AS120466

Slate Material Editor: Don't Be Afraid!

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Learning Objectives

- Learn how to identify and understand the different parts of the editor's interface
- Understand how node-based editing works for materials, and how it can benefit production
- Learn how to create, import, and modify materials in 3ds Max software's Slate Material Editor
- Understand the differences between the Compact and Slate Material Editors, and know when each should be used

Description

This class will introduce users to the Slate Material Editor in 3ds Max software. Some longtime users are still using the CME (Compact Material Editor), and many new users may find it confusing or overwhelming. This class will break down the parts and functionality of the node-based editor window, and offer many timesaving tips and tricks for creating stunning materials for 3D.

Speaker

Chris Medeck has been using 3ds Max since the late 1990's, and been creating visualizations in the AEC industry since 2000. He is an Autodesk Expert Elite member, and has shared his expertise with others through training programs and internet discussion groups. Chris leads production on a visualization team, ensuring quality and efficiency, while troubleshooting any problems that arise.

Slate Material Editor: it isn't new

The Slate Material Editor was first introduced in 3ds Max 2011 (as well as 3ds Max Design 2011). Previously, there was only one option for editing scene materials, what is now known as the Compact Material Editor. As always, articles and videos touting all the new features of the upcoming 3ds Max release were prevalent, and seeing Slate in action certainly had me excited for it. But it was very different from the editor I had been using for over a decade, and once I had a chance to actually use Slate in production I found myself falling back on the Compact Material Editor (CME) every time. It was quicker, easier, and more familiar.

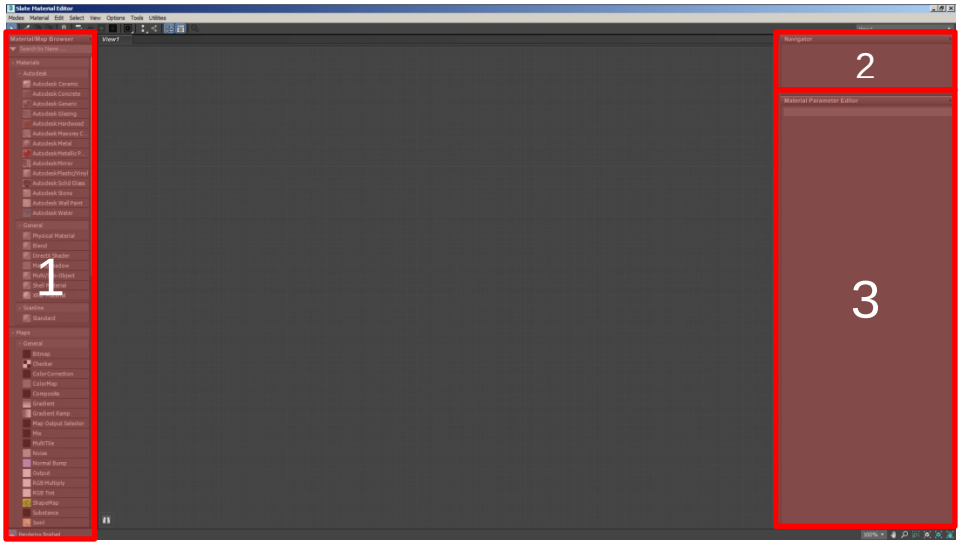
But one day I made a decision. I was going to use Slate, learn Slate, no matter what. So I forced myself to avoid the CME for a full two weeks. It wasn't easy, but I did it. And once I started to feel comfortable in Slate, I came to see all of the advantages of using it as a material editor. Now I rarely go back.

Limitations of the CME

With the Compact Material Editor, you can only view one level of one material at a time. This can lead to confusion when you start to develop complex materials with multiple layers and instanced maps. It can be especially frustrating when maps are being instanced into other materials and you have no clear indication of this. There are only a maximum of 24 material slots that can be populated at any given time. As our 3d models become more intricate and detailed, this means you are forced to replace active materials in the editor once you surpass this threshold. There are other, lesser issues when comparing the CME to Slate, but these are some of the reasons I prefer the newer material editor over the old.

