

Autodesk 3ds Max 2014: A Comprehensive Guide

CADCIM Technologies

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CADCIM Technologies

**Autodesk 3ds Max 2014: A Comprehensive Guide
Sham Tickoo**

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to enlighten the young and curious minds
of our future generations*

*To students, who are dedicated to learning new technologies
and making the world a better place to live in*

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CHAPTERS FOR FREE DOWNLOAD

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www.cadcim.com

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Chapter 19: Particle Systems and Space Warps-II

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Preface

Autodesk 3ds Max 2014

Autodesk 3ds Max has been developed by Autodesk Inc. and it provides powerful tools for 3d modeling, animation, rendering, dynamics, and compositing that enables game developers, visual effects artists, architects, designers, engineers, and visualization specialists to create stunning artwork. Additionally, the intuitive user interface and workflow tools of 3ds Max 2014 have made the job of design visualization specialists easier.

Autodesk 3ds Max 2014: A Comprehensive Guide textbook aims at harnessing the power of Autodesk 3ds Max for modelers, animators, and designers. The textbook caters to the needs of both the novice and the advanced users of 3ds Max. Keeping in view the varied requirements of the users, the textbook first introduces the basic features of 3ds Max 2014 and then gradually progresses to cover the advanced 3D models and animations. In this textbook, two projects based on the tools and concepts covered in the book have been added to enhance the knowledge of users.

This book will help you unleash your creativity, thus helping you create stunning 3D models and animations. The textbook will help the learners transform their imagination into reality with ease. Also, it takes the users across a wide spectrum of animations through progressive examples, numerous illustrations, and ample exercises.

The main features of this textbook are as follows:

- **Tutorial Approach**

The author has adopted the tutorial point-of-view and the learn-by-doing theme throughout the textbook. About 36 real-world 3D animation and 3D modeling projects have been used as tutorials in the textbook. This enables the readers to relate these tutorials to the real-world models. In addition, there are about 48 exercises based on the real-world projects.

- **Tips and Notes**

Additional information related to various topics is provided to the users in the form of tips and notes.

- **Learning Objectives**

The first page of every chapter summarizes the topics that will be covered in that chapter. This will help the users to easily refer to a topic.

- **Self-Evaluation Test, Review Questions, and Exercises**

Every chapter ends with a Self-Evaluation Test so that the users can assess their knowledge of the chapter. The answers to the Self-Evaluation Test are given at the end of the chapter. Also, the Review Questions and Exercises are given at the end of each chapter and they can be used by the Instructors as test questions and exercises.

- **Heavily Illustrated Text**

The text in this book is heavily illustrated with about 1500 diagrams and screen captures.

Symbols Used in the Text



Note

The author has provided additional information to the users about the topic being discussed in the form of notes.



Tip

Special information and techniques are provided in the form of tips that helps in increasing the efficiency of the users.



This symbol indicates that the command or tool being discussed is new.



This symbol indicates that the command or tool being discussed has been enhanced in the current release.

Formatting Conventions Used in the Text

Please refer to the following list for the formatting conventions used in this textbook.

- Names of tools, buttons, options, renderers, rollouts, and tabs are written in boldface. Example: The **Select and Move** tool, the **Render** button, the **Modify** tab, **NVIDIA mental ray** renderer, the **Common Parameters** rollout, and so on.
- Names of dialog boxes, drop-downs, drop-down lists, spinners, areas, edit boxes, check boxes, and radio buttons are written in boldface. Example: The **Render Setup** dialog box, the **Look in** drop-down, the **Length** spinner, the **Real-World Map Size** check box, the **Cube** radio button, and so on.

- Values entered in spinners are written in boldface. Example: Enter **10** in the **Length** spinner.
- Names of the files are italicized. Example: *c02_tut1.max*
- The methods of invoking a tool/option from menu bar, toolbar, or the shortcut keys are given in a shaded box.

