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HOUR 2

Using Studio

What You'll Learn in This Hour:

- ▶ How to install and launch Roblox Studio
- ▶ How to use Studio templates
- ▶ How to navigate game editor
- ▶ How to create a part
- ▶ How to translate, scale, and orient parts
- ▶ How to save and publish your project
- ▶ Playtesting

Now that we've explored the culture and features that make Roblox special, you can start to unleash your creativity with Roblox's free game engine, Roblox Studio. Roblox Studio is a playground for developers to create, share, and play their games on the Roblox website. What's great about this platform is that you can easily build everything from volcanic islands to urban cityscapes and then drop a character into that world to immediately start playing. Imagine a huge playground filled with all the tools you need to build imaginary worlds—that's Roblox Studio.

In this hour, you'll learn how to install Studio, and then you'll learn how to use Roblox Studio with the help of templates. You'll also learn how to arrange your workspace to hold objects in the 3D world, the difference between saving and publishing your project, and finally how to test your game before publishing it to the public.

Installing Roblox Studio

We've explained how Roblox Studio is a free and immersive platform for game developers to build different terrains, cities, buildings, race games, and much more. You don't need years of coding experience or a degree to make fun games; all you need is your imagination and hands-on learning in the Roblox Studio. Roblox Studio is extremely intuitive to use. Because Roblox is cross-platform, developers can install Studio on both Windows and Mac systems.

Use the following steps to install Studio:

1. Go to <https://www.roblox.com/create>.
2. Click Start Creating and then click the Download Studio button in the pop-up window.
3. Navigate to the folder where you have downloaded Studio and double-click the file to install it.

NOTE

System Requirements

For Roblox Studio to run efficiently, there are some OS/hardware specifications:

- ▶ Roblox Studio cannot run on Linux, Chromebooks, or mobile devices such as smartphones.
- ▶ A Windows computer with at least Windows 7 installed, or a MacBook with version macOS10.10.
- ▶ A minimum of 1 GB of system memory.
- ▶ Internet access to download Studio and updates. It also lets you save projects (publish) to your Roblox account.

For an enhanced Studio experience, you should also have these things (not mandatory):

- ▶ A mouse with a scroll wheel, preferably a three-button mouse.
 - ▶ A video card that's dedicated and not an integrated card.
-

Troubleshooting the Installation

If you've followed the necessary steps to install Studio but you're experiencing installation conflicts, there are a few things you can do to troubleshoot the errors:

- ▶ If you've added new hardware or drivers recently, remove and replace the hardware to determine if it's causing the problem.
- ▶ Run diagnostics software and check information on troubleshooting the operating system.
- ▶ Restart the computer.
- ▶ Uninstall and delete all the Roblox files and reinstall the latest Studio again, if required.

If you are still finding errors, you can also reference the Roblox Support forums online for additional tips.

Opening Roblox Studio

Once you are done installing the Roblox Studio, you need to open it:

1. Double-click the desktop icon if you are on Windows or click the Dock icon if you are on a Mac to open a login window (Figure 2.1).
2. Enter your Roblox username and password.
3. Click the Log In button.

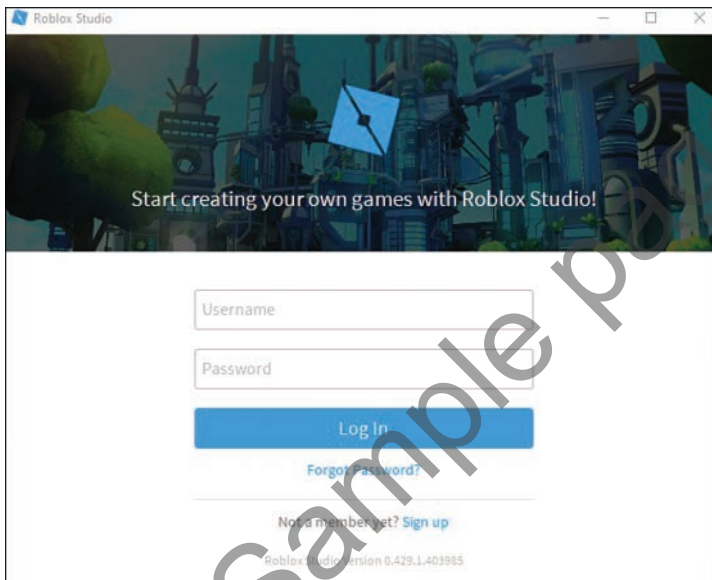


FIGURE 2.1
Roblox Studio login window.