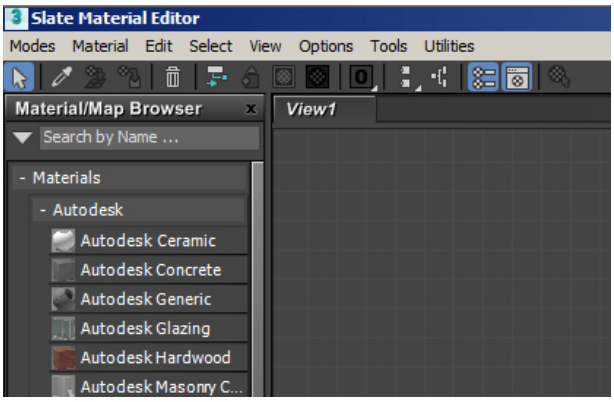
Layout of Slate

I think the hardest part of starting with Slate was the lack of materials. In the CME, there were always base materials loaded up and ready to be modified or replaced. Or even used as-is. But Slate requires you to create every material from scratch, or load them in from a library. But once I was accustomed to the overall layout, and where to find things, I found it increasingly easier and more natural to work this way.

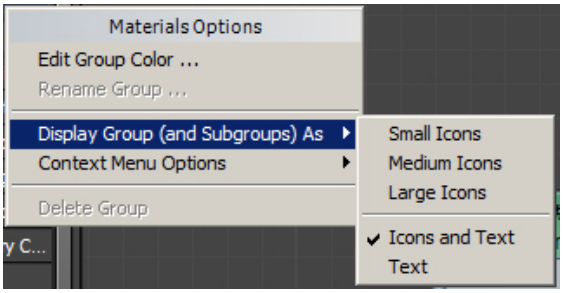


Material/Map Browser

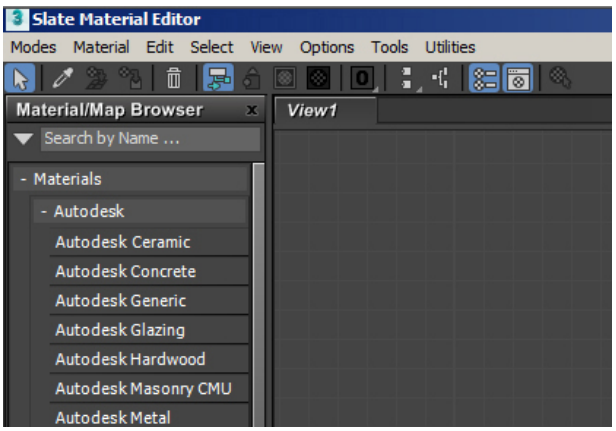
In the CME, you could call up the Material/Map Browser any time you had to add a new map or material to the editor. In Slate, it is always available, and by default is docked along the left side of the editor. As with any of the docked windows in Slate, it can be turned off if you want.



A quick Pro Tip: One of my first complaints about Slate was that it was slow to load. Eventually I realized that it has to render all of the icons next to each material and map visible in the Material/Map Browser. How do you prevent this? Right click on the main rollouts (Materials, Maps, etc.) and find where there is a checkmark next to Icons and Text.

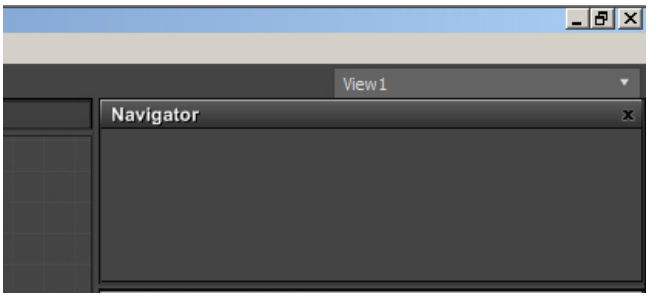


Click on Text, and now only the names of the maps and materials are displayed.



