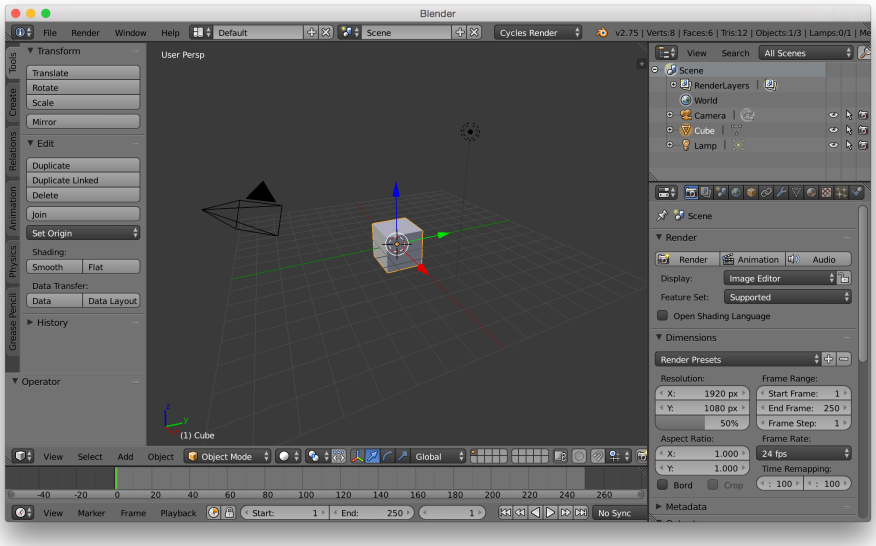


The Blender Quick Start Guide

by Darrin Lile

Blender Foundation Certified Trainer

It takes time and practice to learn and internalize Blender's workflow. But given the right guidance, anyone can quickly get up to speed and start creating with Blender.

Blender began as an in-house 3D graphics program in the 1990s and has grown into an incredibly powerful 3D animation and visual effects suite of tools. But perhaps the most astounding aspect of Blender is that it's free. It provides artists all over the world with amazing opportunities to create their visions at a very low cost of entry. Granted, you need a computer, and a fairly powerful one at that. But an artist anywhere in the world can download Blender and begin creating their dreams.

Having said that, I will be the first to admit that there is a bit of a learning curve to using Blender. It is not an easy program to learn, and definitely not an easy one to master. It takes time and practice to learn and internalize Blender's workflow and logic. But I think, given the right guidance, anyone can quickly get up to speed and start creating with Blender. And that's what this Blender Quick Start Guide aims to do: get you started creating your visions in Blender as quickly as possible.

Installing Blender

The first thing you need is, of course, Blender. If you haven't downloaded the program yet, go to www.blender.org and click on the Download button on the main page for the latest version. This will take you to the Download screen where you can download the appropriate flavor of Blender for your particular operating system.

Note the system requirements while you are there. You should have at least 8 GBs of RAM in your computer and have a reasonably good graphics card, with at least 1GB of memory. These specs will help with the speed at which Blender can render the models and images on your screen.

When you first open Blender it is a fairly sparse initial interface, as 3D animation programs go, but there is a lot hidden here…

In addition, you may want to invest in a pen and tablet for your computer as well. I use a Wacom Intuos tablet for sculpting and texture painting. This is extremely helpful and provides a lot of control when doing detailed work. Using the mouse in these situations can be very frustrating. In addition, Blender uses many shortcut keys on the keyboard number pad. I use a laptop that does not have a number pad so I have purchased a separate Bluetooth number pad. I pull this out whenever I use Blender. I highly recommend it. If this isn't an option for you, I'll talk about how to emulate number pad keys later.

Once you have downloaded Blender follow the instructions on the website to install the program. For most operating systems all that is required is a simple double-click of the downloaded file to install Blender.

The Blender Interface

When you first open Blender it is a fairly sparse initial interface, as 3D animation programs go. There is a lot hidden here and we will not be able to go over every single detail in this guide. But here are the essentials of what you need to know to get started.

Navigation

To move around in Blender's 3D View, the main thing you need to know is that the **Middle Mouse Button** rules.

Hold down the Middle Mouse Button (MMB) and move the mouse and you will tumble around in the 3D world. To pan the camera back and forth hold down the **Shift key** and click and drag the MMB. To zoom in and out, hold down the **Control key** and click and drag the MMB. You can also turn the scroll wheel on the mouse to zoom in and out.

So in a nutshell, here's what you need to know about navigating the 3D viewport:

- MMB = Tumble
- Shift + MMB = Pan
- Ctrl + MMB = Zoom
- Scroll Wheel = Zoom

The selection of objects in Blender is one of those things that can turn people off. But know that there is a certain logic behind this.

Selection

The selection of objects in Blender is one of those things that can turn people off right from the start. But please stay with me and know that there is a certain logic to it.

To select an object in Blender you use the Right Mouse Button. That's right, unlike every other program on earth, you select things with the right mouse button. So hover your cursor over the camera in the 3D view and click the right mouse button. An orange outline appears around the object letting you know that it has been selected. If you try to select an object with the Left Mouse Button, you'll find that, instead of selecting the object, the action just moves a little red circle around the screen (we'll talk about that in a bit). It's a little odd, but once you get into the groove of Blender's way of doing things, it actually works out pretty well. Try and be open-minded about it here at the start but, if if just isn't

working for you, we will soon talk about how to switch to the Left Mouse Button.

If you want to select more than one item at a time, hold the Shift button down on the keyboard while you click. Now when you right-click another item it will add it to the existing collection of items. To deselect an item from the selection just hold Shift and RMB click it again.