Once you are logged in, you see a page with different templates and a menu sidebar with New, My Games, Recent, and Archive (Figure 2.2).

The following sections provide a quick introduction to these templates and the rest of Studio; then you can begin experimenting with the utilities of Studio.

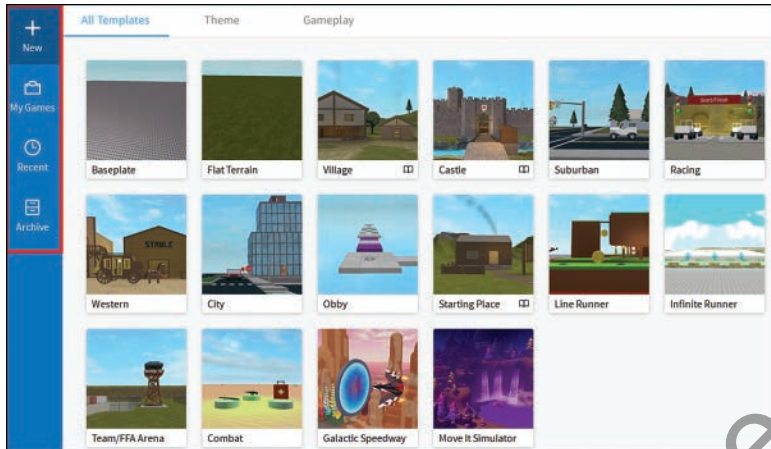


FIGURE 2.2
Roblox Studio home screen.

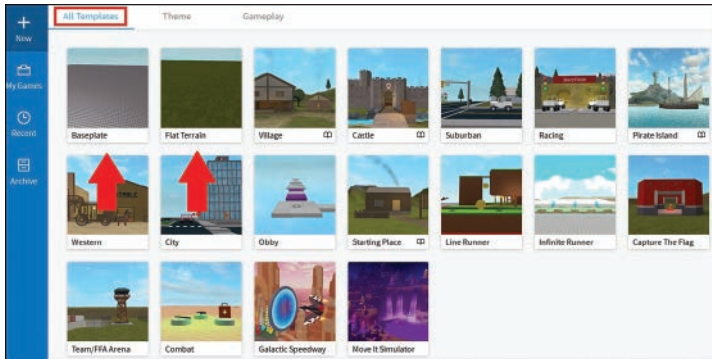
Using Studio Templates

When you first open Roblox Studio, under New, you see three tabs: All Templates, Theme, and Gameplay. Templates are prebuilt projects, and you can use them as a guide to build your own game world.

All Templates

The All Templates tab (Figure 2.3) is a combination of the Theme and Gameplay tabs. You can use these templates as a start for your games. For example, if you're building a medieval game, the Castle theme is equipped with feudal details, or if you want to build an interactive obby, you can build off the Obby gameplay template. Two simple templates are a good place to start:

- ▶ **Baseplate:** This is a popular choice to start with. The baseplate itself is easy to delete, leaving a blank canvas to work with.
- ▶ **Flat Terrain:** Has a flat plane of grass terrain instead of a baseplate. You can modify or clear the terrain using the terrain editor.

**FIGURE 2.3**

Roblox Studio home screen lists various templates available, such as simple templates Baseplate and Flat Terrain.

Themes

Themes are a combination of gameplays and more, and together they make a new world. It sets a mood for your game—for example, a space combat game will have asteroids and other galactic components. Roblox provides some prebuilt themes that are ready to use and modify however you would like. As you explore the game world, descriptions point out its use case or features, including tips on how the effects were created in case you want to re-create them yourself.

An example of a prebuilt theme is Village (Figure 2.4). You can explore the houses in the village and move along the pathway through the town, which leads you to a river, a bridge, and finally the dock, across which you can see small islands.

**FIGURE 2.4**

Example of a prebuilt *Village Theme* available in Studio.

Gameplay

Some templates include interactive gameplay. For example, this can include Team Deathmatch, Control Points, Capture the Flag (Figure 2.5), and more. A great thing about these templates is that developers can take them apart and extract any specific facet that they want—for example, using in-game radar or team spawn points. These templates help with components such as what a player can do in a game, what the goals are, and how a game can be modified.