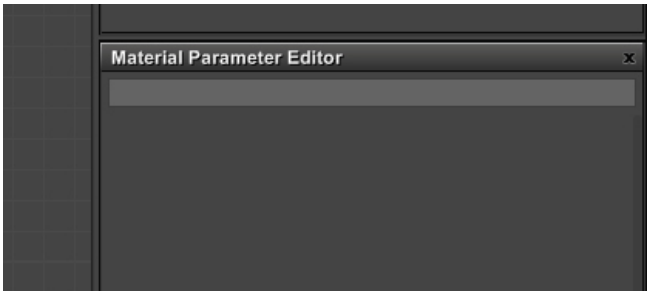
Navigator

The usefulness of the Navigator window increases greatly as you add more material trees to your view. This little window, located in the upper right corner of Slate, gives you an overall snapshot of the layout of your view. It also shows you, via a red outline, what area is currently visible in your view. Clicking in the Navigator window allows you to jump to other locations, and see how large the spread of materials and maps currently is.



Material Parameter Editor

Just below the Navigator window you should see something very familiar once you've loaded in a map or material. Although it starts out blank, once you double click a node in the view you will see all of the parameters, color swatches, etc. that you would see if the material were being edited in CME.

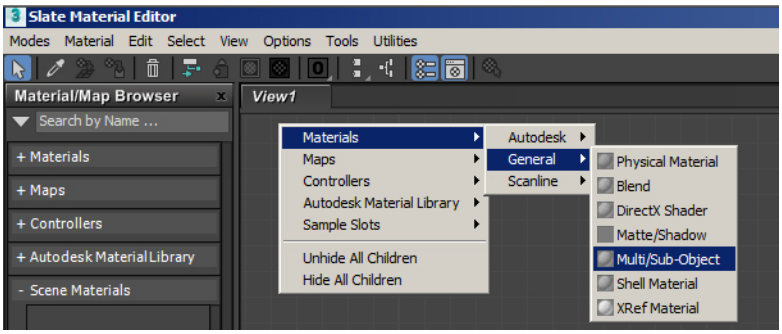


Creating New Materials

As mentioned before, new material and map nodes can be created in several ways. There is no wrong way, but some methods are preferable to others.

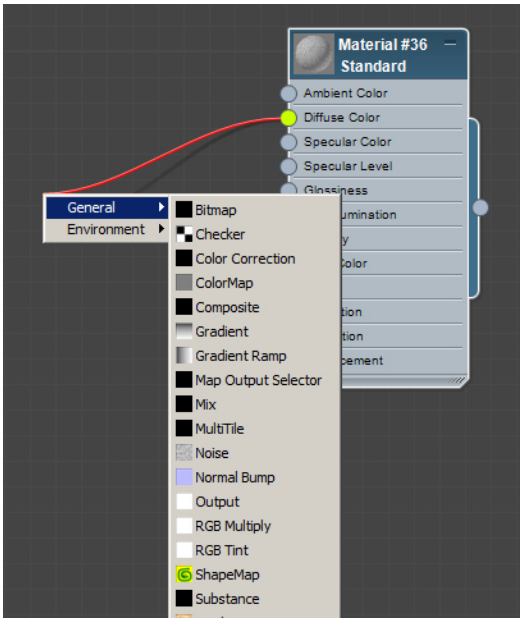
Creating the first node

- A simple drag and drop of an element from the Material/Map Browser will create a new node in your view where it is dropped.
- You can also double click an element in the MMB, which will create the new node centered to your current View.
- My preferred method, though, is to right click in an open area of the View. This brings up a flyout menu that categorizes and lists all available nodes similar to how they are organized in the MMB.