Now that you have a few objects selected, what if you just want to deselect everything? Well, you can not just click out in empty space. That would move that red circle thing around again. No, to deselect everything just press the A key on the keyboard. And if you hit the A key again it will now select every visible object in the scene. The A key toggles the selection of all objects.

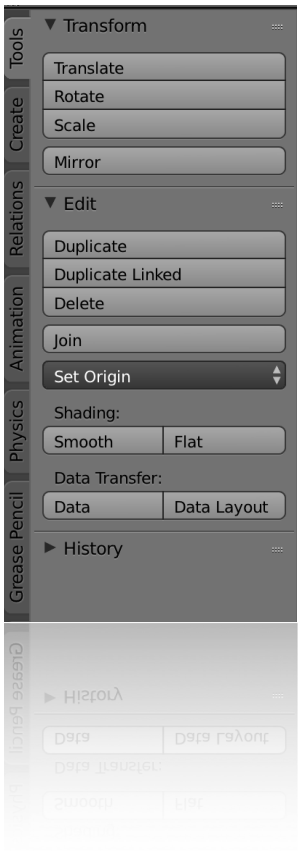
In terms of navigating within the 3D space, the main thing you need to know is that the Middle Mouse Button rules.

Here's a quick run-down of the selection options we've discussed so far:

- RMB = select an object in 3D view
- Shift + RMB = add to or remove an object from the existing selection
- A key = toggles selection and de-selection of all objects visible in the 3D view

Tools and Properties

There are many panels and windows to work with in Blender. But two of the most important are the Tool Shelf and the Properties Panel. These allow us to create and modify objects in the scene.



The **Tool Shelf** is usually already visible on the left side of the Blender interface. It can be toggled on and off with the **T key** on the keyboard.

The left side of the Tool Shelf itself holds some handy tabs for categories like Tools, Create, Relations, Animation, and Physics. The Tools and Create tabs will probably be what you use most as you're learning Blender.

On the right side of the 3D viewport is where you will find the **Properties Panel**. It is often hidden from view when you first open Blender, but you can toggle its visibility on and off with the **N key** on the keyboard. The Properties Panel allows you to view and adjust the properties of the objects in the your scene.

For example, select the Cube and at the top of the Properties Panel you should now be able to see the fields for its Location in the scene. If you haven't moved the cube, the X, Y, and Z fields will read 0.000. Below this are the Rotation, Scale, and Dimensions fields. As we move and alter our objects in the screen, we'll be able to see these fields update. You can also enter numeric values directly into these fields to transform the object. And if you're feeling fancy, you can even type in an equation, like 2 + 3 in the Location Z, and Blender will update the scene accordingly, moving the object up 5 units.

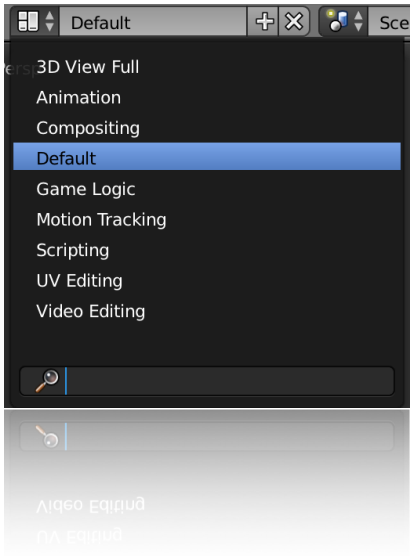
If you scroll down the Properties Panels there are quite a few other sections available. You can change the focal length of the camera in the Lens field of the View section. And you can also change the name of the selected object in the Item section.

Screen Layouts

There are of course many other windows in the Blender user interface besides the Tool Shelf and Properties Panel. And they are all remarkably configurable. In fact, each window you see in the Blender interface can be changed, resized, or simply removed altogether.

If you hover your cursor over the border of any two windows, you can click and drag to resize those windows. If you Right-click on one of these borders you get an **Area Options** menu that allows you to choose between Split Area and Join Area. Use these to split an existing window or combine two into one.

However, any changes you make at this point will be applied directly to the Default screen layout. The Screen Layout menu is at the top of the interface. My suggestion is to create a new screen layout before you begin rearranging the screen. That way you always have the Default layout to go back to.

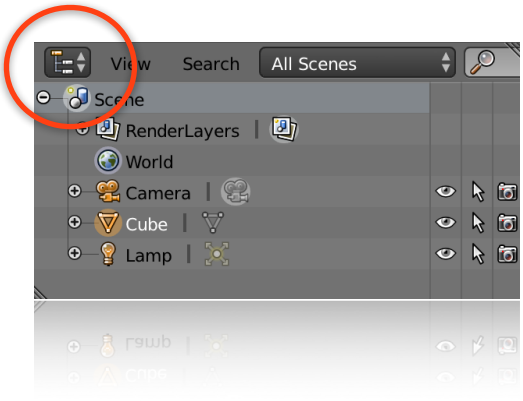


To create a new screen layout you can click on the plus icon next to the screen layout pull-down menu. Give your new screen layout a new name and then you can make any changes to this new screen layout that you would like. If you expand the pull-down menu you can find the Default layout still there for you to go back to.

There are other screen layouts listed here. This menu gives you several options for configuring the interface based on specific yet common tasks for which artists use Blender. There are Screen Layouts for Animation, Compositing, Motion Tracking, and Video Editing. Try one and see what you think. Going through each of these and examining the different windows in each layout provides good insight

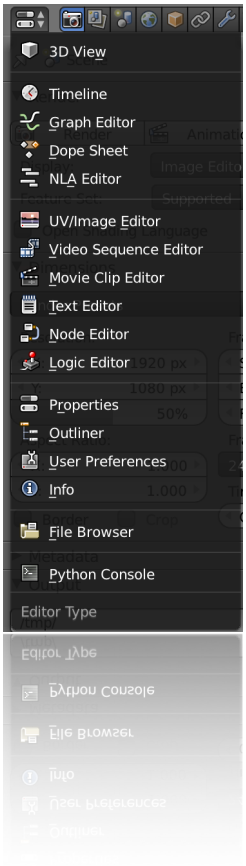
By the way...

