

# Autodesk® 3ds Max®

2009

## Tutorials: Project Management



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# Project Management

# 10

The tutorials in this section introduce you to some basic management concepts that you will use when working on scenes in 3ds Max.

## Features Covered in This Section

- Saving scene configurations as individual scene states.
- Switching global illumination engines to save rendering time.
- Using Batch Render to render a number of scenes sequentially.

## Saving and Rendering a Scene

Once you have built a 3D environment with materials, lights and cameras, you can save various scene states so that you can later recall stored parameters. In this tutorial, you adjust material and light values to effortlessly switch between a daytime and nighttime scene.

In this tutorial, you will learn how to:

- Adjust scene parameters and save as a new scene.
- Render saved scenes.

Skill level: Beginner

Time to complete: 20 minutes

## Files for This Tutorial

All the files necessary for this tutorial are provided on the program disc in the `\tutorials\project_management\scene_management` directory. Before starting the tutorials, copy the `\tutorials` folder from the disc to your local program installation.

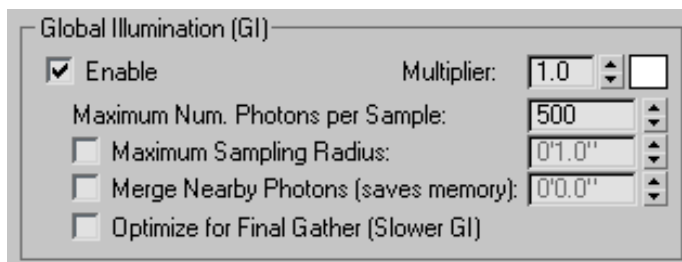
### Set up the lesson:

Open and navigate to the `\tutorials\project_management\scene_management` folder. Highlight `balcony_scene-states.max` and click Open.

### Switch global illumination engines:

Before beginning this lesson, you will first disable Radiosity and use the mental ray renderer to simulate global illumination. It will speed up rendering in this case because it's not necessary to recalculate the solution every time you make a change.

- 1 From the Rendering menu, choose Indirect Illumination.
- 2 From the Select Advanced Lighting rollout, choose <no lighting plug-in>. Click Yes to dismiss the warning that displays.
- 3 Click the Common tab. Scroll down to the Assign Renderer rollout and click the button to the right of Production.
- 4 Choose the mental ray Renderer, then click OK.
- 5 Click the Indirect Illumination tab.
- 6 On the Caustics And Global Illumination rollout > Global Illumination group, turn on the Enable checkbox. Leave all other parameters at their default settings.

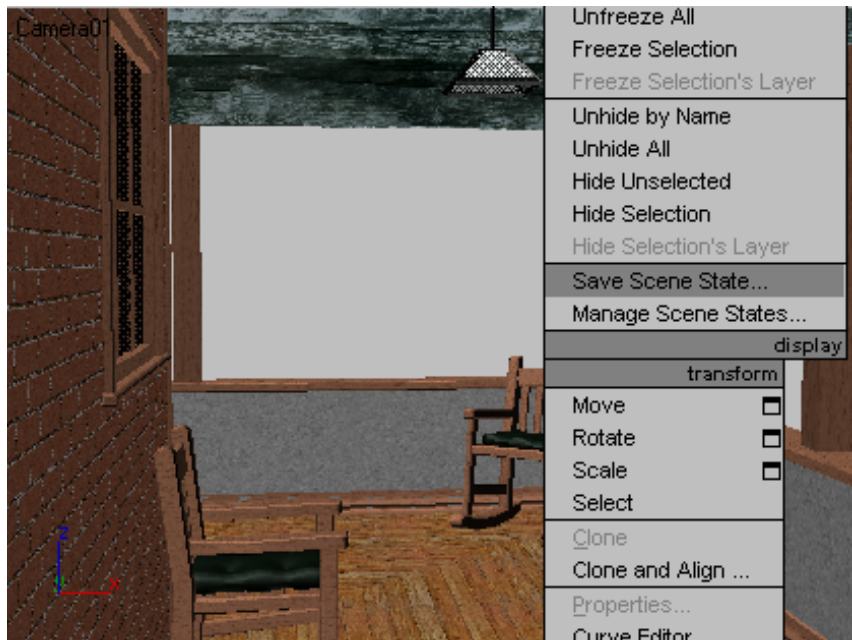


- 7 Render the Camera01 viewport to test the results.