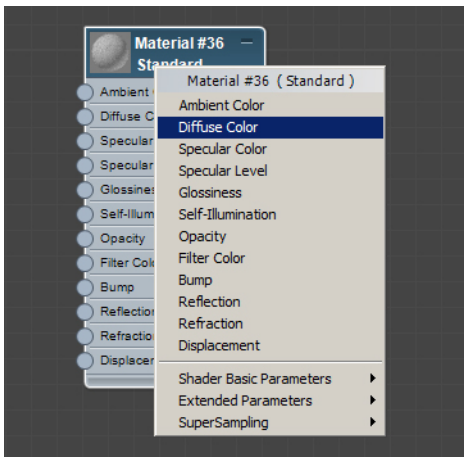


Adding additional nodes

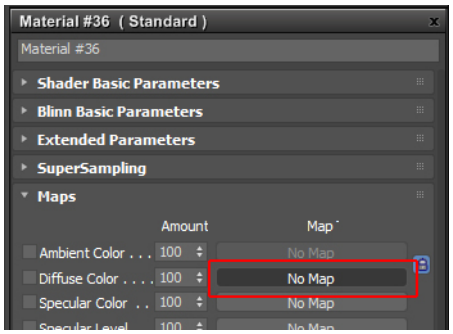
- Click and drag from a node's socket (the little circles on the left of the node) will create a red line (wire). Once you release, the flyout menu will appear. Choosing a node will automatically have it wired to your socket.



- Click and hold on any node, and all available node slots will appear in a flyout menu. This is an interesting method, as many hidden nodes will be available. After clicking on the node you wish to add to, the familiar flyout menu will appear.



- If you've opened a map or material in the Material Parameter Editor, clicking on an open node slot (where it says No Map) will open a new instance of the Material/Map Browser. This method is the same as if you were working in the Compact Material Editor.



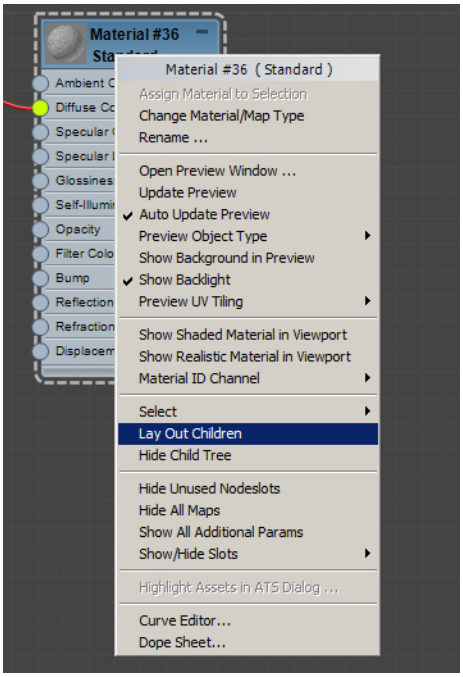
- You can also click and drag any node from the MMB or a right sided socket from a map in the View and drop it into a No Map slot in the Parameter Editor.

A few useful tips

Here are a few useful tips when working the Slate View.

Moving nodes

- Nodes can be dragged around to suit your needs, but to quickly align child nodes to a parent, you can right click the parent and select Lay Out Children from the menu.



- To move an entire material tree, you could click and drag a selection marquee around the whole thing, but an easier way is to hold Ctrl and Alt while dragging the parent. This will move all of the children relative to the parent node.

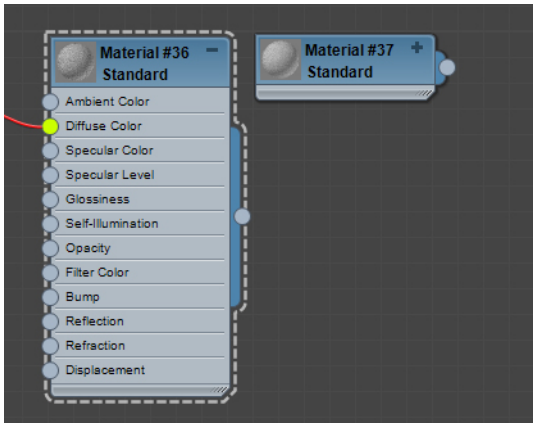
Cloning nodes

- Holding the Shift key while dragging a node will drag out a copy of that node.
- If you also hold the Ctrl key along with Shift, all of the node's children will also be copied. This is useful when you want to clone an entire material tree.

