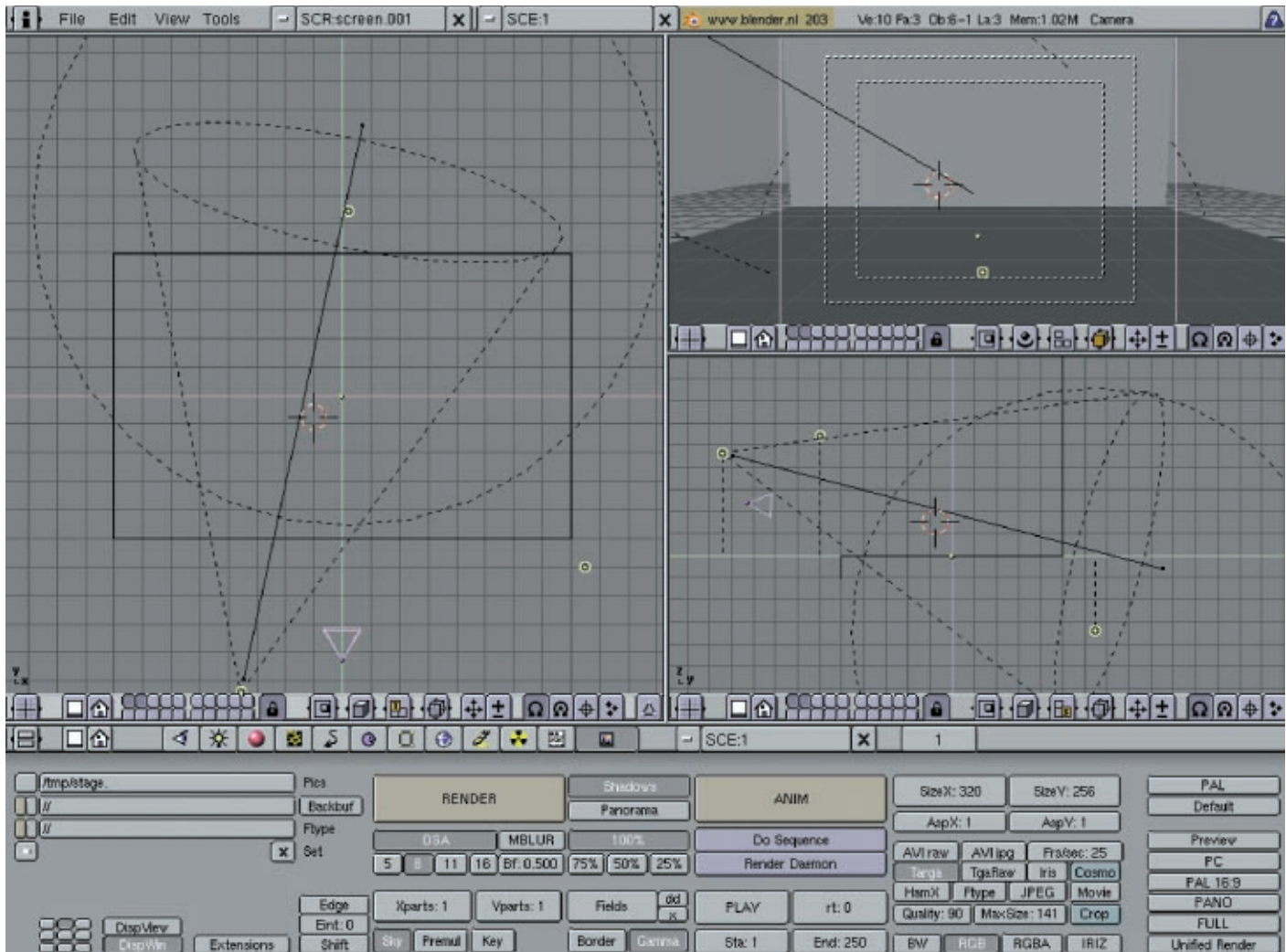


You will see that you have a FileWindow from which you can browse through all of the files on your computer.



Pressing and holding the MenuButton with the left mouse button (LMB) will give you a choice of recently browsed paths





➔ *Blender works best with a 3-button mouse. To compensate for the lack of a middle mouse button, hold ALT and press the LMB instead.*

The screen will now show four windows: a top view on the top-left, a camera-view on the top right, a side-view on the right middle. All three 3DWindows visualize the 3D space. The wide window at the bottom is the ButtonsWindow. In this instance it contains the DisplayButtons that control the rendering.



## A first render

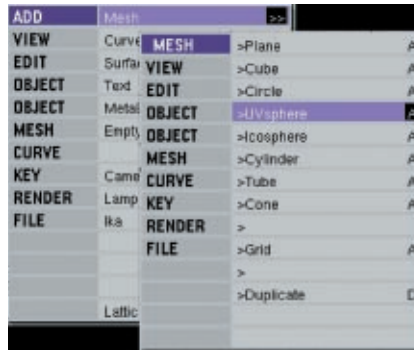


Just click on the big “RENDER” button in the ButtonsWindow and Blender will render the actual camera view and display it. You can see a brick wall at the back, and a wooden stage lit by a spotlight. This will be our stage for the next steps in this quick tour of Blender. Close the render-window with ESC, or F11.