You can press Ctrl + right- or left-arrow to scroll quickly through all the different screen layouts.



into how people use the Editor panels as well as how easy it is to configure Blender's interface.

For example, the top right panel when you first open Blender is an Editor window called the **Outliner**. The Outliner displays a list of the objects in the current scene and allows you to adjust their visibility, select-ability, and render-ability. But this is just one Editor type that could be displayed in this window. If you click on the button in the top left of the panel window you will get a list of all the possible Editors that are available. Several of them are already shown in the default layout, like the Properties panel, the Timeline, and the 3D view. But as you can see, there are many more.



Editor Windows

Each of Blender's Screen Layouts is made up of multiple Editor Windows. You can access a list of Editor Types by clicking on the pull-down menu button in the corner of any window. The list is rather long and many of these you may not use for some time, if ever, depending on your needs.

You can change any window to any Editor type. So we could change the Outliner to the Node Editor, or the Dope Sheet, and then back again. But remember, any change you make is applied to the screen layout your using at the time.

Working with Objects

Objects are the building blocks of any 3D model. You can see the base primitive objects that are available by clicking on the **Create tab** in the Tools Shelf on the left. From here you can create Meshes, Curves, Lamps, and other objects such as Cameras, Armatures, and Text objects.

Let's try this. If you haven't already, select the cube in the center of the grid with the RMB and hit the Delete key. You will then have to confirm the action by clicking Delete from the menu.

Now click the UV Sphere button in the Create Tab. This will create a new object at the location of the 3D Cursor (that little red circle thingy again. I promise we'll talk about that soon). Notice that a new collection of fields and buttons appears at the bottom of the Create Tab on the left. These are settings that only appear when you first create an object. They allow you to adjust the object before beginning to edit it. If you were to move or alter the object in any way, these settings would disappear and would no longer be available. They are only here during the initial set-up of the object in the scene.

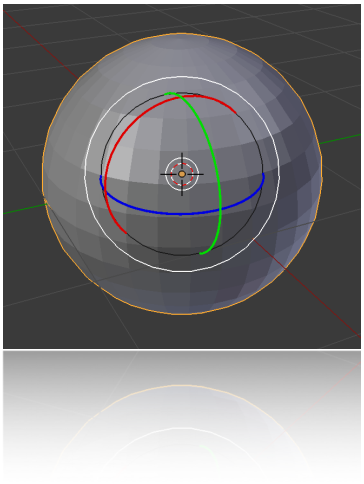
If you change the Segments field to something like 6 and the Rings to 8, you can see how this effects the shape and look of the sphere.

Transforming Objects

Now that you've created an object, you might as well move it around a bit, right? You're choices are to Translate, Rotate, or Scale the object. And you can do this in a couple of different ways.

First let's look at the **Transformation Manipulators**. You can select which manipulator you would like to use at the bottom of the 3D View. Selecting a Transform manipulator superimposes the transform gizmo over the selected object and by left-mouse-button (LMB) clicking and dragging on one of these arrows you can move the object within 3D space. If you click on the Rotate button, you will see a new type of circular gizmo superimposed on the selected object. Clicking and dragging on one of these rings allows you to rotate the object around. Lastly, if you click on the Scale button, you stretch and squash your object by clicking and dragging on any of the lines with the small boxes at the end.

Notice that the colors of each gizmo correspond to the colors of the axis in the bottom left of the 3D view. These are the axes of the 3D world inside Blender. The blue axis is the Z axis which represents up and down. The red axis is the



X axis, which represents side to side, or left to right, directions in our 3D space. And the green axis is the Y axis, which represents the forward and backward axis in Blender.

There are of course shortcut keys for Translate, Rotate, and Scale. For Translate, you can press the G key (think "g" for grab) and move the mouse. This moves the object freely in 3D space. When you have placed the object where you would like, click the Left Mouse Button to confirm the action. Likewise, you can press the R key to Rotate, and the S key to Scale. When you press one of these keys and move the mouse, however, you don't have a great deal of control over how the object is adjusted. The object tends to move, rotate, or scale in multiple axes.

You can select a particular axis in which the action should take place by adding an extra key-press after the shortcut key. For example, let's say that we'd like to move that sphere in the X axis only. You can press the G key for move and then the X key on the keyboard. Now when you move the mouse the object will be constrained to only moving in the X axis. This works for rotation and scale as well.

And you can you can get even more fancy with this trick. Say you wanted to move a sphere up five grid units. You could press G for move, the Z key for the Z axis, and then press 5. Your sphere moves up 5 units. Now just click the mouse or press Enter to confirm the action. This works with rotation, but the number you enter is the number of degrees to be rotated. So you could press R, then Y, and then type 45. Your object rotates 45 degrees around the Y axis.

By the way...

Most other 3D programs use the Z axis to represent the forward and backward axis, and the Y axis for up and down. This really isn't an issue until you begin importing Blender objects into other 3D animation packages.

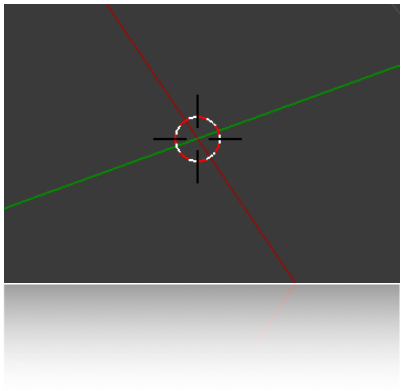
You can also indicate which axis you do not want to be effected by the action. For example, if you had a cylinder and

you wanted to scale it in the X and Y axes, but not in the Z (so it got fatter but not taller) here's what you could do. Select the cylinder and press S for Scale, then press Shift + Z to tell Blender that you do not want the Z axis effected, and then move the mouse. Now the cylinder scales only on its X and Y axes, increasing its width without increasing its height.