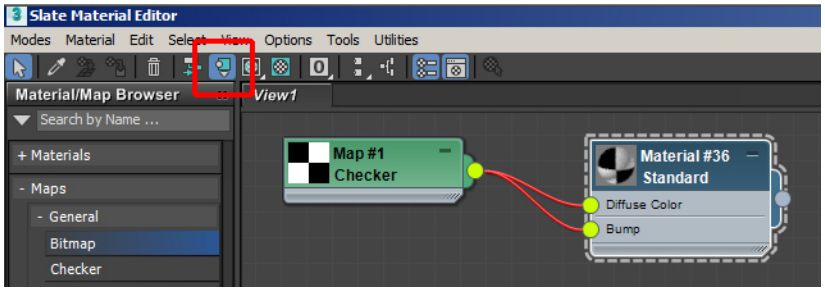
Keeping things neat and tidy

Complex materials can take up a lot of space. And when nodes are scattered all around, things can get a little confusing. Use these tips to use your screen real estate efficiently and keep your materials organized.

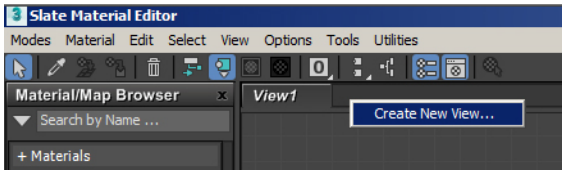
- Every node has a minus (-) in the upper right corner. Clicking this will collapse the node down to just the title bar at the top, hiding all additional node slots below. The minus will now become a plus (+) that will expand the node when clicked.



- Even better than collapsing the node is using the Hide Unused Node Slots toggle button found on the toolbar at the top of the Slate window. Enabling this will hide all node slots in the node that do not have a node wired into them. This method makes it easy to see which node slots are currently being used, and which nodes are wired into them.



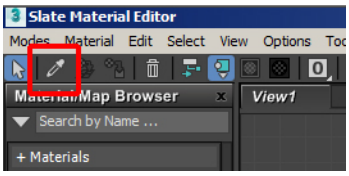
- The default View that you begin working in is called View 1, as seen along the top of the Slate View. This view can be renamed by right clicking on the name, but a right click just to the right of it will allow you to create a new View. Creating multiple views with proper names can help keep materials and maps separated and organized to suit your needs.



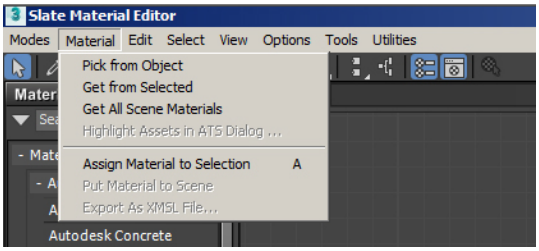
Editing existing materials

Now that we have a basic understanding of how to create materials, let's cover how you would use Slate to edit materials that already exist in the scene.

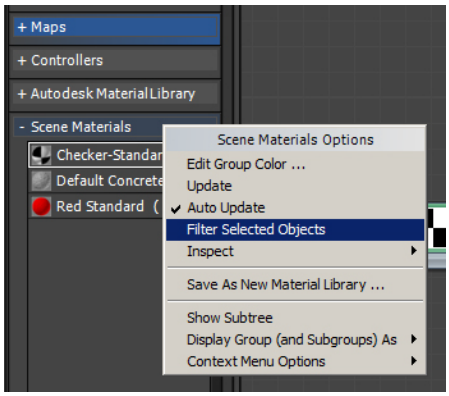
- Eyedropper tool – Up on the toolbar you'll find the familiar eyedropper tool. Click the icon, and your cursor will become a small eyedropper shape. Whatever object you click on will have its material appear in Slate centered on your current View.

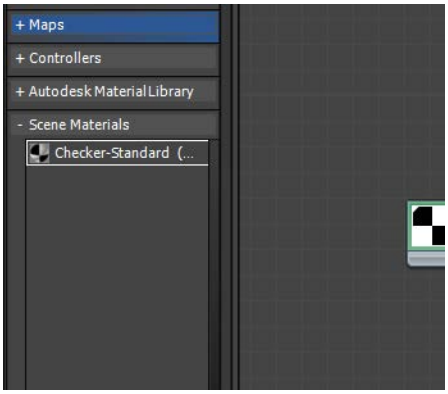


- The Material drop down menu
  - The eyedropper tool can also be activated through the Material menu by choosing Pick from Object.
  - From the same Material menu, choosing Get from Selected will load the material(s) of the currently selected objects into Slate, centered to the View.
  - Choosing Get All Scene Materials will load all materials currently being used in your scene into the current View.

