

v2.19



Conceived by Swoop, Edited by AEon Last Update **6/03/2004**

Intro

With this Frequently Asked Questions document, Swoop and AEon hope to help mappers and modders out there get into Far Cry mapping more quickly, by conveniently collecting many useful tips and tricks on Far Cry and especially its level editor Sandbox.

Legend

This FAQ uses color-coded text to make it clearer and easier to read and follow the Q/A information. The colors and font styles mean the following:

Keyboard shortcuts	(e.g. hit F1 -key)
Paths to commands	(e.g. File menu ,)
Commands	(e.g. Generate surface texture)
Arguments	(e.g. AlphaBlend)
Type	(e.g. " <code>\map aefoo</code> ")
Bold	(e.g. not = emphasize)
References	(e.g. " <i>How to turn on Developer Mode?</i> ")

Stats

The version **2.18** of this FAQ lists **175** Q/As.
Usually the version number is upped by + v0.01 per new Q/A.

Credits

Our thanks go out to all that helped with this FAQ including

Timur.Davidenko, MarcoC...Crytek, ChrisAuty (Crytek), Martin Mittring (Crytek), aarbro, Keeval, Acidosmosis, nr1dane, Arkalius, Lo.TekK, Dante, Counter, Eu4ria, Zero5, Wigam, Avidal, radtweak, Colin_Campbell, AcousticToad254, glen5700, FuSiON_3D, Niwa_Banli_Zan, ria.enigma, Kovalchook, stinghad, XPGeeos, t4Ikster5, melmeltou, le Yo, Bio-Infected, Nostradamus92, ReplaceMe, Makiavel, Kenavo, UrGrue, farmerTom, Aristokrates, BryanNOVA, anonymous_bosch, mockier, mickieluv, fastsoth, Qoyari, SlaveZero, ambershee, bananadude12, SkyBox, TV-Mr_White, Gumby_902, thedudemanguy, Jak_Carver, zakalwe88, PetarKotevski, Crazyhooker, Slomer, Tryagin, Precarious Panther, VriendP666,

and anyone else we missed.

Special thanks go to LotekK for explaining to me how Heightmap Resolution, Meters Per Unit and Surface Texture dimensions fit together. And also for helping proof read all the material in the latest FAQ version.

Special thanks also go to aarbro for providing his authoritative guide on Light and Shadows. I added the info in a special section: "*LIGHT & SHADOWS - Special by aarbro*".

Work-In-Progress

This is a work in progress, so that several of the answers may not be totally correct or explained in the best way. But every tip was tested, so they should work.

Please check out "****" marked comments, and send us some feedback to fix these problems.

-Swoop, AEon

Feedback

Feel free to send any feedback to

AEon <mailto:AEon@planetquake.com?subject=FarCry-FAQ-Feedback:>
(Homepage: <http://www.planetquake.com/aeons>)

or

Swoop <mailto:rockysnowdog@hotmail.com?subject=FarCry-FAQ-Feedback:>

Updates

Additions to this FAQ, since the last version v1.67 are prefixed by a yellow "*" star.

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TERRAIN EDITING


*Are there any Web Sites on Terrain Creation, i.e. on Terrain Tools?

A: Yes, e.g. **Terrasource** (<http://www.terrasource.net>). See the resources section there to download heightmaps as well as tools to help create heightmaps. You can also experiment with **World Machine** (<http://www.world-machine.com>). Finally it is also possible to export **Bryce** created heightmaps to Sandbox. Bear in mind that the heightmaps are to be in 16-bit grayscale for importing. Note that Crytek recommends the .PGM file format for heightmaps. This makes the format a good choice for Paint Shop Pro users, since it is natively supported. If you use Photoshop, on the other hand, the .RAW format would be the better choice, since both Photoshop and Sandbox natively support it.


How to make a road Smoothly Slope down from a Mountaintop?

A: Use Photoshop or image editor of choice. Then highlight the road with your selection tool/marquee tool and then apply a sweep style gray scale gradient (**gradient paint** bucket in Photoshop) to the selection or mask. A circular mask works well for curved roads, then just cut away any part that you do not want in the heightmap by painting it black. After re-importing the heightmap, you will probably still need to use the terrain editing tools **Flatten/Smooth** (**RollupBar**, **Terrain**, **Modify**) to finalize the layout.

*How can I edit a Heightmap Externally?

A: **Choose File menu**, **Export Heightmap...** from the **Terrain dialog** (**Terrain**  icon in toolbar). Then open up the heightmap image in Photoshop or some image editor of choice. Heightmaps are grayscale only! So make sure your Red, Green, and Blue values are always the same, thus resulting in a gray color tone, i.e. RGB = 125,125,125 is 125 units high (since units are fixed = meters, that is a height of 125 meters) in Sandbox as a result.

What is the preferred Image Format for Heightmaps?

