**MOHAA Tutorial Package V1.4**

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**Table of Contents**

This document (Table of Contents) has been made in order to make it easier to locate things in this huge bundle of tutorials, in many, many folders. It will include all the folders on alphabetical order and it will list every document (tutorial) in every folder, and also every chapter within every document. This way, you can simply search for a keyword in this document and locate in which tutorials they talk about your chosen keyword. When you’ve found what you’re looking for, simply check in which folder it is located. Press **CTRL**+**F** to search this document for keywords *(if you can’t find what you’re looking for; try different keywords that have the same or similar meaning)*.

**Included Software/Utilities:**

* Lightray 3D V1.4, V1.4.1 & V1.5 Beta (Key included)
* MBuilder
* Milkshape 3D V1.8.5 (Key included)
* MOHSH SDK
* MOHAATools (Radiant)
* MOHAA Source Maps
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* Pakscape
* Plugins (Radiant & Milkshape)
* Admin.ini Editor (in Reborn’s folder)
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* Gensurf (in Balr14’s folder)
* EasyGen (in Hubas’s folder)
* MOHAA Tools V1.6b (in Scorpio Midget’s folder)
* Blender Quake BSP Importer (in Andrew Palmer’s folder)
* OpenSCR (in Swagel’s folder)
* MOHAA Script Framework (in $or’s folder)
* Thread Viewer (in jv\_map's folder)
* Various other possibly useful tools inside the ‘Misc. Tools’ folder (incl. Bot Files & BSP Compilers).