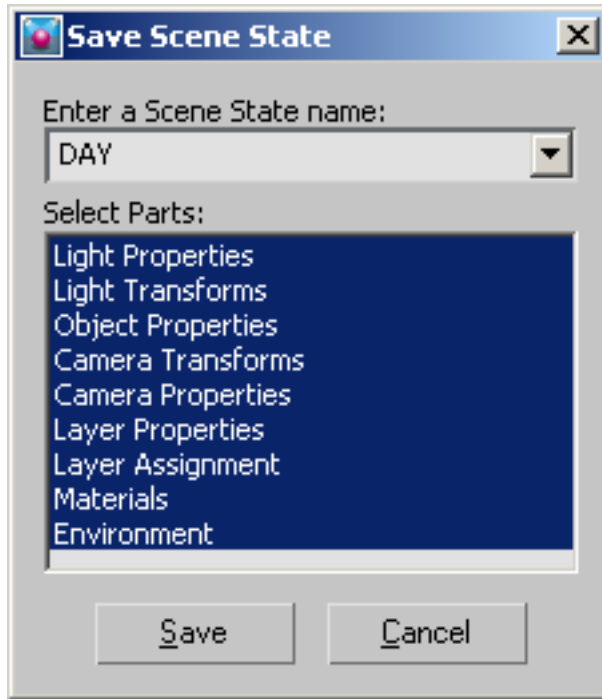


**Saving scene states:**

- 1 Right-click in the Camera viewport.
- 2 From the quad menu that displays, choose Save Scene State.




- 3 In the Save Scene State dialog box, select all the scene parts so that cameras, environment, layers, lights, materials and object properties will be saved with the scene state.



- 4 Name the scene state **DAY**.
- 5 Click Save to exit the dialog box.

#### Changing scene parameters:

- 1  Go to the Display panel.
- 2 On the Hide by Category rollout, turn off Lights.  
Three lights appear in the scene: one that simulates the sun (*Sun01*), one that simulates global ambient lighting (*Sky01*), and a simple bulb (*FPoint01*).
- 3 In the Top viewport, select the *Sun01* object.

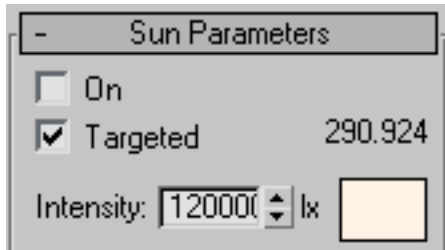
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**TIP** It may be easier to select *Sun01* by pressing H to open the Select From Scene dialog box.

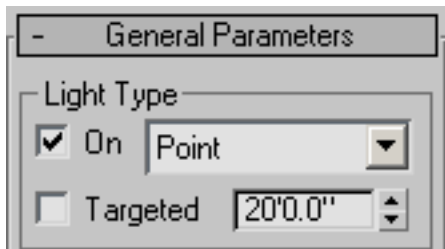
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- 4 On the Modify panel, in the Sun Parameters rollout, turn the light off.

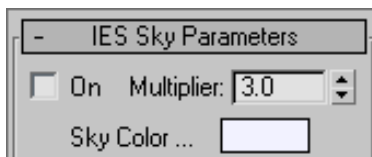




- 5 Press H to open the Select From Scene dialog box.
- 6 Click the object named *FPoint01* to select it.  
This represents the bulb that will light the scene at night.
- 7 On the Modify panel > General Parameters rollout > Light Type group, turn the *FPoint01* light on.



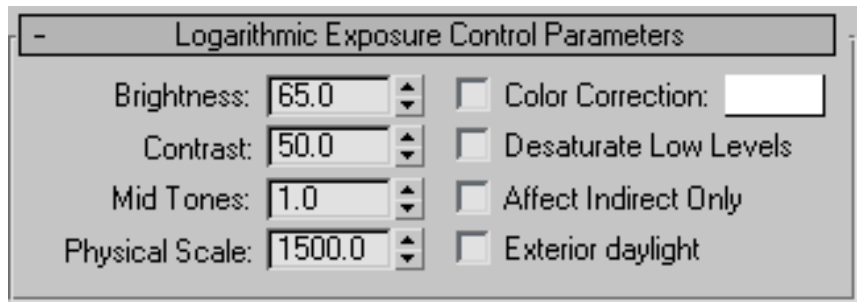
- 8 On the Select From Scene dialog box, click *Sky01* to select it.  
This object is the light system that will provide ambient illumination to the sky (skylight).
- 9 On the Modify panel, in the IES Sky Parameters rollout, turn the *Sky01* light off.