A: Use .PGM image format for lossless 16-bit terrain importing/exporting. You can find it in export or import terrain dialogs (**Terrain**  icon in toolbar, **Terrain dialog**, **File menu**, **Import/Export Heightmap...**).

What are the Height Limitations in Sandbox?

A: Terrain height can vary from 0 to 255 units (since 1 unit = 1 meter, 0 to 255 meters), but Object elevation is **not** limited. "The Height parameter can be set to any value between 0 and 255, although values over 150 are not all that common in most maps. One thing to consider when setting the height is the water level, which defaults to a height of 16." (from the Manual v1.1).

Heightmap import/export via .PGM 16-bit format. Plug-ins?

A: Since Crytek recommends the use of the .PGM image format for lossless 16-bit grayscale terrain importing/exporting, you should note:

Paint Shop Pro supports .PGM format natively and can paint in 16-bit. Photoshop supports 16-bit grayscale editing as well, but the currently available .PGM plug-ins convert back to 8-bit, making them useless. The latest Photoshop 8 seems to support full 16-bit .PGM import/export. If you have problems finding such a plug-in, use the .RAW export in Sandbox to good effect instead (Photoshop 8 supports full 16-bit grayscale import/export for .RAW).

Tip: Also read up on "[Photoshop .PGM plug-ins?](#)" for downloads.

Exporting Heightmaps in .RAW format, settings?

- A: When working with heightmaps, it is recommended to use the .PGM format, but should that not work for you, you may want to use the .RAW image format. Some tips on what export options to set (in paint program), when saving the edited heightmap: **Color Depth: 16-bit Grayscale** (set this via **Image menu, Mode** in Photoshop), **Size:** Whatever size your current map is (Powers of 2), **Header: 0**, **Byte Order: IBM PC**.

What image editing Software to use to Edit Heightmaps?

- A: Apart from the commercial products like Photoshop and Paint Shop Pro, you may like to try out **Gimp** (<http://www.gimp.org>). This freeware photo-editing tool is almost as good as Photoshop, only 3 MB large, and runs on any platform.

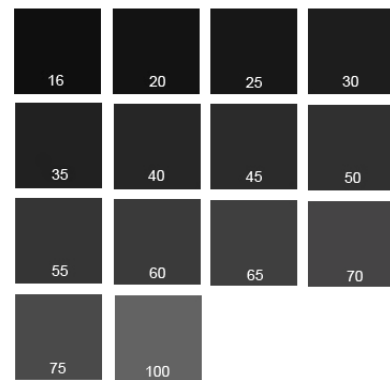
*How Gray shades relate to Terrain Heights Sandbox?

- A: When trying to make sloping paths in Sandbox, it can be quite difficult to maintain the right heights. To help make this easier and more consistent use this height map in e.g. Photoshop and use the **Gradient Tool** to make sloping paths. Use the simple Height Map Chart for more controlled results.

The numbers in the image (by fastsoth) denote terrain heights in Sandbox units. So 100 means a height of 100 units/meters in Sandbox. A height of 16 normally means sea level.

Tip: Also read "[How to make a road Smoothly Slope down from a Mountaintop?](#)".

Far Cry Height Chart



*On Reducing Polygon Counts in levels?


- A: To reduce the number of visible polygons use super-scaled (scale values of e.g. 5 and more, to make the rock 5+ times larger than normal) **rock brushes** as terrain features, rather than trying to force the terrain to yield interesting 'bumpy' formations. One of the big coastal rock objects e.g. in mp_cargo is scaled up by $\times 10$, and should use far less polygons, than raised terrain. Plus these rock objects look a lot better most of the time. Note you can modify the material of the objects in the editor and increase the texture tiling on oversized objects, for a less checkered look. For more examples be sure to check the Far Cry single player and multiplayer levels.


*How to better Edit the Ocean Floor?

- A: When editing the ocean floor of your level, the ocean surface can get in the way. To let you better see and edit the ocean floor simply uncheck **Ocean** under **RollupBar, Render Settings tab**.

*How to change the level Dimensions?

- A: After starting a level with a size of e.g. 1024x1024 units/meters, you may notice that this is far too large for your purposes. Here are some tips on what to do to scale things down:

The best way to do this (assuming objects have yet not been placed) would be to export the heightmap from the **Terrain**  icon, **Terrain dialogue** (export to .RAW when using Photoshop, or .PGM if you have PaintShop Pro), and use your image editing application to resize (Ed. or crop) the heightmap. Create a new map (**File menu, New**) with the size you want, and then import the resized heightmap again.

Note: [Terrain](#)  icon, [Heightmap menu](#), [Resize](#) does not actually work like you would expect it to. It does not scale the heightmap; it simply expands the area available (leaving the unused areas flat), or truncates the heightmap. To use a Photoshop analogy, it is more like the [Resize Canvas](#) command than the [Resize Image](#).