Menu bar: Rendering > Render
Toolbar: Main Toolbar > Render
 Production
Keyboard: SHIFT + Q

Naming Conventions Used in the Text

Tool

If you click on an item in a panel of the ribbon and a command is invoked to create/edit an object or perform some action, then that item is termed as **tool**.

For example:

Select and Move tool, **Select and Link** tool, **Angle Snap Toggle** tool

Render Setup tool, **Select and Rotate** tool, **Align** tool

If you click on an item in a panel of the ribbon and a dialog box is invoked wherein you can set the properties to create/edit an object, then that item is also termed as **tool**.

For example:

Material Editor tool, **Render Setup** tool

Flyout

A flyout is an icon-based menu that contains the tools having similar type of functions. Figure 1 shows the **Snap Toggle** flyout. The buttons having a small triangle at their lower right corner contain a flyout. Press and hold such a button; a flyout will be displayed, refer to Figure 1.

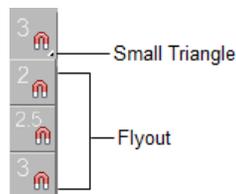


Figure 1 The Snap Toggle flyout

Right-click Menus

In Autodesk 3ds Max, the right-click menus provide quick access to the commonly used commands that are related to the current selection of an object. When you right-click on an object, a quad menu is displayed, as shown in Figure 2. Some of the options in the quad menu have an arrow on their right side. If you move the mouse on these options, a cascading menu

will be displayed, refer to Figure 2. But, if you right-click in the viewport, a shortcut menu will be displayed, refer to Figure 3.

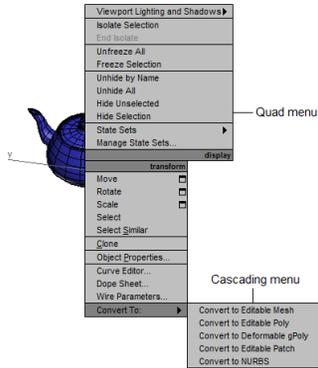


Figure 2 The quad menu and the cascading menu

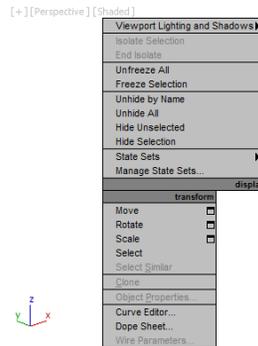


Figure 3 The shortcut menu displayed on right-clicking in the viewport

Button

The item in a dialog box that has a 3d shape is termed as **Button**. For example, **OK** button, **Cancel** button, **Render** button, and so on, refer to Figure-4.

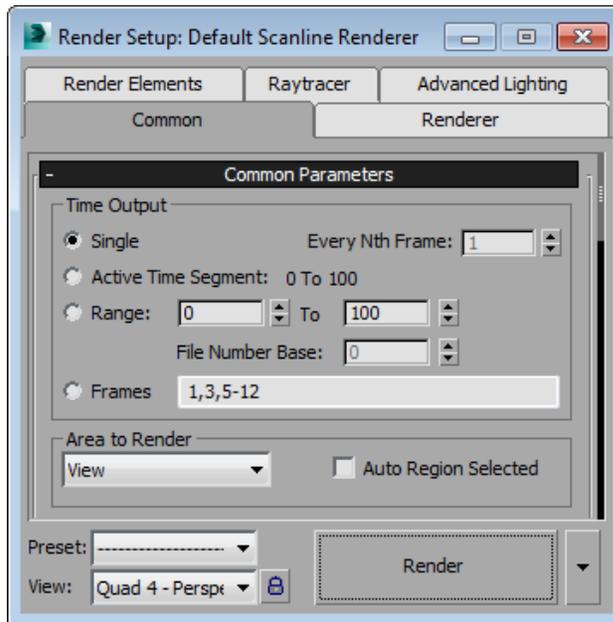


Figure 4 The **Render** button in the **Render Setup** dialog box

Dialog Box

In this textbook, different terms are used to indicate various components of a dialog box; refer to Figure 5 for different terminologies used in a dialog box.