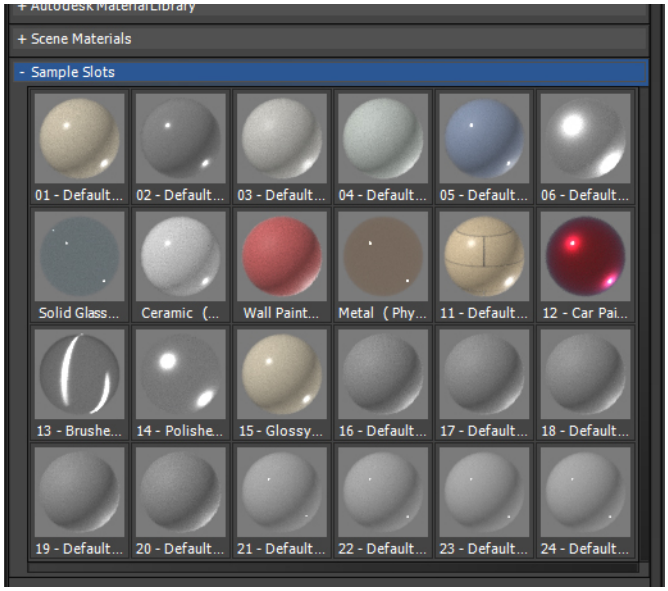


- Scene Materials rollout
  - Scrolling to the bottom of the MMB, or collapsing all of the rollouts above, will allow you to see a rollout menu called Scene Materials
  - This will list all of the materials in your scene, however through a right click menu you can choose Filter Selected. Now it will only show the materials applied to your currently selected objects
  - This is my preferred method, as materials can be loaded into the View via drag and drop, and therefore placed strategically rather than centered to the View

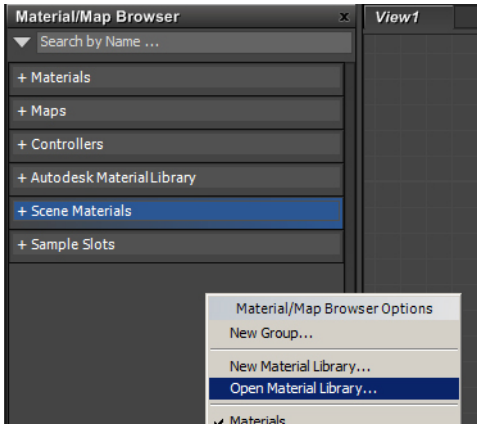


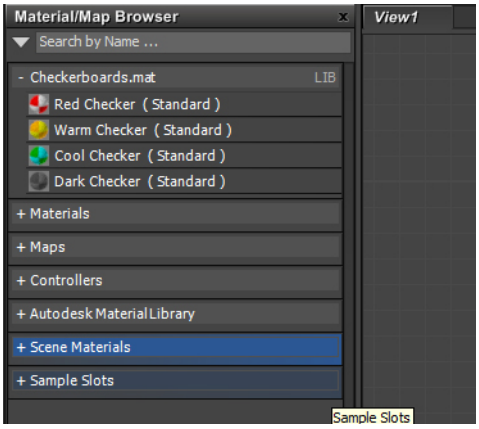


- Sample Slots rollout
  - Just below the Scene Materials rollout is the Sample slots rollout
  - This should look very familiar, as it is a version of the Compact Material Editor preview spheres
  - Any materials loaded into the CME will be visible, and can be loaded into Slate or even loaded from Slate and into the CME



- Material Libraries
  - Material Libraries (.mat files) can be opened through a menu accessed by right clicking in an open space of the MMB, such as below the Sample Slots rollout.
  - Choosing Open Material Library will allow you to navigate to, and select your .mat file
  - The Material Library will now appear in the MMB as its own rollout at the top of the list.