Tip: The .RAW heightmap export from Sandbox is a 16-bit gray native to Photoshop. So as long as you save it again as a .RAW, the grays should be preserved. (Ed. You may want to test [Bicubic](#) image resample when scaling ([Alt-I, I](#)), since this smooths out the image. Possibly only use [Nearest Neighbor](#) should the 'smoothing' not yield the desired results.)

***How to build Cliffs?**

A: Currently, the editor cannot create perfectly vertical terrain, due to restrictions in the terrain system. You can use rock objects however to make up cliff areas. (ChrisAuty, MP Level Design Lead, Far Cry)

VEGETATION

How to improve the Render Quality of Vegetation Trees in Sandbox?

A: When applying vegetation in each individual plant setting, make sure that the **AlphaBlend** box is set to **True**.

Note: There has been quite a bit of debate on this, i.e. not everyone thinks **AlphaBlend** improves the look. Crytek does not use **AlphaBlend** much in the Far Cry single player maps.

Vegeta

Does AlphaBlend pose a 'threat' to Performance?

A: By AcidOsmosis: Not necessarily. I have had AlphaBlend turned on, with 10+ different types of vegetation, with a total of about 40,000 vegetation objects present on the terrain and still no noticeable drop in performance. It all depends on your system obviously, but I do not believe that AlphaBlend can cause a significant performance drop as everyone thinks. Note you have the option to leave 'replacement' sprites turned on and to determine at what distance the vegetation becomes a sprite. Sandbox gives you many options on how to render vegetation.

Is AlphaBlend required and when does it improve looks?

A: By AcidOsmosis: Well on the 'required' part, that is more of less up to you the level designer. Does AlphaBlend make your vegetation look better? To avoid all argument, several AlphaBlend tests have been performed and documented in screenshots. As it turns out in some cases AlphaBlend does indeed improve the 'look' of vegetation, in other cases it simply comes down to your personal preference. Below, specified vegetation types are compared for the AlphaBlend settings True and False:

old_forest_tree_a3

Ragged edges on the object look ugly, AlphaBlend improves the visual quality significantly.
Recommendation - AlphaBlend: True.



OLDFOREST_TREE_A3 ALPHABLEND: T



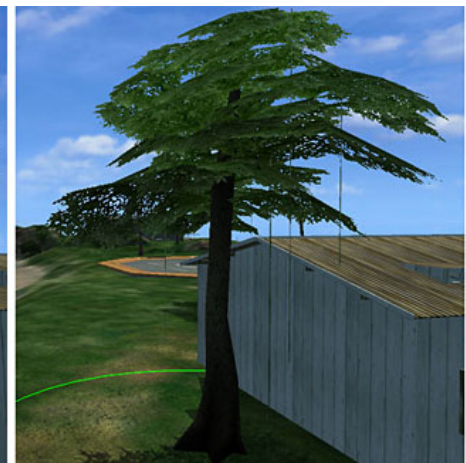
OLDFOREST_TREE_A3 ALPHABLEND: F

oldforest_tree_a1

When looking at this object from all directions you see the tree trunk go up all the way to the top, as though there are no branches or leaves on the side that you are looking at. Turning AlphaBlend off fixed this issue, and IMO that actually looks better.
Recommendation - AlphaBlend: False.



OLDFOREST_TREE_A1 ALPHABLEND: T



OLDFOREST_TREE_A1 ALPHABLEND: F

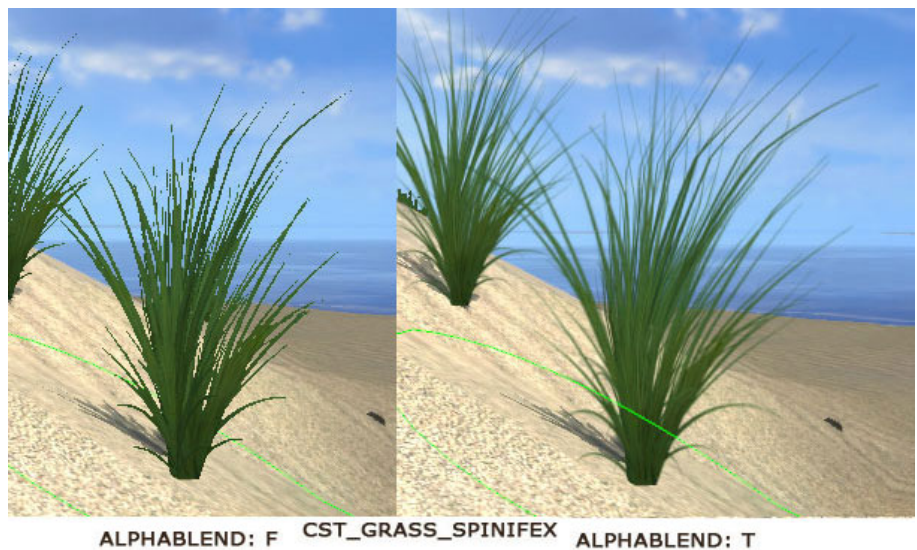
cst_coconut_palm_curved_north

This object looks better with **AlphaBlend** turned on, since without **AlphaBlend** you get really ugly ragged edges around the leaves. Recommendation - **AlphaBlend: True.**



cst_grass_spinifex

Quite obviously turning off **AlphaBlend** on this object is too ugly, especially if you want your vegetation to look realistic and beautiful. Recommendation - **AlphaBlend: True.**



lgp_basicfern_a

Interestingly there seems to be not much of a noticeable difference between the **AlphaBlend** settings **True** and **False**. So you can save resources by turning it off. Recommendation - **AlphaBlend: False.**