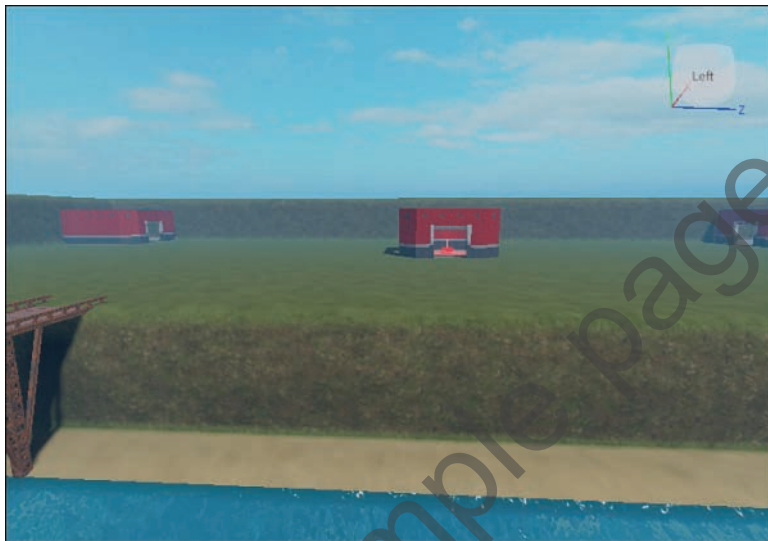


FIGURE 2.5

Example of a prebuilt *Capture the Flag* gameplay template.

Working with the Game Editor

Now that we've familiarized ourselves with Studio's homepage, let's click on the Baseplate template to get started. This opens the game editor (Figure 2.6).

The game editor is, as the name suggests, a place where you can create, modify, or test your game. At the top of the game editor, you see different tabs on the menu bar (Figure 2.7).

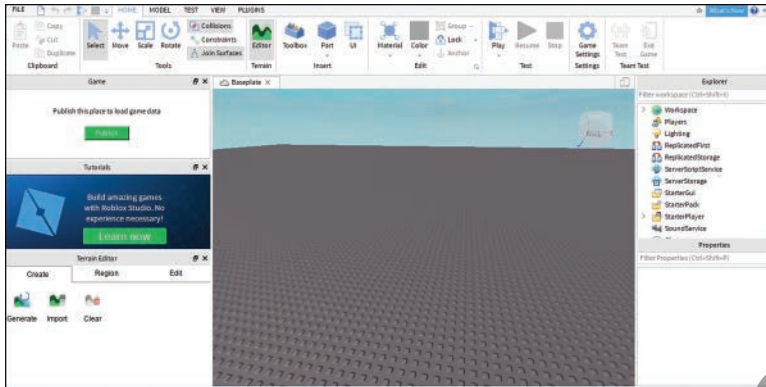


FIGURE 2.6

The game editor enables you to create, modify, or test your game.

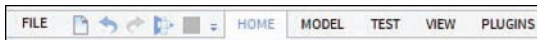


FIGURE 2.7

Roblox Studio menu bar.

- ▶ **Home tab:** A concise tab of all the features that are frequently used. These features are on the Home tab for easy access.
- ▶ **Model tab:** Has more building tools apart from move, scale, and rotate. It's also where you can create spawn locations and special effects such as fire and smoke.
- ▶ **Test tab:** Helps for testing your game. There are two options underneath: Run and Play. Run will run a simulation of what will happen to the bricks and surrounding elements, and Play will let you play your game.
- ▶ **View tab:** Lets you toggle the different windows available in the Roblox Studio. If you need to use a window that is closed, you can find them under the View tab.
 - ▶ The main windows are Explorer and Properties, which are discussed detail in later in this section.
 - ▶ The Actions section has several display features. You can take screenshots or record videos here and also toggle between full screen and windowed views.
- ▶ **Plugins tab:** An add-on to Studio. These are generally not included by default. Plugins add new custom behavior and features. You can either install plugins made by the Roblox community or create your own plugins.

Below the menu bar is a ribbon bar (Figure 2.8). The tool options change as you move between menu bar tabs.

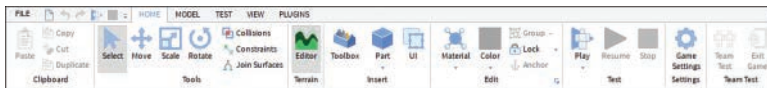


FIGURE 2.8
Roblox Studio ribbon bar.