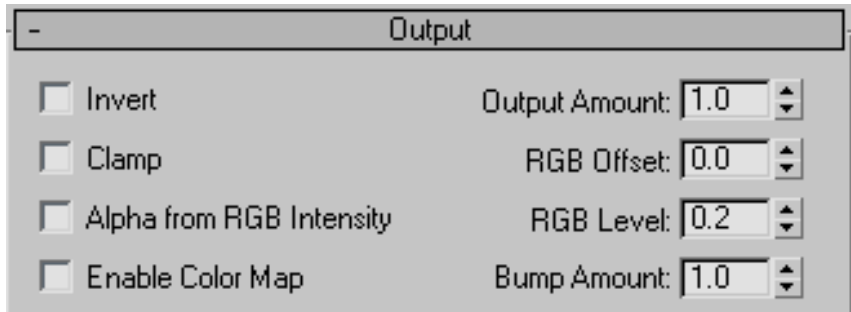
- 10 Render the Camera viewport.  
The scene is very dark, and the background still displays daytime lighting.



- 11 From the Rendering menu, choose Environment. In the Logarithmic Exposure Control Parameters rollout, turn off the Exterior Daylight option.



- 12 Press M to open the Material Editor. Locate the material named *Background*, and select it.
- 13 At the bottom of the Material Editor, expand the Output rollout. Set the RGB Level value to **0.2**.



This will make the background image much darker to simulate a scene at night.

- 14 Render the Camera viewport again and notice the changes.



- 15 Right-click in the Camera viewport. From the quad menu, choose Save Scene State.
- 16 In the Save Scene State dialog box, select all the scene parts.
- 17 Name the scene state **NIGHT**.

- 18 Click Save to exit the dialog box.

#### **Restore scene states to render:**

- 1 Right-click in the Camera viewport, and choose Restore Scene State from the quad menu.  
Notice the cascading menu lists the two scene states you previously saved.
- 2 Choose DAY to restore the daytime scene.  
Notice in the Top viewport that the point light is displayed in black, which means it's inactive. Sunlight is displayed in yellow, which means it is enabled.
- 3 Render the Camera viewport to see that all scene parts such as light effects and environment backgrounds have been restored to their original states.

## **Using the Batch Render Tool**

The Batch Render tool lets you sequentially render any or all of the views in your project. It is especially useful in conjunction with the scene states tool shown in the last tutorial to render different aspects of the scene with very little or no interaction on your part.

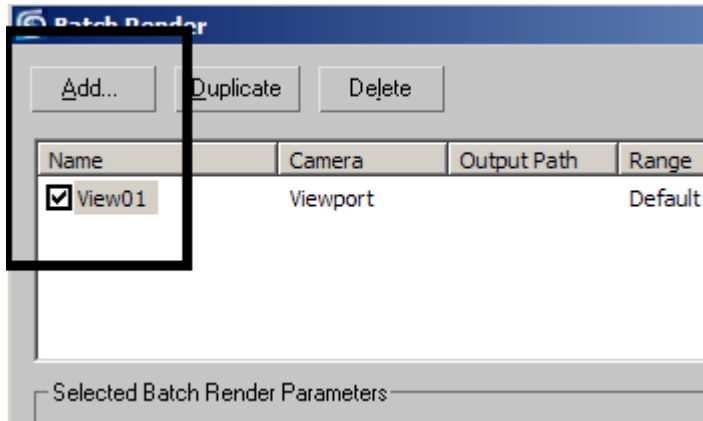
In this lesson, you use Batch Render to automate the rendering of both the day and night scenes created in the previous lesson.

#### **Set up the tutorial:**

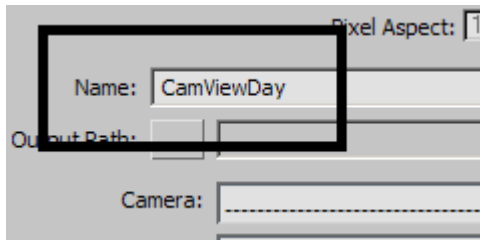
- Continue working on your file from the previous lesson or from the File menu, choose Open and navigate to the `\tutorials\scene_management` folder. Highlight *balcony\_batch-render.max*, and click Open. The scene shows the resulting file from the previous lesson.