As far as trees, bushes and palms go, it usually depends more on the specific Vegetation model used. So you will need to test things on a case-by-case basis. Grass on the other hand almost always requires **AlphaBlend** to be turned on, to avoid ugly and unrealistic Vegetation.

Tip: Since the folks a Crytek have been experimenting with this engine for quite a while, it is always a good idea to check the original single and multiplayer levels, to see how Vegetation was set up there.

Working with Vegetation? - Thoughts by AcidOsmosis

A: After many hours of testing, I have found a good way to handle Vegetation. Set up 'plant' properties on 'prototypes' and **then** place them:

When I get to the stage of mapping where I want to place vegetation, I place the first object of that type (**Shift + click**) on the terrain, zoom in so that the entire object fills the perspective window and start to set the properties for that object.

Begin by setting **Bending** to 1. You will have to experiment with this setting. Usually a good value is somewhere in between .3 and 1. A value of 1 is normally a realistic 'swaying in the wind' effect for your trees, palms, and grass (Ed. actually IMO that is a strong wind for trees).

If the object is large, like a tree I will usually set **Hideable** to `True`, so that AI can hide behind this object (Ed. in single player this is **very** important, but not only for trees, also for bushes and also grass).

Brightness - Do not touch it until you have done a **File menu**, **Generate surface texture**, because after generation the Vegetation that started out too bright will darken.

With thousands of Vegetation objects try turning on **CastShadow** and **RealTimeShadow**, especially for trees and bushes. This will create real-time shadows that follow swaying. Interestingly, this does not seem lead to any significant performance hit (Ed. this depends more on the density of the vegetation, rather than the quantity. Note: Use the **ShadowDistRatio** to determine the distance at which **RealTimeShadows** are still drawn). Feel free to experiment though.

Next, switch **AlphaBlend** to `True` and then to `False` several times. Do this to let you better compare the rendering quality for that model. Test this at various distances. Whether **AlphaBlend** looks better depends on the **specific** vegetation object you are using it on. There are a few objects where you won't be able to tell a difference, so it is better to just leave it set to `False`, to save resources.

SpriteDistRatio, **ShadowDistRatio** and **MaxViewDistRatio** are settings you will have to experiment with depending on what the rest of your settings are, the design of your map, etc. If you are using **AlphaBlend**, **CastShadow** and **RealTimeShadow**, then you obviously want to pick these settings wisely, so that your vegetation only turns into a sprite at a very far distance. Note that you will only want your object to become a sprite at such distances where you won't notice a difference between sprite and model. For **SpriteDistRatio** a value of 1 is usually fine, or even .7. Be sure to make the **MaxViewDistRatio** value larger for trees than for grass, because realistically trees can be seen at a **much** larger distance, than a few blades of grass (Ed. see the SP maps, grass only pops up when you are a few meters away).

UseSprites - Turn this on (Ed. technically this is a level of detail fall back for long distances). If you do not like those ugly boxes that appear when this is turned on, then simply do a **Tools menu**, **Reload Terrain**. Note that this is a lot quicker than **File menu**, **Generate surface texture**, which also removes the gray boxes. As an alternative you could set **SpriteDistRatio** to a larger value, but this is not convenient, since you just set up that value properly, right?

After all these preparations begin placing Vegetation objects one by one (**Shift + click**), for better control. Then you might like to **Alt + click + drag** to Scale the object, to add more natural variety. Alternately you could use the **Size** and **SizeVar** settings, if you want vegetation to be placed at random sizes.


*How to change Vegetation Density and Variation in Paint mode?

A: Under **RollupBar**, **Terrain**, **Vegetation**, **Objects**, i.e. **Default** click on an instance (plant). Further down you will be presented with a list of properties: Change the **Density** from default 1, to vary the plant application density while using Vegetation Paint mode (**Paint Objects** button selected). Note that a higher Density number will actually make your Vegetation **less** dense. Also note that this is only useful for larger brushes. Tip: **+**, **-** will change the brush size in Paint mode.

To paint more than one Vegetation type you can select multiple vegetation objects within a category using standard windows keys (**Ctrl + click** to select individual objects, or **Shift + click** to select a range of objects) and then set the density for the selected objects - however, you cannot specify the density

per brush radius. And if you select the category name (e.g. [Default](#)) you will paint **all** Vegetation objects of that category. *Note that each item in the group can have a different density value.