## 2.4

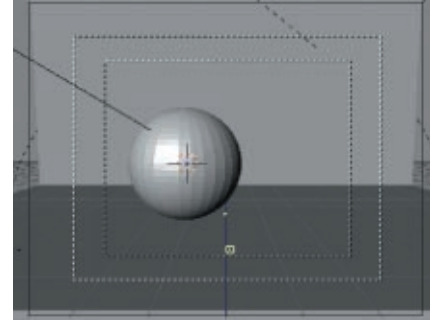
## Adding an object

Move your mouse cursor over the big 3DWindow and press SPACE, but without moving the mouse. The Toolbox, which is Blender's main-menu, will appear. Move your mouse over "MESH" and click with the LMB, the "MESH" submenu will appear.



Move your mouse down to ">UVSphere" (it will be highlighted in blue) and click the LMB again. A PopupMenu will prompt you, asking how many segments the sphere should have. Just click on "OK" for now. Leaving the PopupMenu with the mouse will cancel the creation. A second Popup will now appear and ask for the number of rings for the sphere. Just click on "OK" as you did before.

The sphere is now in the so-called "EditMode", a mode where we can edit every single point of the sphere in order to shape it the way we like. For now we want to manipulate the object as a whole and so we'll need to leave the EditMode. Press TAB and you will see the sphere drawn in pink in the 3DWindows and shaded in the CameraView.



You can now do another rendering (F12, then close with ESC or F11) and watch how the sphere casts shadows onto the scene.

So far the sphere looks a little blocky. You can see the single polygons that make up the appearance of the sphere. We will change this now. Press F9, and the ButtonsWindow will change to EditButtons.



Here we have several buttons with which we can change the mesh object, but for now we only need one. Locate the “Set Smooth” button in the third row of buttons in the EditButtons, and click it with the LMB. The sphere is now drawn smooth in the shaded camera view, and in a rendering.







2.5

## Position the sphere

Newly created objects will always appear at the position of the 3D cursor.



*You can use the 3DCursor to place an object in 3D space without using multiple views. Position the 3DCursor with a LMB click. What is very helpful here is that you can snap the cursor to the grid, other objects, or vertices (SHIFT-S).*

Most of the time you will create an object at a random position (without caring where the 3DCursor happens to be) and then move the object visually into position.

Now select the Sphere in one of the 3DWindows with the right mouse button (RMB). The colour of the wireframe views of the sphere will change to purple, indicating the selected objects in Blender.

Once you have selected an object, you can manipulate it. Move your mouse cursor to the big 3DWindow (the top view) and press GKEY to start the grab mode. The sphere turns white and follows the movements of your mouse in the window. In the other windows, you can see that it only moves in the two directions that you can control with the mouse. In this instance it moves around on the stage without either moving up or down.

When you are satisfied with the position of the sphere, click with the LMB to confirm the new position. If you don't want to change anything, or if you should accidentally move an object, click with the RMB to cancel.



*ESC and the RMB both cancel Blender operations.*

Now try to move the sphere a little bit above the stage. This can be achieved by moving the sphere in the side view (the 3DWindow below the camera view). Change the position until you are satisfied that you have a feeling for moving objects in the Blender windows. Do some test renderings to see how the position changes the scene and influences the shadow.



2.6

## Add a material

Select the sphere and switch the ButtonsWindow to the MaterialButtons by pressing F5. You will get a near empty window. Locate the so-called "MenuButton" in the header of the MaterialButtons.



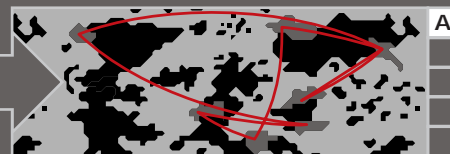
Now, press and hold it with the LMB. A menu will appear in which you can select "ADD NEW" with the mouse.



A clutch of Buttons will appear in the ButtonWindow, but don't worry -- we do not need to touch them all just now. The most prominent property of a surface is the colour. Locate the colour sliders to the right of the material preview.



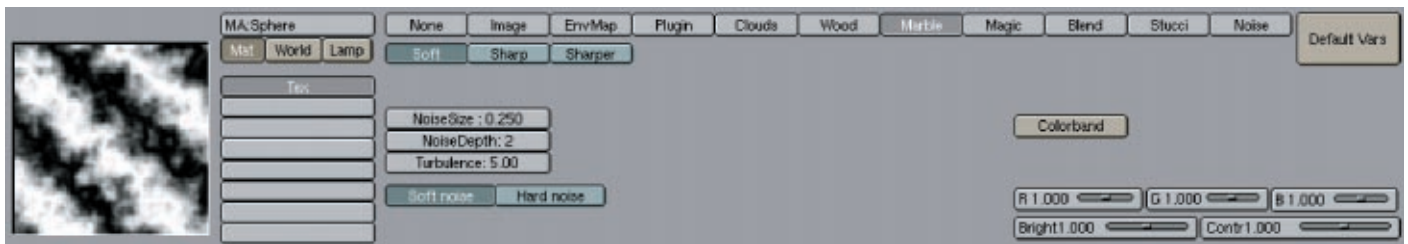
The colour sliders are labeled with "R, G, and B" which stand for the base colours Red, Green and Blue. You can adjust each of them, in a range from 0.0 to 1.0, to get every colour you could possibly want. Also, you can use a different way of setting up colours if you click on the "HSV" button. The colour slider will change to "H, S and V", with the "H" slider you choose a hue, and then adjust its saturation with "S", and its brightness (Value) with "V". Experiment with both of these methods for choosing a colour and see which suits you best. I have chosen a gold tone, which is a setting of R=0.80, G=0.74 and B=0.00 on the RGB sliders.