**Document Organization Structure**

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        + **Shaders**
        + **Flush**
        + **Texture Window Scale**
        + **Texture Directories**
        + **Texture Shift Key Shortcuts**
        + **Texture Rotate Key Shortcuts**
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        + **Texture Entities**
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        + **Key Descriptions**
        + **Check box Spawn Flags**
        + **Active Properties**
        + **Key & Value Fields**
        + **Angle Buttons**
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      * **Entity handling tools**
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        + **Ungroup Entity**
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        + **Nudging the Entity**
        + **Rotating Entities = BAD!**
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        + **Z-Axis Layers**
        + **Cursor Coordinates**
        + **Brush & Entity Counter**
        + **Selection**
        + **Origin**
        + **Cursor Travel Distance**
        + **Control Settings**
      * **Viewing, seeing, not seeing, and hiding**
        + **Toggle**
        + **Center**
        + **Up Floor**
        + **Down Floor**
        + **Next (XY, YZ, XZ)**
        + **Layout**
        + **Zoom**
        + **Show**
        + **Hide/Show**
        + **Entities as….**
        + **Cubic Clipping**
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        + **Show Brush/Patch Dimensions**
      * **File management commands**
        + **New Map**
        + **Open**
        + **Save**
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      * **Projects and Preferences**
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      * **Info\_\* entities**
      * **Item\_\* entities**
      * **Light entity**
      * **Misc\_\* entities**
      * **Path\_\* entities**
      * **Shooter\_\* entities**
      * **Target\_\* entities**
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* **PKM**
  + **Action Room Tutorial**
  + **Basic Skinning Tutorial**
  + **Advanced Skinning Tutorial**
* **Prima Games**
  + **Breakthrough Official Strategy Guide**
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    - **Running & Walking**
    - **Strafing**
    - **Circle-Strafing**
    - **Crouching**
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    - **Climbing**
    - **Compass & Navigation**
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    - **Aiming**
    - **Firing**
    - **Reloading**
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    - **The Rifle-Butt Strike**
    - **Popping Smoke**
    - **Shoot & Scoot**
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    - **Commendations**
    - **Campaign Medals**
    - **Career Medals**
* **Prometheus**
  + **Lightray 3D Tutorials**
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      * **Attaching & Detaching Meshes**
      * **Background Images**
      * **Basic UVMapping Tutorial**
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      * **Lightray 3D Basics**
      * **Link & Unlink Objects**
      * **Loading Images into the Material Editor**
      * **Mesh Normals & Smoothing**
      * **Mesh to Skin**
      * **Modify Objects Dialog**
      * **Select, Move, Rotate, Scale, Pivot, Coord Systems**
      * **Toolbars & Dialogs**
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      * **Making Team-CTF Levels**
      * **Mirrors**
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      * **Rotating Brushes**
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      * **Twisted Pillars**
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      * **Using Sound**
      * **Water Tunnels**
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      * **Basic Entities and Placement**
      * **Basic Shapes**
      * **Building Stairs**
      * **Compiling**
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      * **Editing Shortcuts**
      * **Introduction**
      * **Jump Pads**
      * **Liquids**
      * **Making a pk3 File**
      * **Models and Shaders**
      * **Teleporters**
      * **Volumetric Fog**
      * **Your First Room**
  + **djbob**
    - **Hints**
  + **Eric Wasylishen**
    - **QBSP (Compile a Quake BSP file from a MAP source file)**
      * **Name**
      * **Synopsis**
      * **Description**
      * **Options**
        + **–nofill**
        + **–noclip**
        + **–noskip**
        + **–onlyvents**
        + **–verbose**
        + **–noverbose**
        + **–splitspecial**
        + **–transwater**
        + **–notranswater**
        + **–transsky**
        + **–nooldaxis**
        + **–forcegoodtree**
        + **–bspleak**
        + **–oldleak**
        + **–leaktest**
        + **–nopercent**
        + **–bsp2**
        + **-2psb**
        + **–leakdist [n]**
        + **–subdivide [n]**
        + **–wadpath <dir>**
        + **–oldrottex**
        + **–maxNodeSize [n]**
        + **–hexen2**
        + **–wrbrushes**
        + **–wrbrushesonly**
        + **–notex**
        + **–omitdetail**
        + **–convert <fmt>**
      * **Special Texture Names**
        + **Skip**
        + **Hint**
      * **External Map Prefab Support**
        + **\_external\_map**
        + **\_external\_map\_classname**
        + **\_external\_map\_angles**
        + **\_external\_map\_angle**