*Can you Rotate 'painted' Vegetation?

A: No. Via **Alt + drag** you can scale 'painted' Vegetation, but there is no way to rotate it. And since Vegetation is a special instance (not like the other Objects), the [Select and Rotate](#)  tool will not work.

*There have been discussions in the past about the reasons for not allowing painted vegetation to be rotated. The main reason is the fact that they convert to sprites at a distance, making the inability to rotate a function of both aesthetics and performance.

As an alternative you can place 'single' plant Objects into your map from [RollupBar, Objects, Simple Entity, natural](#); or from [RollupBar, Objects, Brush, natural](#). Both [Simple Entities](#) and [Brush](#) plants **can** be scaled.

Tip: Also read "[Any Place, Move, Scale, Delete Vegetation tips?](#)"

*Tips on placing Vegetation?

A: It is worth using the Vegetation Painter ([RollupBar, Terrain, Vegetation, Paint Objects](#)) for distant or large areas in the level, but you should get into the habit of **manually** placing individual grasses / trees etc. Especially in smaller areas that the player will see more often it will improve the overall visual quality.

When you paint grass, make the [Density](#) parameter a little higher to thin out the grass you paint. Also ensure that the grass object's view distance ([MaxViewDistRatio](#)) is reasonably low. This will help with the frame rate. (ChrisAuty, MP Level Design Lead, Far Cry)

OBJECTS, EFFECTS, & PHYSICS

How to create a Storm and Make it rain?

- A: Create a [Storm](#) entity from [RollupBar](#), [Objects](#), [Entity](#), [Render](#), and place it somewhere on your map. Then create an Area Shape where you want your storm to appear, by clicking the [Area](#) button. Define the areas outline in the map by placing points with the mouse (Tip: [Double-click](#) last point to close the area). Edit the [Height](#) parameter under [Shape Params](#) to give the area volume (e.g. 10). Click the Area box to make sure it is selected. Now click [Pick](#) from the [RollupBar](#), and then click on the [Storm](#) entity. This connects the Shape to the [Storm](#) entity. Walk into the area in the editor to see the falling rain, and hear random thunder.

Tweak the values under [Shape Params](#) for the [Storm](#) entity, such as [RainAmount](#) to e.g. 0.1 for light drizzle. You will need to step out and back into the Area Shape/Box to see changes take effect.

Note: If your [Storm](#) is not properly removed from the editor after deleting it, try [Tools menu](#), [Reload Scripts](#) to fix this.

*Scaled Object has lost all Physical Properties. How to fix this?

- A: Simply convert the object back to a simple entity via [Modify menu](#), [Convert](#), [To Simple Entity](#). Then re-apply your physical property settings. *Alternatively, [Tools menu](#), [Reload Scripts](#) should also do the trick.

*How to make water splash on Rocks?

- A: Place a Particle Effect via [RollupBar](#), [Entity](#), [Particle](#), [ParticleEffect](#) in your map. Then change the [ParticleEffect](#) setting under [Entity Properties](#), using one of the following values: "water.waterfall_collision.a", "water.waterfall_breaks.a", or "water.waterfall_big.water". Just copy and paste that value in the string gadget (without the quotes). Finally play with the other settings such as [Scale](#), [SpawnPeriod](#), and [UpdateRadius](#) until you find a combination that works for you.

Tip: Check out the [DataBaseView dialog](#), [Particles tab](#), [Load Library](#), "water", for a complete list of water related particle effects, e.g. "water.bubbles.a", "water.bubbles.b", "water.water_splash.a", "water.waterfall_a.water", "water.waterfall_big.water", "water.waterfall_breaks.a", "water.waterfall_breaks.b", "water.waterfall_collision.a", "water.waterfall_collision.b", "water.waterfall_source.a".

*Alternatively, [RollupBar](#), [Entity](#), [Particle](#), [ParticleSpray](#) can be used.

How to physicalize Objects?

- A: You can physicalize [Simple Entities](#), by picking one and then turning on the [RigidBody](#) parameter under [SimpleEntity Properties](#), [Physics](#). Note that Brushes **cannot** be physicalized, they are meant to be 'static', thus non-resource hungry.

Tip: Try [RollupBar](#), [Objects](#), [Simple Entity](#), [buildings](#), [boat](#), [wood_raft](#) as a test Object.

How to make a physicalized Object Movable/Shootable? Make it Rest?

- A: If you physicalized a [Simple Entity](#) ([RigidBody](#) parameter `True`), like a rock, and placed it on a terrain slope, the rock will roll down the hill as soon as you run the game ([Ctrl-G](#)) in the editor. Setting the Object's [Resting](#) parameter under [SimpleEntity Properties](#), [Physics](#) will make the rock rest. If you then shoot or push the rock, it will start rolling down the slope.

How to change a physicalized Object's Weight?