In the following sections, we explain some of the editor’s basic features and most frequently used features and discuss how to prepare your project for publishing on Roblox.

Arranging the Game Editor Workspace

Since this is the first time you are opening the game editor, extra windows that you don’t require right now will automatically open on the left side. To organize the workspace in an optimal way, close the extra windows so you have more space to create.

By default, the Explorer and the Properties windows will be open (Figure 2.9), aligned one beneath the other on the right side.

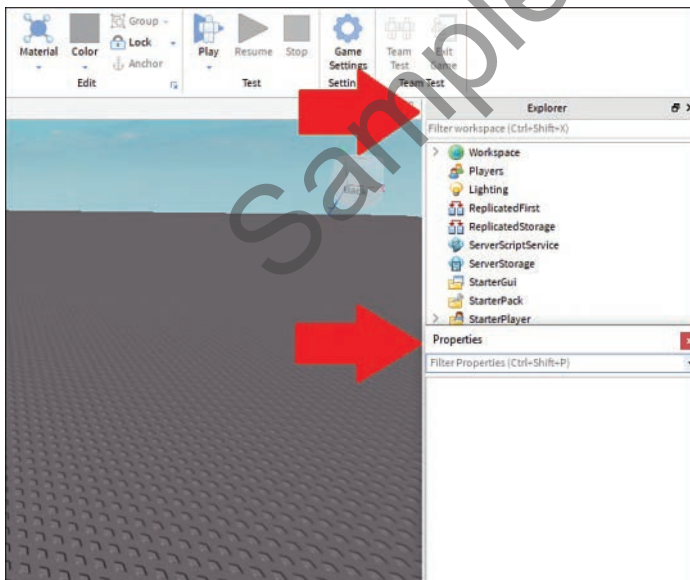


FIGURE 2.9
Workspace arrangement with the Explorer and Properties windows one below the other.

NOTE

Some Features of the Game Editor Workspace

The next time you relaunch Roblox Studio, your workspace arrangement remains intact. It is a one-time fix, unless you undo your arrangement.

When the Property window undocks, it gets difficult to dock it back below the Explorer window. It either docks itself aside or over the Explorer window. To fix this, undock both the windows and close them. Go to the View tab, open the Explorer window, dock it on the right-hand side, and then close it. Do the same with the Properties window and close it. After all this, reopen the Explorer and then the Properties window. This will align them one above the other.

Working with the Explorer Window

The Explorer window is the hierarchical representation of all the objects used in your game. It is the most crucial window because it lists all the organizing, viewing, and testing features of a Roblox game.

It uses the concept of parenting to organize all the objects. The object Game is hidden at the top of the hierarchy. For example, in Figure 2.10, you can see Workspace parent has the following children nested underneath: Camera, Terrain, and Baseplate.

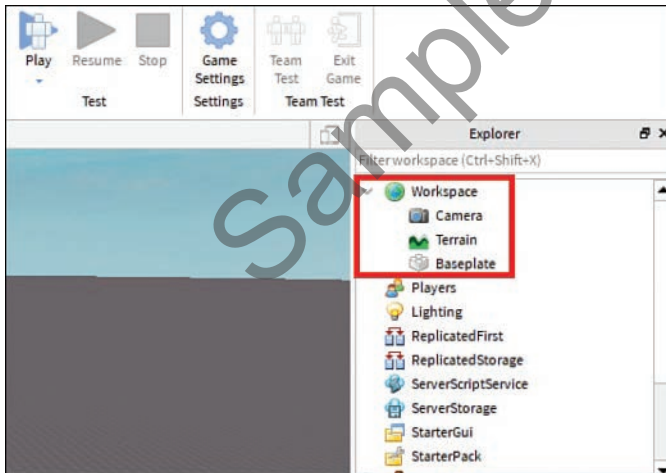


FIGURE 2.10
Objects nested under Workspace in the Explorer window.

If you want to create more child objects, you can hover over Workspace and click the plus symbol to the right (Figure 2.11). This will list all the objects that you can create. You can also drag and drop it into the desired parent object.