        + **\_external\_map\_scale**
      * **Detail Brush Support**
      * **Detail Variants**
        + **func\_detail\_illusionary**
        + **func\_detail\_wall**
        + **func\_detail\_fence**
      * **Model Entity Keys**
        + **“\_lmscale” “n”**
        + **“\_mirrorinside” “n”**
      * **Other Special-Purpose Entities**
        + **func\_illusionary\_visblocker**
      * **Map Compatibility**
      * **Author**
      * **Reporting Bugs**
      * **Copyright**
      * **See Also**
  + **Jex**
    - **Understanding Vis and Hint Brushes**
      * **Basic Vis Theory**
      * **Visual Vis Theory**
      * **Optimising Vis with Hint Brushes**
      * **Improper Hint Brush use**
      * **Irregular Hint Brush use**
      * **Creating Hint Brushes**
  + **Lloyd M**
    - **Terragen Tutorial for Skyboxes**
  + **Obsidian**
    - **Advanced Portal & Hinting Optimization Tutorial**
    - **Class on Hints**
    - **Exporting Models**
    - **Q3Map2 Shader Manual**
      * **0. Preface**
        + **Credits**
        + **Contact**
      * **1. Introduction**
        + **What is a Shader?**
        + **Shader Name & File Conventions**
        + **Q3map Suffix**
        + **Keyword Types**
        + **Documenting with Comments**
        + **Key Concepts**
      * **2. General Shader Keywords**
        + **skyParms**
        + **cull**
        + **deformVertexes**
        + **fogParms**
        + **noPicMip**
        + **noMipMaps**
        + **polygonOffset**
        + **portal**
        + **sort**
      * **3. Q3Map2 Specific Shader Keywords**
        + **q3map\_alphaMod**
        + **q3map\_backShader**
        + **q3map\_backSplash**
        + **q3map\_baseShader**
        + **q3map\_bounce**
        + **q3map\_bounceScale**
        + **q3map\_clipModel**
        + **q3map\_cloneShader**
        + **q3map\_extraShader**
        + **q3map\_fadeAlpha**
        + **q3map\_fogDir**
        + **q3map\_forceMeta**
        + **q3map\_forceSunlight**
        + **q3map\_fur**
        + **q3map\_globalTexture**
        + **q3map\_indexed**
        + **q3map\_invert**
        + **q3map\_lightImage**
        + **q3map\_lightmapAxis**
        + **q3map\_lightmapBrightness**
        + **q3map\_lightmapFilterRadius**
        + **q3map\_lightmapGamma**
        + **q3map\_lightmapMergable**
        + **q3map\_lightmapSampleOffset**
        + **q3map\_lightmapSampleSize**
        + **q3map\_lightmapSize**
        + **q3map\_lightRGB**
        + **q3map\_lightStyle**
        + **q3map\_lightSubdivide**
        + **q3map\_noClip**
        + **q3map\_noFast**
        + **q3map\_noFog**
        + **q3map\_noPlanar**
        + **q3map\_normalImage**
        + **q3map\_noTJunc**
        + **q3map\_noVertexShadows**
        + **q3map\_offset**
        + **q3map\_patchShadows**
        + **q3map\_replicate**
        + **q3map\_shadeAngle**
        + **q3map\_skylight**
        + **q3map\_splotchFix**
        + **q3map\_styleMarker**
        + **q3map\_styleMarker2**
        + **q3map\_sun**
        + **q3map\_sunExt**
        + **q3map\_sunlight**
        + **q3map\_surfacelight**
        + **q3map\_surfaceModel**
        + **q3map\_tcGen**
        + **q3map\_tcMod**
        + **q3map\_terrain**
        + **q3map\_tessSize**
        + **q3map\_textureSize**
        + **q3map\_traceLight**
        + **q3map\_vertexScale**
        + **q3map\_vertexShadows**
        + **q3map\_vlight**
      * **4. Q3Map2 Specific Surface Parameter Shader Keywords**
        + **surfaceparm alphashadow**
        + **surfaceparm antiportal**
        + **surfaceparm areaportal**
        + **surfaceparm botclip**
        + **surfaceparm clusterportal**
        + **surfaceparm detail**
        + **surfaceparm donotenter**
        + **surfaceparm dust**
        + **surfaceparm flesh**
        + **surfaceparm fog**
        + **surfaceparm hint**
        + **surfaceparm ladder**
        + **surfaceparm lava**
        + **surfaceparm lightfilter**
        + **surfaceparm lightgrid**
        + **surfaceparm metalsteps**
        + **surfaceparm monsterclip**
        + **surfaceparm nodamage**
        + **surfaceparm nodlight**
        + **surfaceparm nodraw**
        + **surfaceparm nodrop**
        + **surfaceparm noimpact**
        + **surfaceparm nomarks**
        + **surfaceparm nolightmap**
        + **surfaceparm nosteps**
        + **surfaceparm nonsolid**
        + **surfaceparm origin**
        + **surfaceparm playerclip**
        + **surfaceparm pointlight**
        + **surfaceparm skip**
        + **surfaceparm sky**
        + **surfaceparm slick**
        + **surfaceparm slime**
        + **surfaceparm structural**
        + **surfaceparm trans**
        + **surfaceparm water**
      * **5. Editor Specific Shader Keywords**
        + **qer\_editorimage**
        + **qer\_nocarve**
        + **qer\_trans**
      * **6. Stage Specific Shader Keywords**
        + **Texture Map Specification**
        + **blendFunc**
        + **tgbGen**
        + **alphaGen**
        + **tcGen**
        + **tcMod**
        + **depthFunc**
        + **depthWrite**
        + **detail**
        + **alphaFunc**
      * **7. Quake 3 Engine Game Specific Shader Keywords**
        + **Return to Castle Wolfenstein**
        + **Return to Castle Wolfenstein: Enemy Territory**
        + **Raven**
        + **Ritual**
      * **8. Shader Effects Creation Tips**
        + **Creating New Textures**