- A: To give a physicalized [Simply Entity](#) ([RigidBody](#) parameter `True`) proper realistic weight, simply change the Objects [Mass](#) parameter under [SimpleEntity Properties, Physics](#). Experiment with the [Mass](#) until moving/shooting the object looks realistic for the type and size of object in question. E.g. you will want to give a crate a [Mass](#) of 200, and smaller boxes a [Mass](#) of around 60.

How to make physicalized Objects Float?

- A: To make a physicalized [Simply Entity](#) ([RigidBody](#) parameter `True`) float on water, you will need to change its [water_density](#) under [SimpleEntity Properties, Physics](#). Set it to 0 (or lower) if you want it to sink. The bigger the value is the more buoyant your object will become. With the default value of 1000, the object will likely be very bouncy on water; so lowering the value should help. Note: [RollupBar, Objects, Simple Entity, buildings, boat, wood_raft](#) seems to work well with a [water_density](#) of 1000.

How can physicalized Objects cause Damage? E.g. a rolling heavy rock

- A: Change the [damage_player](#) setting under [SimpleEntity Properties](#) for a physicalized [Simply Entity](#) ([RigidBody](#) parameter `True`). This value defaults to 0, and is not a Boolean entry. So you can crank it up for instant kills. For a real heavy object that gathers a lot of velocity, though, a setting of 5 (sometimes even 1) should be sufficient.

Tip: If you want to test how a rock rolls down a hill, and causes damage, try [RollupBar, Objects, Simple Entity, buildings, boat, rock1](#).

Where to find working Ladders?

- A: Use the ladder from [RollupBar, Entities, Elevators, Ladder](#) and resize it if you like. Note that you can change the model of an existing ladder, by replacing it with e.g. a tree. Simply change the [LadderCGF](#) parameter under [Entity Properties](#), and suddenly you can climb the tree trunk. It is not perfect but works.

Where to find Bridges and Chains?

- A: Take a look at the large collection of bridges under [RollupBar, Objects, Simple Entity, outdoor, bridges](#). You will find a chain under [RollupBar, Objects, Entity, Others, ChainSwing](#).

*How do I turn a Chain into a Rope and change its Length?

- A: Simple select the chain entity, then under [RollupBar, Entity Properties, Model](#) pick from the list of chains and ropes available. They are of different lengths and types. Note: Changing the [Model](#) can 'break' an existing the chain link.

How to Remove the Text Labels of Objects in Sandbox?

- A: Uncheck [Tools menu, Preferences, Viewports, General, Text Labels, Enabled](#).

What to do if an Object cannot be selected?

- A: You probably pressed the **f**-key by accident while an Object was selected, this Freezes it. Press **Ctrl-F** ([Edit menu](#), [Unfreeze All](#)) to unfreeze the Object again. Note that freezing is a very handy tool, since it stops you from moving/scaling the wrong object when working with many entities close together. Tip: You can also control the 'freeze' state of objects from the [Edit menu](#), [Select Object\(s\) dialog](#) (**Ctrl-T**).

How to Move an Object along its 'local' Axis instead of World Axis?

- A: After rotating an Object, change the [Reference Coordinate System](#) to 'Local' via toolbar list



How to add a Paraglider to a Level?

- A: Be sure to use a glider object from [RollupBar](#), [Objects](#), [Entity](#), [Vehicles](#), [Paraglider](#). Tip: Use an [Entity](#) and **not** a [Brush](#). Also, ensure that the glider is placed up on a peak or somewhere high up, not on the 'flat' ground. And also avoid getting part of the glider stuck in the terrain. Note: No settings need to be changed; the glider will work as it is. You should have patched Far Cry to v1.1 though.

What are Archetype Entities? Why use them instead of Entities?

- A: [Archetype Entities](#) are just 'pre-made' Entities. Using these Archetypes you can e.g. simply drag and drop ready to use Mercs into your level. When using normal [Entities](#) you would have to configure everything yourself. In other words Archetypes are convenient 'wrappers' for complex entity setups. They are also a handy way to do things properly once, and from then on let your use that setup again and again. Note: Since Archetypes are 'wrappers' you will have less setup options. To edit the low-level settings you will need to edit the Archetype itself (careful, only change a copy of an original Archetype, or you risk messing up the game).

How to put Fish, Birds, and Insects into a Level?



- A: For the animals to work, it is easiest to use the pre-defined Archetypes: Go to [RollupBar](#), [Objects](#), [Archetype Entity](#), [Animals_Library](#), [Birds](#) (or [Animals](#), [Fishes](#), [Insects](#)). If you do not see the [Animals_Library](#) there, you will need to add it: From the [Windows menu](#) turn on [Show Data Base View](#), and select the [Entity Library tab](#) there. Here you can add the Archetype libraries, e.g. from [Library menu](#), via [Load Library](#) load the "EntityLibrary\Animals_Library" file.

Note: In-game you will need to set the [Options menu](#), [Video Options](#), [Advanced Options](#), [Environment Quality](#) to **High** (or Very High) to make e.g. Fish show up. Note also that these in-game settings **have** effect on Sandbox, because the editor uses the same detail settings as the game!