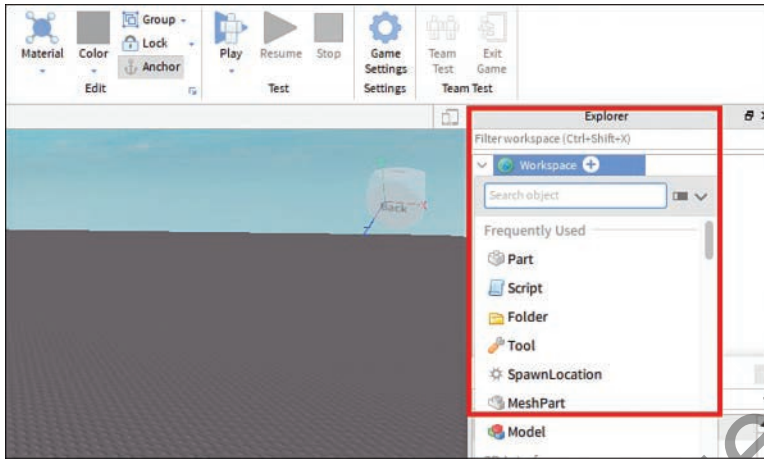


FIGURE 2.11
Add more children to your Workspace.

One of the most important children you will work with is a part, which is the foundational building block of Roblox. These physical 3D objects are also known as bricks, and when they are in the Workspace, they can interact with each other.

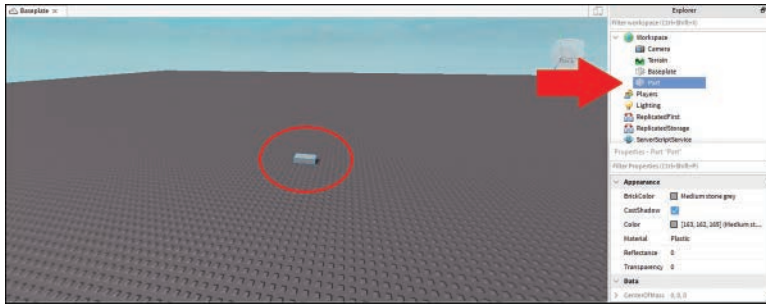
Creating a Part

To create a part, from the Home tab, navigate to the Insert menu in the ribbon bar and click Part (Figure 2.12).



FIGURE 2.12
Create a part.

A part will appear at the exact center of your camera view (Figure 2.13). Use the **camera controls** shown in Figure 2.14 to move your camera, rotate the view, and zoom in and out.

**FIGURE 2.13**

Part appears in your baseplate and in your Explorer.

Control	Action
W A S D	Move the camera
E	Raise camera up
Q	Lower camera down
Shift	Move camera slower
Right Mouse Button (hold and drag mouse)	Turn camera
Mouse Scroll Wheel	Zoom camera in or out
F	Focus on selected object

FIGURE 2.14

Camera controls.

To give your new part a name, do the following:

1. Double-click the part in your Explorer window.
2. Rename the part. Roblox convention is for parts to be named in PascalCase, which means the first letter is capitalized—for example, EndZone or RedBrick.

Note that your name can contain spaces, but we won't use spaces at this point in case we want to be able to access the part via code later.

You can use the Explorer to select and work with parts even if you can't see them in the game editor window.

Working with the Properties Window

When you add a part to your Workspace, you'll notice the Properties window (Figure 2.15) fills with information.

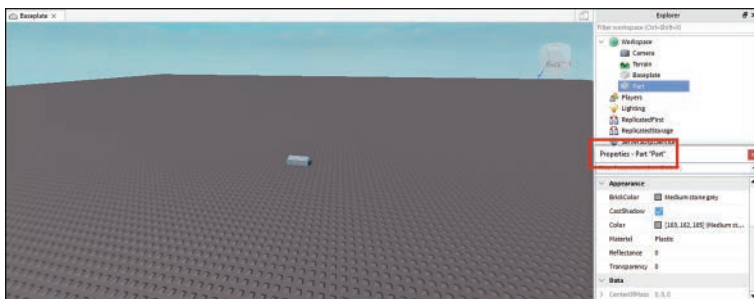


FIGURE 2.15
The Properties window lists all the details about the newly added part.

Like any object, a part has properties such as size and color, and the Properties window shows all these details about how an object looks and behaves. In the next chapter, we'll go into further detail about properties of a part and how you can manipulate them.