**Tools Needed**

**Setting up Files**

**Rules and Guidelines**

**Making the .pk3 File**

* + - * + **Notes on Alpha Channels**
        + **Advanced Decal Tricks**

**Multiplicative Decals**

**Inverse Multiplicative Shadows**

**Using \_decal Entities**

* + - * **Appendix A: Triggerable Shader Entities**
      * **Appendix B: Terrain Entities**
        + **General Changes**

**Base Shader**

**tcMod Functions**

**tcGen Functions**

* + - * + **Lightmapped Terrain**

**q3map\_nonPlanar**

**q3map\_lightmapAxis**

**q3map\_shadeAngle**

**q3map\_lightmapMergable**

**q3map\_lightmapSampleSize**

**q3map\_lightmapSampleOffset**

* + - * + **AlphaMod Dotproduct Terrain**
        + **AlphaMod Volume Terrain**
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        + **What is a Foghull?**
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**Light Emitting Shaders**

* + - * + **Lightmapped Surfaces**
        + **Compiling**
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    - **Shader Lighting Experiment**
  + **Other**
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  + **PBworks**
    - **Entity Explanation**
      * **Select**
        + **Select Complete Tall**
        + **Select Touching**
        + **Select Partial Tall**
        + **Select Inside**
      * **Undergroup Entity**
      * **Move into Entity**
      * **Move into worldspawn**
      * **Make detail (Ctrl+M)**
      * **Make structural (Shift+Ctrl+S)**
      * **Smart Entities**
        + **Smart\_train**
      * **Func**
        + **Func\_bobbing**
        + **Func\_button**
        + **Func\_door**
        + **Func\_door\_model**
        + **Func\_door\_rotating**
        + **Func\_group**
        + **Func\_pendulum**
        + **Func\_plat**
        + **Func\_rotating**
        + **Func\_static**
        + **Func\_timer**
        + **Func\_train**
      * **Info**
        + **Info\_alien\_intermission**
        + **Info\_human\_intermission**
        + **Info\_notnull**
        + **Info\_null**
        + **Info\_player\_intermission**
      * **Light**
      * **LightJunior**
      * **Misc**
        + **Misc\_anim\_model**
        + **Misc\_light\_flare**
        + **Misc\_model**
        + **Misc\_particle\_system**
        + **Misc\_portal\_camera**
        + **Misc\_portal\_surface**
        + **Misc\_teleporter\_dest**
      * **Path**
        + **Path\_corner**
      * **Target**
        + **Target\_delay**
        + **Target\_kill**
        + **Target\_location**
        + **Target\_position**
        + **Target\_print**
        + **Target\_push**
        + **Target\_relay**
        + **Target\_rumble**
        + **Target\_score**
        + **Target\_speaker**
        + **Target\_teleporter**
      * **Team**
        + **Team\_alien\_acid\_tube**
        + **Team\_alien\_barricade**
        + **Team\_alien\_booster**
        + **Team\_alien\_hoevel**
        + **Team\_alien\_overmind**
        + **Team\_alien\_spawn**
        + **Team\_alien\_trapper**
        + **Team\_alien\_hive (not in standard entity file)**
        + **Team\_human\_armoury**
        + **Team\_human\_dcc**
        + **Team\_human\_medistat**
        + **Team\_human\_mgturret**
        + **Team\_human\_reactor**
        + **Team\_human\_repeater**
        + **Team\_human\_spawn**
        + **Team\_human\_tesla**
      * **Triggers**
        + **Trigger\_always**
        + **Trigger\_ammo**
        + **Trigger\_buildable**
        + **Trigger\_class**
        + **Trigger\_equipment**
        + **Trigger\_gravity**
        + **Trigger\_heal**
        + **Trigger\_hurt**
        + **Trigger\_multiple**
        + **Trigger\_push**
        + **Trigger\_stage**
        + **Trigger\_teleport**
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    - **Thicken**
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    - **Q3A Error Messages**
  + **RKone**
    - **Curved Trim Tutorial**
  + **skOre**
    - **Q3A Electronics**
      * **1. Mechanics**
        + **1.1 The Basics**

**Complex Func\_ing, Trigger\_ing and Target\_ing**

**How to create pop up effects**

* + - * + **1.2 Advanced Triggering**
        + **1.3 More Complex Examples of AT**