Here are the shortcut key combinations we've just discussed:

- G key: Translate (or Move)
- R key: Rotate
- S key: Scale
- G, R, or S and then X, Y, or Z to constrain the action to an axis
- G, R, or S, and then X, Y, or Z, and then the number of units to be effected
- G, R, or S and then Shift + X, Y, or Z to choose the axis that will not be effected by the action

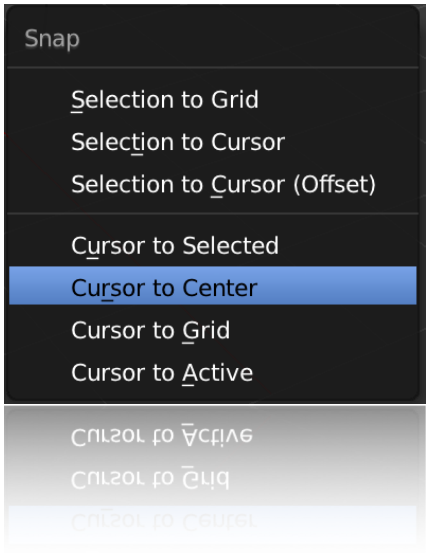
The 3D Cursor



OK, I've put off talking about the **3D Cursor** long enough. This is one of those very "Blender things" that you just don't find in too many other animation programs. In fact, I've never seen anything like it. But surprisingly enough, once you get used to it, that little red circle thingy comes in pretty handy.

The 3D Cursor allows you to snap things to a particular point in 3D space. You can place the cursor somewhere and then snap an object to it, or a vertex, or a pivot point; anything really. As you have no doubt already discovered, you can click the left mouse button anywhere in the scene and the 3D

Cursor will move to that point. You can also use the **Snap Menu** to move it around.

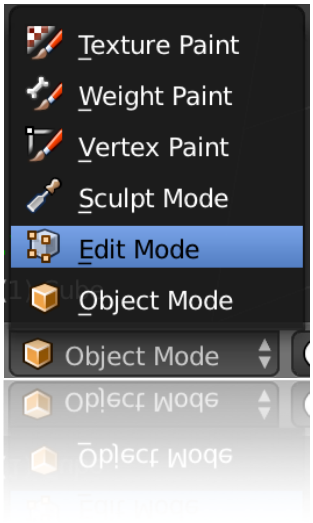


Press **Shift + S** to bring up the Snap Menu, and here you can choose among several ways of moving the 3D Cursor. You can snap the Cursor to the current selection, to the center of the grid, to the nearest grid unit, or to the active object. Which you choose depends on what you would like to do.

Let's say you had two objects in your scene and you wanted to place a point light exactly in the center between these. You could select the two objects, press Shift + S to bring up the Snap Menu, and choose the "Cursor to Selected" option. This would place the 3D Cursor in the center of the selected objects. Now you could go to the Create Tab on the Tool Shelf and click on the Point Light button. New objects are created at the position of the 3D Cursor.

Another great way to use the 3D Cursor is for moving the pivot point of an object. By doing this you can change the point at which an object rotates or scales. Instead of any object rotating at its center point, like a seesaw, it could rotate at one end, like a lever. But to discuss this further, we first need to talk about Edit Mode.

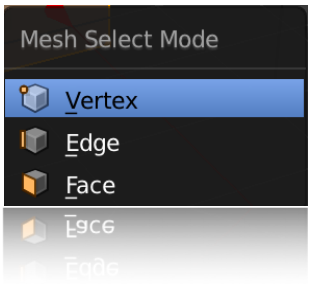
Edit Mode



So far we have been working in what is called **Object Mode**. Down at the bottom of the 3D view, there is a menu and it is usually set to Object Mode when you first open a scene. This is the Object Interaction menu. If you click on this you can see many other interaction modes. Switch to Edit Mode here, or you can toggle in and out of Edit Mode by simply pressing the **Tab key**.

In Edit Mode you have access to the basic components that make up an object: vertices, edges, and faces. A vertex is just a point in space. It has location, but no size. An edge is the connection of two vertices: a line. And a face is defined by at least three connected edges.

You can switch between these three basic components by choosing the appropriate button at the bottom of the 3D View: Vertex Select, Edge Select, or Face Select. You can also switch between the Select Modes by pressing **Ctrl + Tab**. This brings up the Mesh Select Mode menu.



It is in Edit Mode that the majority of modeling is done. Adjusting a 3D model in Object Mode allows you to control its scale and proportion, but it is in Edit Mode that the details are created.

Pivot Points and Origins

We took a brief detour away from the 3D Cursor to discuss Edit Mode, but now we need to revisit the topic to look at the concepts of Pivot Points and Origins in Blender.

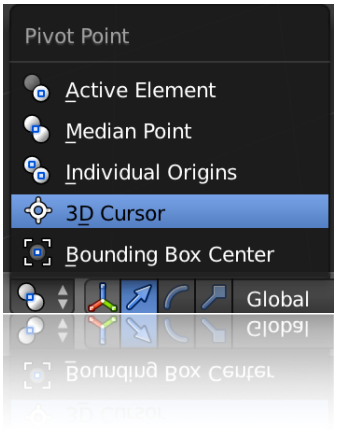
In most 3D animation programs, the pivot point of an object is the same thing as its origin. The model naturally scales from and rotates at its origin, and you are given tools to move that origin to wherever you would like. But the origin and the pivot point of an object are always treated as the same thing, inextricably intertwined.