Translating, Scaling, and Orienting Objects

You've learned how to create a part; now you can make it move! In Roblox Studio, it is possible to move (translate) and rotate (orient) objects in the scene. There are multiple ways to get the same results, but in this section, we will solely use the Roblox Studio default tools and keyboard shortcuts.

There are two settings you can use to get greater control when moving parts: snapping and collisions.

- ▶ **Snapping** is the amount a part will move, scale, or rotate at a time. Snapping is useful when creating items that need to be exactly aligned, like how walls of buildings need to be at 90-degree angles.
- ▶ **Collisions** happen when two objects (or rigid bodies) intersect or get within a certain range of each other.

Because these two settings are most used when playing with two or more parts, turn them off for now while you freely move a single part around. Later, you'll turn them back on when we discuss how they work.

- ▶ **To turn OFF snap:** In the Model tab, uncheck the box next to Rotate or Move (Figure 2.16).

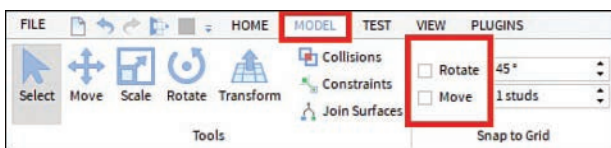


FIGURE 2.16
Turn off snap.

- ▶ **To turn OFF collisions:** In the Model tab, collisions are on if the button is highlighted gray. Click the Collisions button to toggle it off (Figure 2.17).



FIGURE 2.17

Turn off collisions.

Translating

Now you can freely start translating, or moving, objects. Go to the Model or Home tab and click the Move icon (Figure 2.18).

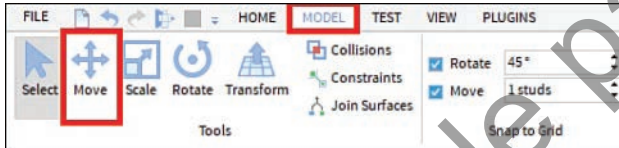


FIGURE 2.18

Move tool.

Now, a gizmo should appear on the selected objects. When you click, hold, and drag one of the arrows, the object moves along that axis (Figure 2.19).

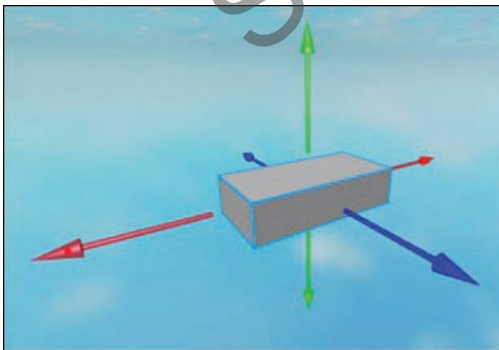


FIGURE 2.19

Moving the gizmo.

Scaling

To scale objects, go to the Model or Home tab and click the Scale icon (Figure 2.20).

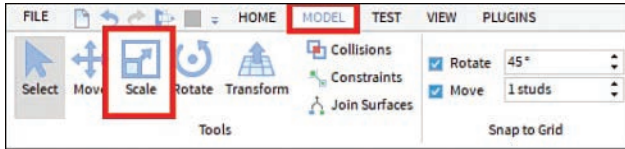


FIGURE 2.20
Scale tool.

The gizmo should appear again, this time with orbs on selected objects. When you click, hold, and drag one of the orbs, the object scales along that axis (Figure 2.21).

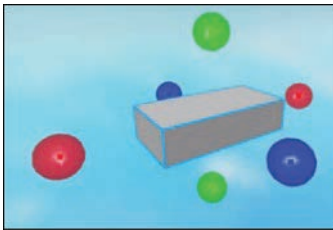


FIGURE 2.21
Scaling a gizmo.

If you want to scale on two sides simultaneously, hold Ctrl (Windows) or Command (Mac) while clicking, holding, and dragging one of the orbs.

If you want to scale while keeping the current proportions, you can do so by holding Shift while scaling.

Rotating

To rotate objects, go to the Model or Home tab, and click the Rotate icon (Figure 2.22).

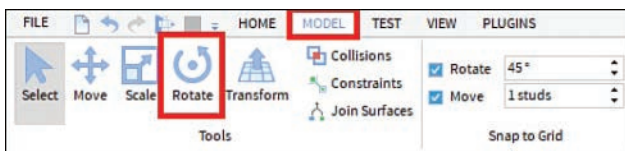


FIGURE 2.22
Rotate tool.