#### **Accessing and setting up the Batch Render dialog:**

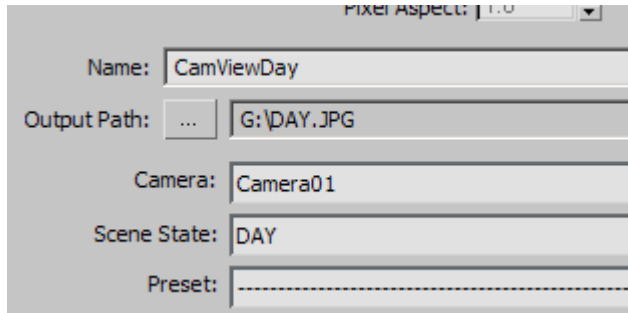
- 1 From the Rendering menu, choose Batch Render.  
The Batch Render dialog displays.
- 2 Click the Add button in the top left corner of the dialog. A new entry named *View01* is added to the list.



- 3 In the Name field, rename the view: *CamViewDay*. Be sure to press Enter after typing the name.



- 4 From the Camera drop-down list, choose *Camera01*. The view is now assigned to what this particular camera is pointed at.
- 5 Click the Output Path button and name the output file **DAY.JPG**, and then click Save.
- 6 Accept the JPEG Image Control defaults, and then click OK.
- 7 From the Scene State drop-down list, choose DAY.

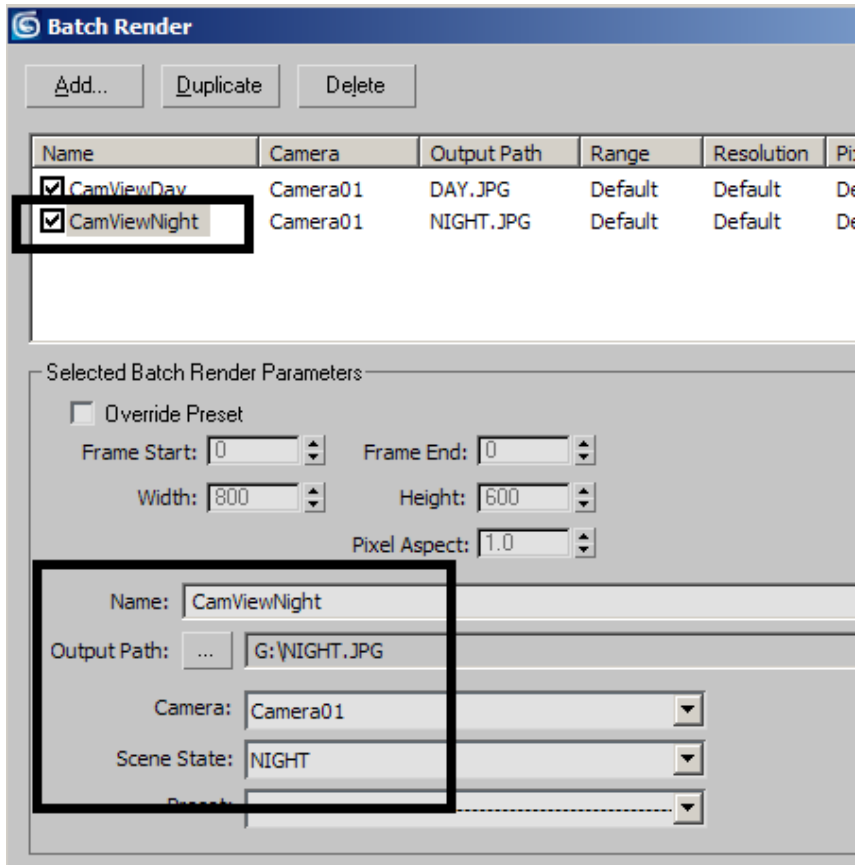


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**NOTE** This ensures that Batch Render will use the Camera01 viewport for rendering the DAY scene state, saving the output file DAY.JPG to disk.

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- 8 Click the Add button at the top of the dialog again to add a second entry to the batch list. Rename the new entry: *CamViewNight*.
- 9 Assign Camera01 to this new view.
- 10 Make sure the new entry *CamViewNight* is displayed in the Name field, and create an output file for it named **NIGHT.JPG**.
- 11 Accept the JPEG Image Control defaults, and then click OK.
- 12 From the Scene State drop-down list, choose the NIGHT entry.



- 13 Click the Render button in the bottom-right corner.  
Both the day and night scenes are rendered and saved to disk.