Blender however, does this a bit differently. Every object has an origin, and yes we can rotate the object around its origin any time we like. But we can also rotate an object around the location of the 3D Cursor, apart from the origin. This allows us to do some pretty tricky stuff once you get to used to the idea. So let's examine a scenario in which this might be useful.

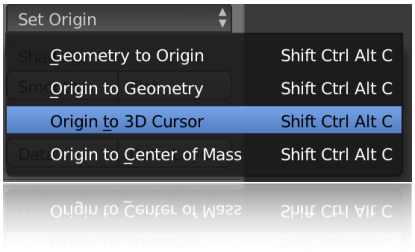
Let's say we have a door that needs to rotate at its hinges to open. For animation purposes we would move the origin of the object in line with the hinges. Now when we go to the rotate tool the door object will rotate at its hinges. But what if, when setting up our scene, we needed to scale the door up from the ground? We could move the origin to the base of the door, scale it, and then move the origin back to where it was for opening of the door. But a more efficient way would

be to move the 3D Cursor to the base of the door, and then tell Blender to temporarily scale from the position of the 3D Cursor.

How would we do this? As discussed earlier, pressing Shift + S will bring up the Snap Menu. This allows us to snap the cursor to whatever is selected. So we could select a vertex at the base of the door, press Shift + S, and then choose Cursor to Selected. This moves the 3D Cursor to the proper place, but now we need to tell Blender to use this as the point from which we will scale the door.



We use the **Pivot Point menu** at the bottom of the 3D View to do this. The default setting for this is Median Point. This usually coincides with the origin of the object. But if we select 3D Cursor from this menu, Blender will use the location of the 3D Cursor as the pivot point when we scale the door. When finished we can switch back to Median Point.



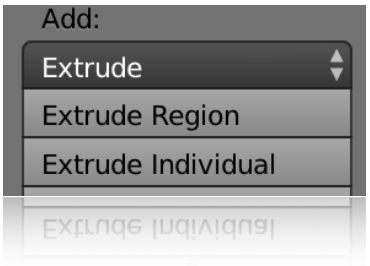
We can also use the 3D Cursor to move the origin of an object. On the Tool Shelf, under the Tools tab, you will find a pull-down menu titled **Set Origin**. When you fly the menu out you have several options for moving the origin of the selected object. One of them, of course, is **Origin to 3D Cursor**.

Treating the pivot point and the origin of an object as separate things allows us a great deal of freedom when working with objects in Blender.

Essential Modeling Tools

There are many modeling tools in Blender, and the list seems to grow with every version update. But there are two essential modeling tools that you must know from the beginning. You can create an amazing array of object from just these two tools. And for both of these, you need to have the object in Edit Mode.

Extrude

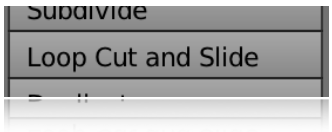


The **Extrude Tool** is one of the most fundamental tools in 3D modeling. It is essential for adding new geometry to a model. You can find the Extrude button on the Tool Shelf (T key) under the Create tab. The shortcut for this is the **E key**.

Let's give it a try. Add a Cube into your scene. Go into Edit Mode by pressing the Tab key, and then press Ctrl + Tab to bring up the Mesh Select Mode menu. Choose Face from this menu. Now select a face and press the E key. When you move the mouse Blender will extrude the face along a perpendicular line, creating new faces. You can select and extrude multiple faces as well.

For just about anything you create, you we will be using the Extrude Tool quite a bit. But you can also extrude edges. Select an edge and extrude it out. You'll see that it pulls a single plane out from the edge. This kind of shape is usually not recommended, however. For several reasons, you usually want only two faces to have a common edge. And for your information, you can also extrude a vertex. But that's not advisable either. In 3D, as in life, just because you can do something doesn't always mean you should.

Loop Cut and Slide



Loop Cut is an essential tool with which we can add edges to our 3D models. It too has a button on the Create tab of the Tool Shelf, and its shortcut key is **Ctrl + R**.

After you press Ctrl + R you will need to hover your mouse cursor over an edge of the object to get a kind of ghost image of the edge loop that will be created. Move the cursor to other edges of the object and the ghost loop will hop from one place to another, giving you an indication of where the actual edge will be placed. Once you find the right location, click the Left Mouse Button (LMB) to drop a temporary edge onto your object. You can now slide that edge back and

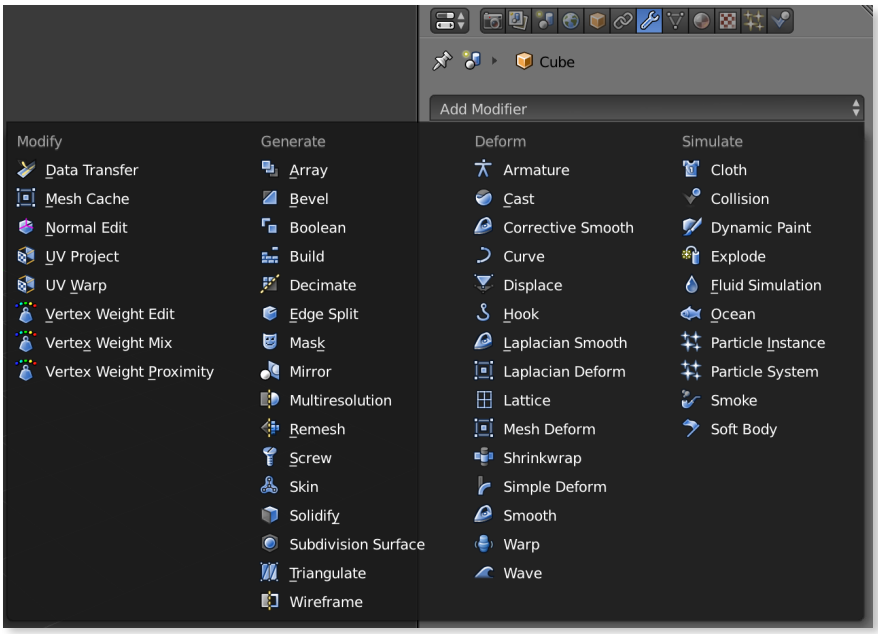
forth with the mouse. When you have placed the edge exactly where you want it to go, click the LMB again to confirm the action.