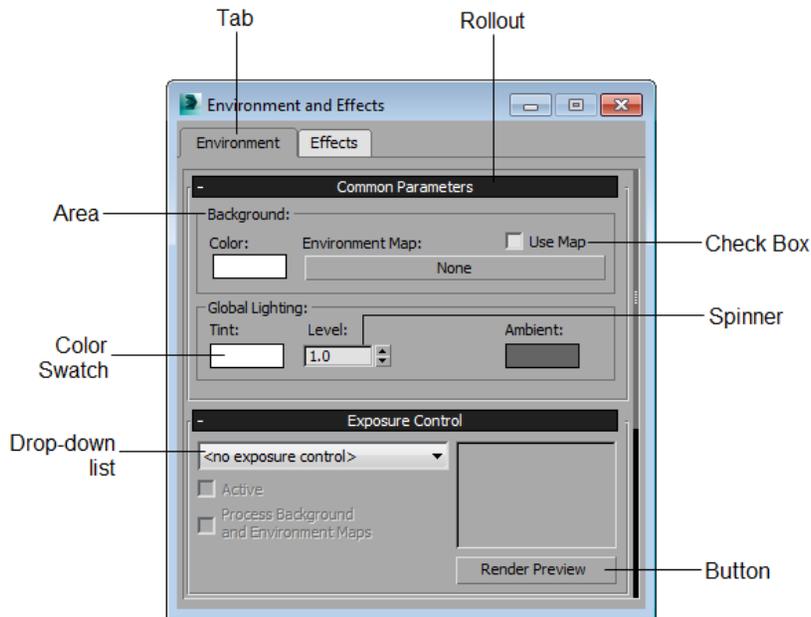


Figure 5 Different terminologies used in a dialog box

Drop-down List

A drop-down list is one in which a set of options are grouped together. You can set various parameters using these options. You can identify a drop-down list with a down arrow on it. For example, **Filter** drop-down list, **Preset** drop-down list, and so on; refer to Figure 6.

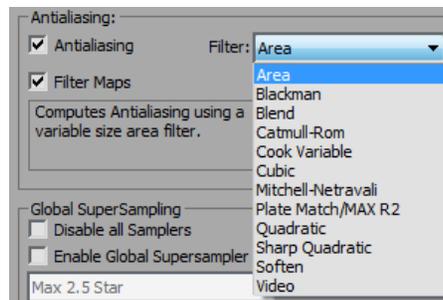


Figure 6 Selecting an option from the Filter drop-down list

Free Companion Website

It has been our constant endeavor to provide you the best textbooks and services at affordable price. In this endeavor, we have come out with a Free Companion Website that will facilitate

the process of teaching and learning of Autodesk 3ds Max 2014. If you purchase this textbook from our website (www.cadcim.com), you will get access to the files on the Companion website. The following resources are available for the faculty and students in this website:

Faculty Resources

- **Technical Support**

You can get online technical support by contacting techsupport@cadcim.com.

- **Instructor Guide**

Solutions to all review questions and exercises in the textbook are provided to help the faculty members test the skills of the students.

- **PowerPoint Presentations**

The contents of the book are arranged in PowerPoint slides that can be used by the faculty for their lectures.

- **Part Files**

The part files used in illustration, tutorials, and exercises are available for free download.

- **Rendered Images**

If you do an exercise or tutorial, you can compare your rendered output with the one provided in the CADCIM website.

- **Additional Resources**

You can access additional learning resources by visiting <http://3dsmaxexperts.blogspot.com>.

- **Colored Images**

You can download the PDF file containing color images of the screenshots used in this textbook from CADCIM website.

Student Resources

- **Technical Support**

You can get online technical support by contacting techsupport@cadcim.com.

- **Part Files**

The part files used in illustrations and tutorials are available for free download.

- **Rendered Images**

If you do an exercise or tutorial, you can compare your rendered output with the one provided in the CADCIM website.

- **Additional Resources**

You can access additional learning resources by visiting <http://3dsmaxexperts.blogspot.com>.

- **Colored Images**

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