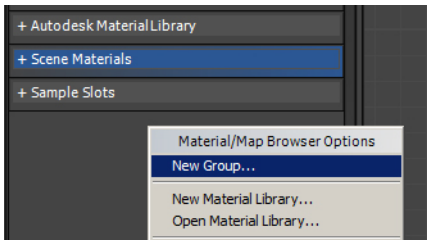




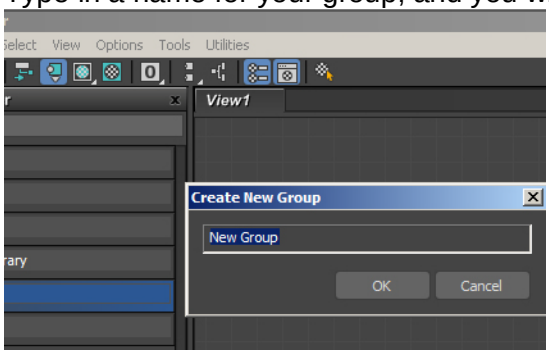
Advanced Customization of Slate Material Editor

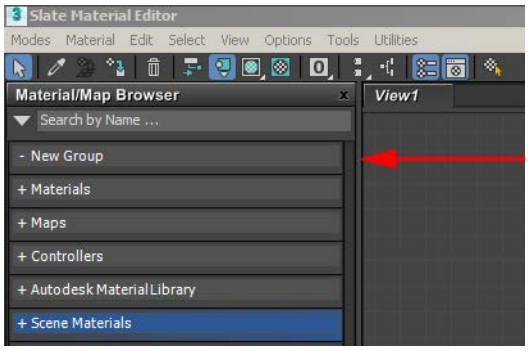
This section will cover some additional ways that the Slate Material Editor can be customized to allow quicker access to commonly used nodes, or just spruce up the grey tones with a splash of color.
Creating custom groups is relatively easy, and allows you to more quickly access the maps and materials that you use most. They are a lot like one of the existing rollout lists, but you can copy in your favorite nodes and see the new menu in all of the selection methods we covered previously.

- Creating custom group rollouts
  - Right Click on an open space of the Material/Map Browser and choose New Group from the menu

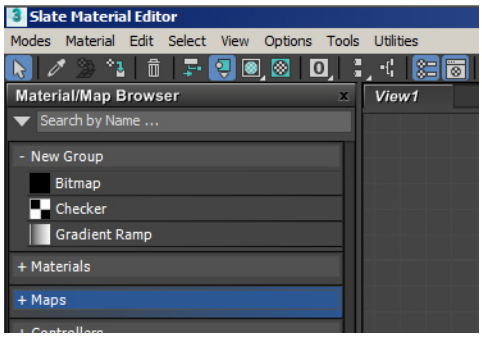


- Type in a name for your group, and you will see it appear at the top of the rollouts

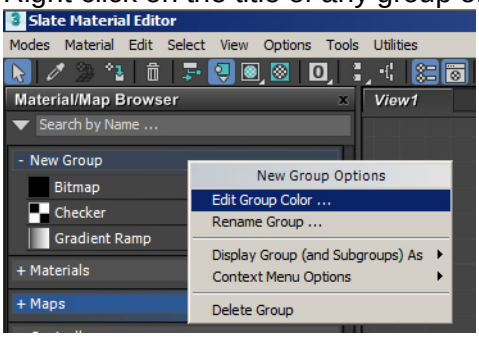




- Now you can drag and drop your favorite maps and materials into this group from the Material\Map Browser rollouts.



- Customizing group colors
  - Right click on the title of any group or rollout menu and choose Edit Group Color



  - The color selector window will open, allowing you to choose whatever color you wish to use.
  - This is a good method to help easily distinguish between maps and materials, or visually separate custom groups from default rollouts

In Conclusion…

I hope the tips and workflows in this handout help you understand the power of the Slate Material Editor, and have convinced you to at least try it out. Once you become familiar with the layout and functionality of Slate, you'll wonder how you managed without it. I challenge you to force yourself to use Slate exclusively for two weeks. It worked for me, and now Slate is all I ever use in production.