The shortcut keys for the essential modeling tools we have discussed are:

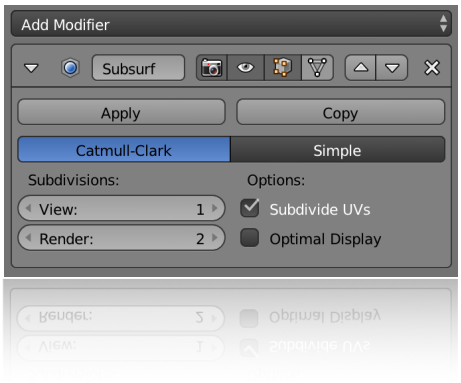
- Extrude: E key
- Loop Cut and Slide: Ctrl + R

Modifiers

There are several modifiers that you should know about at the beginning of your Blender journey. They can be found in the Properties Window, on the right side of the screen, when you click on the Wrench Icon. The ones that we will be discussing are the Subdivision Surface and the Mirror modifiers. There are many more, as you can see in the Modifier pull-down menu. But these two will serve you well as you get up to speed quickly in Blender.



The **Subdivision Surface** modifier allows you to smooth the polygons of a model by virtually and interactively subdividing the mesh. You can increase or decrease the amount of smoothing within the settings of the modifier. With each increase in subdivisions, the model increases in smoothness. Ultimately you can apply the smoothing permanently to the model by clicking the Apply button.

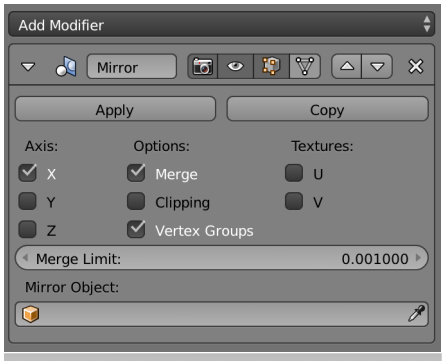


To add the Subdivision Surface modifier to an object simply select it from the Add Modifier pull-down menu. Increasing the value in the View field will increase the number of polygons you see in the 3D View. You can set a different value for how you the object looks in the final render using the Render field.

There are two types of subdivision algorithms that you can use to subdivide the object with this modifier. One is Catmull-Clark, which will smooth the object, rounding out the edges. The other is Simple. Clicking the Simple button will allow you to add polygons to the object without rounding off the corners. The button with the Eye icon on it will toggle the effect off and on in the 3D view window.

When using any of the modifiers, keep in mind that the changes they make to the object are just a preview. The changes are not applied directly to the object until you press the Apply button. The modifier will then disappear from the modifiers list and the changes will be applied permanently. But very often you do not have to apply the changes if you are using your model solely in Blender. A model can often be rendered and even animated with modifiers added and not applied.

The **Mirror** modifier is an excellent tool for models like characters and vehicles, anything that is symmetrical across a center axis. With this modifier you will be able to model just one side of a character and the changes will mirror automatically to the other side.



It is usually best to use the Mirror modifier on an object that is in the center of the grid. I tend to model my objects in the center of the grid and then, when finished, move them to the proper location in the scene.

To use the Mirror modifier, delete one half of your object and then apply the modifier. You can select to mirror along the X, Y, or Z axes. In the example on the left I've chosen the X axis.

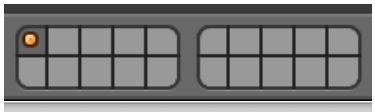
The Merge option is on by default, and should be left on if you want the two sides to become one object when you apply the modifier. I generally enable the Clipping function as well. This will allow you to drag points that should be on the center line and snap them together. This helps avoid seams down the center of your object.

Keep in mind that this modifier mirrors around the origin of the object. So you may need to use the 3D cursor to move the origin to the proper location. If you are getting undesired results from the Mirror modifier, sometimes a change in the position of the origin can help.

Like any other modifier, you can click the Apply button to make your changes permanent. For the Mirror modifier, I recommend applying the changes before moving on to other parts of the modeling process, like rigging a character or texturing. Strange results can occur if you leave this modifier in the list while using other tools.

Ultimately, you can add as many modifiers to an object as you like, but be mindful of the Evaluation Order of the modifier stack. Blender evaluates and applies the modifiers in the stack from top to bottom. Depending on the modifiers that are used, the order in the stack can affect the results that you get. Having a Mirror modifier above a Solidify modifier above a Subdivision Surface modifier can give very different results than Subdivision Surface, Solidify, then Mirror. You can move individual modifiers up and down in the stack and sometimes this just has to be tested to see what the results will be with different stack orders.

Layers



An important part of any project, 3D or otherwise, is organization. And Blender's layers help you stay organized as you create your scene. The layers are found at the bottom of the 3D view. You can select an individual layer by clicking on one of the boxes, or multiple layers by Shift + clicking several.