## 2.7 Texture

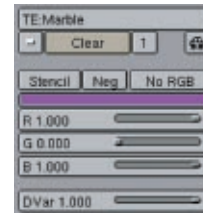
Textures are patterns or structures on the surface of an object. Blender has several types of textures to simulate different materials.

With the sphere selected, press F6 to switch to the TextureButtons. Locate the MenuButton again and add a new texture in the way we did for the material. Now Blender presents you with the built-in texture types.



Choose a marble texture by clicking on the button "Marble". Blender shows you a preview of the texture in the TexturePreview on the left of the window.

For the purpose of this quickstart, we won't care too much about the settings we'll just go with the defaults. You can now do a render by pressing F12 to see a purple and gold marbled sphere. To change the colour of the marble texture go back to the MaterialButtons with F5 and locate the colour settings for textures to the right side of the window.



You can now change the colour of the texture, just as we did for the material. If you choose to use the HSV colour setting you will also see the HSV sliders here.



*You should name objects, materials, textures, etc., in Blender to help you keep track on them in bigger scenes. Just click on the appropriate TextButton in the header of a window and edit the name with the QWERTY keys. A special function here is the little button with the car on it, if clicked upon, Blender names the object itself.*







One of the great strengths of Blender is its animation functionality. We will now make a simple animation in just a few steps.

Select the sphere, move your mouse cursor to the big 3DWindow (the top view), and press GKEY to move it. Move it to the left and watch the camera view while so doing. The sphere should be outside the outer dotted line in the camera view. This dotted line denotes the area that will be rendered by Blender.

Now we'll instruct Blender that this will be the initial position of the Sphere. Press IKEY and choose "LOC" from the appearing menu.



Blender will now remember this position, but we still have to tell it where the sphere should go. For that we need two pieces of information: the new position, and the time when the sphere should reach that position.

1

We already know how to do this for the location. The time we set with the 'FrameSlider' that is located in the header of the ButtonsWindow. It now is at frame one. Press UPARROW six times and look at the FrameSlider. It has advanced 60 frames. You can now move the Sphere to the final position that you want it to be, and insert a new keyframe with IKEY (again choose "LOC").

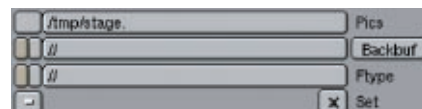


*Blender counts time in frames. The 60 frames we have used here are roughly equal to two seconds of animation.*

Now move your mouse cursor over the camera view and press SHIFT-LEFTARROW to set the FrameSlider to the first frame, and then ALT-A, which will play the animation in the 3DWindow as a preview. Depending on the speed of your computer, and the graphics card installed, you will get a real time preview of your animation.

In this latter stage of the production, Blender will calculate every picture and save it to your harddisk. You can then play the animation or edit it for use on the internet or on video.

The ButtonsWindow, which we will need for this step, is accessed by pressing F10. The DisplayButtons will appear.



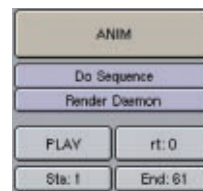
The first thing we need to tell Blender is precisely where the calculated pictures, or the animation, should be stored. This is done using the buttons on the left in the DisplayButtons. In the input field labeled "Pics", you can enter a directory and filename in which Blender should store the pictures (or animation). Click on the square button to the left of the textfield to get a FileWindow in order to browse for a directory and enter a filename.



*Make sure the directory you enter exists, otherwise Blender will not save any of your pictures.*



Now enter a size for your animation using the size buttons in the DisplayButtons. Bigger sizes will, of course, increase the rendering time, so if you don't have a fast computer, or your patience is limited, don't choose too big a size. Under the size buttons you can tell Blender in which file format you want to save the animation. For now, I suggest we use "AVI raw".



Below the "ANIM" button, you can adjust the length of the animation. For the purpose of this quickstart, it should be "Sta: 1" and "End: 61" because your animation lasts for that amount of time measured in frames.

Now click "ANIM" with the LMB, and Blender will render every single picture of the animation. When Blender has finished, press "PLAY" and Blender will play back the rendered animation.



*You can always cancel the rendering with ESC if you don't like the result, or if it takes too long.*

And that's it! You have just completed your first 3D animation. By now you should have a good general idea of the steps required in order to make animations in Blender.