How to naturally place the DeadBody entity? Via physics!

- A: To avoid that your [DeadBody](#) (in default upright posture) falls in some random manner as soon as you run the mission, try this:

Place the [DeadBody](#) entity ([RollupBar](#), [Objects](#), [Entity](#), [Others](#)) in the level, enable [AI/Physics](#) (click toolbar button), then in the [RollupBar](#) under [Input/Output Events](#), highlight the [OnAwake](#) event and then click on the [Send](#) button: The corpse will fall to the ground.

If you do not like the posture, then click on the [Reload Script](#) button to reset the position, adjust the [position](#)  / [rotation](#)  of the entity and hit the [Send](#) button again. Once that you have the good posture, click the [Get Phys State](#) button (under [Methods section](#)) and the body will keep that posture.

Note: After getting the physical state, neither a [Reload Script](#), nor a [Reset Phys State](#) with reset the posture of the entity. Bug?

****Alas this tip does not seem to work for physicalized entities like boulders?*

*How to create a Player Kill Zone Area?

A: Create an Area, e.g. [RollupBar](#), [Objects](#), [Area](#), [Shape](#), and change the [Height](#) parameter to something like "10" to give the Area volume. Then place a [DamageArea](#) object in the level, to be found under [RollupBar](#), [Objects](#), [Entity](#), [Others](#). Connect them by selecting the Area, click the [Pick](#) button under [RollupBar](#), [Target Entities](#), then select the [DamageArea](#) entity. Then select [DamageArea](#) again and set the [damageRate](#) under the [Entity Properties](#) to something like 5000. When you now enter this area you will be instantly killed. The Single Player map `PORT` uses this Kill Zones to keep the player from wandering too far around the main island.

*Alternatively, create a [RollupBar](#), [Objects](#), [Entity](#), [Others](#), [ProximityDamage](#) entity instead of the [DamageArea](#). This has a few more parameters that you can set, such as [SkipAI](#) and [SkipPlayer](#). This is used in Dam to kill the mutant at the top of the waterfall when it jumps off the cliff after you.

*How to add Volumetric Fog?

A: The volumetric fog uses "container" and this can be verified in the Single Player Treehouse level, it is just **inside** the terrain. To add volumetric fog to your map via [RollupBar](#), [Objects](#), [Area](#), and choose [FogVolume](#).

Important note: The fog **must** be surrounded by terrain (like an enclosed canyon), otherwise things will look a bit odd.

The settings used in the screenshot are:
[Width](#): 100, [Length](#): 100, [Height](#): 10,
[ViewDistance](#): 200, [Color](#): a spooky green.




All this seems to work, but looking up and the sky is as clear as a bell.

Tip: Hit [Terrain menu](#), [Reload Terrain](#) to see the changes take effect.

Note: Volumetric fog will not work over any kind of water. You are also likely to have problems using it **near** water (the fog may not cover the entire designated fog area).

*How to create 'nice' Fog?

A: The thing to consider is what your light setting is? As an example the [Sun Height](#) ([Lighting](#) , [Terrain Lighting dialog](#), [Settings](#)) is set at about 30% from the left. The [Sky Color](#)'s RGB values are 88,104,124. And the [Sun Color](#)'s RGB is 254,240,207. This creates a nice hazy day atmosphere. For the fog ([RollupBar](#), [Objects](#), [Entity](#), [Render](#), [Fog](#)) settings try the RGB [Color](#) of 135,190,249, (select Fog objects, under [RollupBar](#)). Set [StartDist](#): 0, [EndDist](#): 400, and [ViewDistance](#) of 500. The higher you set the [ViewDistance](#) the more realistic the transition between non-fogs to fog will be. Try those settings and see if this helps.

Tip: The above [Fog](#) entity needs to be connected to a shape area for it to work ([RollupBar](#), [Objects](#), [Area](#), [Shape](#)). You will need to go into game mode [Ctrl-G](#) and enter the area to see the fog effect.

****SkyBox: I either see Color, ViewDistance for a FogVolume, or I see Color, StartDist, EndDist but no ViewDistance for Fog entities?*

*How to add Player Clip to a Level?

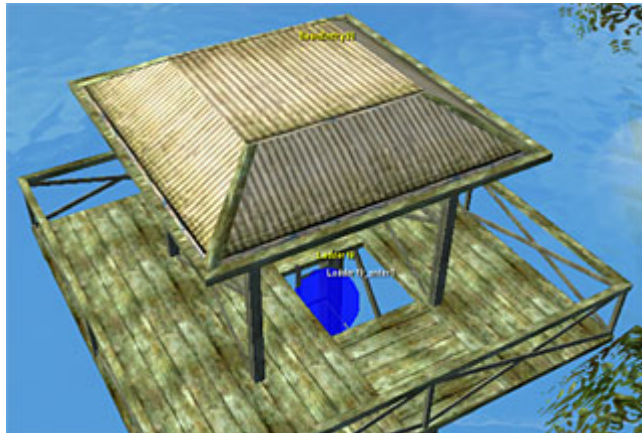
- A: If you want to ensure that a player cannot reach a certain area, or keep a player from walking through something, then you will want to add player clipping to your level. For this go to [RollupBar, Objects, Brush, editor, collision_*](#).