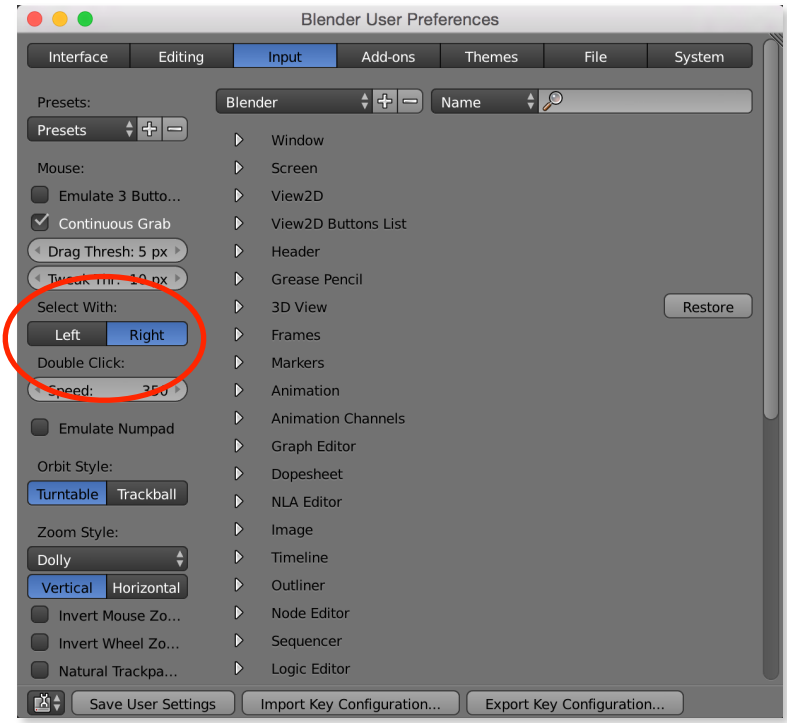
You can also move selected objects from one layer to another. Just press the M key on the keyboard and the "Move to Layer" window comes up. You can then select one or many layers to move the object to.

Personalizing Blender

There are a few ways of personalizing Blender that might help you work more efficiently. One is changing the selection of objects from the right to the left mouse button. Another is creating shortcut keys for the manipulator tools. And of course, you can change the color scheme of the interface as well. Lastly, we'll look at how to emulate number pad keys on a laptop. Let's take a look at each of these.

Mouse Button Selection

Selecting objects with the right mouse button may not be everyone's cup of tea. I've been using Blender for years and it still feels odd to me at times. So if you would like to change to using the left mouse button, no one will hold it against you. Here's how...



Go to the File menu at the top of the screen and then choose User Preferences. The Blender User Preferences window will open. Now click on the Input button at the top of the window. On the left side you will find a "Select With:" section with buttons for Left and Right. Click the Left button.

When finished be sure to also click the "Save User Settings" button at the bottom of the window. Now when you close the window you should be able to select objects in Blender with the left mouse button. For most people this will probably feel a lot more intuitive.

Manipulator Short Cut Keys

I started in 3D animation long ago with programs like Lightwave and 3ds Max. Because of this I got used to having short cut keys to switch between the Move, Rotate, and Scale manipulators. I still like the intuitive nature of grabbing a manipulator and transforming the object or component in a particular axis. And even though I love Blender, I want the ability to switch between manipulators without having to click on a button each time.

So here is how I have set up my Blender preferences so that I have short cut keys for each of the manipulators.

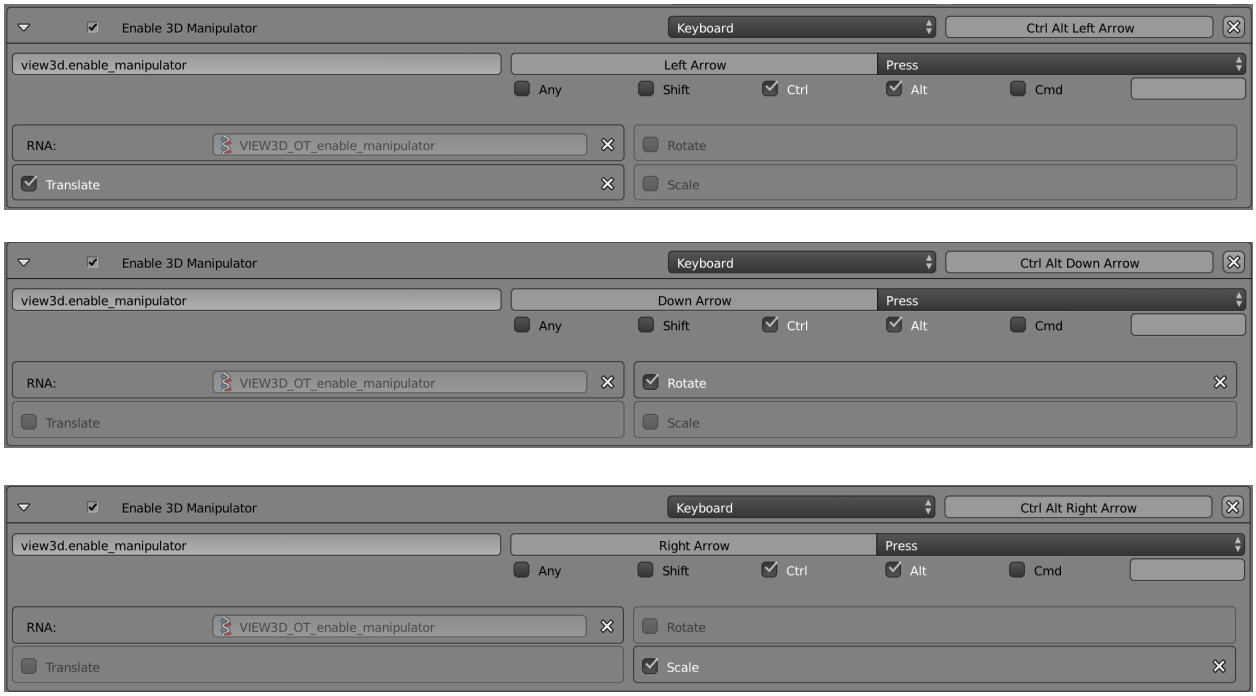
We'll once again need to go into the User Preferences window from the File menu. Click the Input button at the top of the window. In the center there is a long list of items. The seventh one down is 3D View. Twirl down the little triangle next to 3D View, and then twirl down the triangle for 3D View (Global).