**The Teleport-Tunnel**

**Furthermore: The Teleport-Tunnel**

**Interlude: First Steps Done**

* + - * **2. Basic Electronics**
        + **2.1 Q3A Electronics**

**The AND-Gate**

**The NOT-Gate**

**The OR-Gate and Interlude**

**The EQUIV-Gate**

**The XOR-Gate**

* + - * + **2.2 Gates and Beyond**

**Flip Flops**

* + - * + **2.X The Use of Q3A Electronics**
  + **SmallPileofGibs**
    - **Hint Brushes: How and why to use them**
    - **Q3 Map Explanation**
      * **Geometry Definitions**
      * **Map Definitions**
      * **What does the BSP stage do?**
      * **How and why is the BSP created?**
      * **How can I control the BSP splits? (a way to use *detail* and Hint brushes)**
      * **What is a leak?**
      * **What is the .prt file?**
      * **How are the brushes/patches turned into triangles?**
      * **How is the PVS created?**
      * **What does –vis –fast do?**
      * **How do Potals affect visibility?**
      * **How can I make VIS more efficient? (and reduce –vis processing time)**
      * **How do lightmaps work?**
      * **How are lightmaps generated?**
      * **What about surface lights?**
      * **What does –light –extra do?**
      * **How does BSPC interpret the map?**
      * **What is the ‘Brush CSG’ stage of BSPC?**
      * **How is the area file created?**
      * **How do Bots use the area file?**
      * **How do I make Clusterportals?**
  + **Timbo**
    - **Q3 Documentation Project**
      * **GAME**
      * **CGAME**
      * **Q3UI**
* **RazoRapid**
  + **CGM Bugger List**
* **Reborn**
  + **Admin.ini Editor Documentation**
  + **Reborn Patch Documentation**
    - **New Admin Commands**
    - **Admin System (Admin Rights)**
    - **New Game CVARs**
    - **New Client Commands**
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    - **Notes**
  + **New EventSystem Engine Documentation**
  + **New Scripting Commands Documentation**
  + **Reborn Console Messages**
    - **Information**
    - **Warnings**
    - **Errors**
    - **Script Errors**
    - **Exceptions**
    - **Others**
  + **Reborn Files & Limits**
    - **Files**
    - **Limits**
    - **Constants**
  + **Reborn Installation Guide**
    - **Overview**
    - **Windows Installation**
      * **Quick Guide**
      * **Detailed Guide**
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      * **Quick Guide**
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    - **Additional Information**
  + **Reborn RCON Commands**
* **Riflemen**
  + **Weapon Skin Tutorial**
* **RingDog**
  + **Model List – AA**
  + **Model List – SH**
  + **Model List – BT**
* **RyBack**
  + **NightFall Documentation**
    - **Installing NightFall**
    - **NightFall API Client**
    - **NightFall API Server**
    - **NightFall Client Admin Commands**
    - **NightFall CVARs**
    - **NightFall Filters**
    - **NightFall RCON Commands**
    - **NightFall Script Event System**
    - **NightFall Scripting Functions**
* **Scorpio Midget**
  + **MOHAA Tools Information**
  + **MOHAA Unwrapped**
    - **Debugging**
    - **Menus**
    - **Commands**
    - **List of CFG Files**
    - **List of Menus**
    - **Variables (cvarlist)**
    - **Commands (cmdlist)**
    - **3 useful debugging threads**
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  + **Beginning with Mapping**
    - **MOHRadiant**
    - **MBuilder**
    - **PakScape**
  + **Mapping First Room**
* **Shadow**
  + **The Ultimate Compile Errors List**
  + **Abbreviations**
  + **Cheat Commands (To protect against)**
    - **Default Commands/CVARs**
    - **Custom (Hexed) Commands/CVARs**
  + **Cheat Skins (To protect against)**
  + **Custom Sky Textures**
  + **Freeze-Tag Locations All Maps**
    - **Southern France (dm/mohdm1)**
    - **Destroyed Village (dm/mohdm2)**
    - **Remagen (dm/mohdm3)**
    - **The Crossroads (dm/mohdm4)**
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