Now you will need to scroll all the down the list until you see the "Add New" button. Click this button and a new item called "none" will be added to the list. Open this up and enter the follow information.

In the field that says "none" enter:
view3d.enable_manipulator

I use the Ctrl + Alt + Left Arrow to choose the Move manipulator, the Ctrl + Alt + Down Arrow for the Rotate manipulator, and for the Scale manipulator I use Ctrl + Alt + Right Arrow. These are what work for me. You can choose anything you would like, but be careful not to create short cut key combinations that are already being used for something else in Blender.

Here is what my preferences look like for the manipulators:



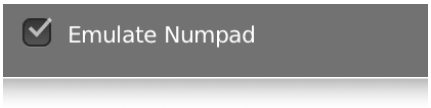
Color Scheme

You can also change the appearance of the Blender user interface to suit your personal preferences. Go back into the User Preferences window and click on the Themes button at the top. On the left is a pull down menu with various color themes for the interface.

One word of caution, before you begin trying out these various themes make a Default preset so you can get back to the current theme easily. Just click on the + button next to the Preset menu and name the new preset "Default." Now you can always get back to the way Blender was at install without having to use the Load Factory Settings option in the File menu.

In addition to the Preset menu, Blender gives you the option of modifying just about every detail of the interface. I have never felt comfortable delving into each little setting in this window. Just knowing that I have the power to do so has been enough for me.

Emulating Number Pad Keys



If you are using a laptop that does not have a number pad, you can change Blender's preferences to use the standard 1 through 0 keys at the top of the keyboard. Access the User Preferences window from the file menu and click the Input button at the top of the window. Place a check mark in the box by "Emulate Numpad." Now click the "Save User Preferences" button at the bottom of the screen.

Essential Shortcut Keys

There are a lot of short cut keys to remember in Blender. No one can remember them all. But here are a few that I think are essential to know early in the learning process.

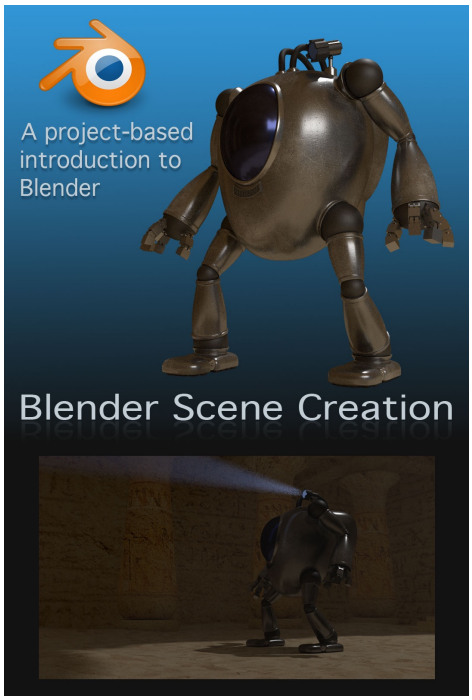
G	Move
R	Rotate
S	Scale
Z	Wireframe Shading
A	Select All/Deselect toggle
X	Delete
T	Tool Shelf
N	Properties Panel
M	Move to Layer
Tab	Edit Mode/Object Mode toggle
Shift + S	Snap Menu
Space	Search
Ctrl+Alt+Q	Quad View toggle
C	Circle Select
B	Border Select

Shift + D	Duplicate
Numpad 1	Front View
Numpad 3	Right View
Numpad 7	Top View
Numpad 5	Orthographic/Perspective Views

Edit Mode:

E	Extrude
Ctrl + R	Loop Cut and Slide
W	Specials menu
Ctrl + V	Vertices Menu
Ctrl + E	Edges Menu
Ctrl + F	Faces Menu

Conclusion



Thank you for joining me on this brief Quick Start tour of Blender. I hope it's been helpful. Blender is a wonderful program and an incredible artistic tool. It is not the easiest application to learn, but it is well worth the effort to be able to tap into its amazing creative power.

If you would like to learn more about Blender, please consider my online course Blender Scene Creation, a project-based introduction to Blender and 3D animation.

In this course you'll go through the process of creating an animated scene from scratch. From the first polygon to the final render. You'll learn all the steps involved in bringing your own animations to life.

We will start with Blender's user interface and navigation tools, providing you with a solid foundation before moving forward. We'll then begin modeling a mechanical character and its environment.

You'll learn how to UV map your 3D objects and texture them. We'll use GIMP to prepare the textures, and the node editor to apply them to Cycles materials.

You'll learn how to rig and animate the mech, as well as animate the camera in the scene. We'll create volumetric lighting and even create a jet flame effect for the mech's jet pack.

Finally, you'll learn how to render out your animation and use Blender's video sequence editor to create a Quicktime movie.

This course contains 69 videos, more than 11 hours of content, and can be downloaded or streamed on any device: computer, tablet, or smartphone.

Topics covered:

- Blender Interface and Navigation
- 3D Modeling
- UV Mapping
- Materials and Texturing
- Rigging
- Animation
- Lighting
- Physics Effects
- Rendering

Find out more about **Blender Scene Creation** at www.darrinlile.com

Learn Blender quickly so you can you can bring your visions to life. I can't wait to see them!

Thank you!
Darrin Lile