*How to make a non-solid Barrack solid?

- A: Some of the objects in Far Cry are not solid, e.g. [RollupBar, Objects, Simple Entity, outdoor, barracks, jungle_camp_sleeping_barracks_linear](#). You will need pick its solid counter part, to make it solid. In this example try [RollupBar, Objects, Simple Entity, outdoor, merc_structures, barracks1](#) instead.

*How to give Ladders an Entry Point?

- A: In this example we will add a sniper tower, plus ladder to the level, and then add a Ladder Entry Point to facilitate getting down from the tower via ladder. To begin add [sniper_tower](#) from [RollupBar, Objects, Simple Entity, outdoor, towers](#), and place it in the map. Next place the [Ladder](#) ([RollupBar, Objects, Entity, Elevators](#)) inside the tower's 'square hole in the floor'. Try to void having the ladder stick out from the floor. Take note of the ladder's name, e.g. "Ladder19". Finally add the **Ladder Entry Point** by placing a [RollupBar, Objects, Tagpoint, TagPoint](#), near the top of the ladder, and then rename the [TagPoint](#) to [Ladder](#) name + "_enter1", in our case that yields



"Ladder19_enter1". Now not only climbing ladders is easy, but it should be significantly more elegant to get down again as well. Every polished map should use Ladder Entry Points!

Tip: Load the Demo map ("Far Cry\Levels\Demo\Demo.cry") into Sandbox ([File menu, Open](#)) and take a very close look at all the nifty comments in that map. You will also find a tower with Ladder Entry Point, there as well.

*How to add 'Jumppads' to Far Cry levels?

- A: If you have been around a while, you will certainly know the FPS Quake 3 Arena by id. One of the important and very much fun gameplay features was the use of so called Jumppads. These would quickly catapult you up one level, without needing to add stairs, or accelerate your clear across the map. Since Far Cry has physics you can simulate Jumppads via [RollupBar, Objects, Entity, Triggers, ImpulseTrigger](#) objects and define the size of the trigger via [DimX, DimY, and DimZ](#) parameters (e.g. 2,2,0.1 for a typical Jumppad). The strength of the impulse is controlled by the [ImpulseStrength](#) parameter.

***Alas I have not been able to define the direction of the Impulse properly?

*Where to find Sliding Doors?


- A: Try [RollupBar](#), [Objects](#), [Entity](#), [Doors](#), [AutomaticDoor](#). Then under [Entity Properties](#), you can change the models used for the sliding door by choosing a new [Model_Left](#) and [Model_Right](#). Since the door models differ in size, you may need to experiment with the [Direction](#) parameter. For [Model_Left](#) "`Objects\glm\ww2_indust_set1\doors\le_door2m_left`" and [Model_Right](#) "`Objects\glm\ww2_indust_set1\doors\le_door2m_right`", [Direction, X](#) needed to be changed from "1" to "-1". Note that there are quite a few sliding doors to choose from.

*How to create Keycard Doors?

- A: Start off by adding an automatic door [RollupBar](#), [Objects](#), [Entity](#), [Doors](#), [AutomaticDoor](#) to your level. Then place a key from [RollupBar](#), [Objects](#), [Entity](#), [Pickups](#), [Keycard0](#), [Keycard1](#), or [Keycard2](#) in the map. Take note of the Keycard's [KeyNumber](#) parameter, e.g. "4", under [RollupBar](#), [Entity Properties](#). Now select the automatic door, and look for the [NeededKey](#) parameter under [RollupBar](#), [Entity Properties](#) and change it to match the noted [KeyNumber](#) value, i.e. "4". Note that a [NeededKey](#) value of "-1" (the default) tells the door to no require a key to open. Finally, in game mode ([Ctrl-G](#)) pick up the keycard and open the automatic doors with it.

*How to make a Chain Swing Bridge?


- A: This bridge is based on simple entities that make up the platform elements, and special [ChainSwing](#) entities that 'link' the platforms together. The final bridge will show physics, i.e. let you make it swing by shooting at it, or even collapse by shooting out the connecting chains.

0. This is one of the few cases where it is easier to edit with [Font](#), [Left](#), [Top](#) and [Perspective](#) view turned on. [Display menu](#), [Configure Layout](#), click the 2nd layout  from the right. Be sure to turn on the grid and set it to 0.125.


1. Begin by adding the first platform element to your level, e.g. use [RollupBar](#), [Objects](#), [Simple Entity](#), [outdoor](#), [bridges](#), [hanging_bridge_platform](#).

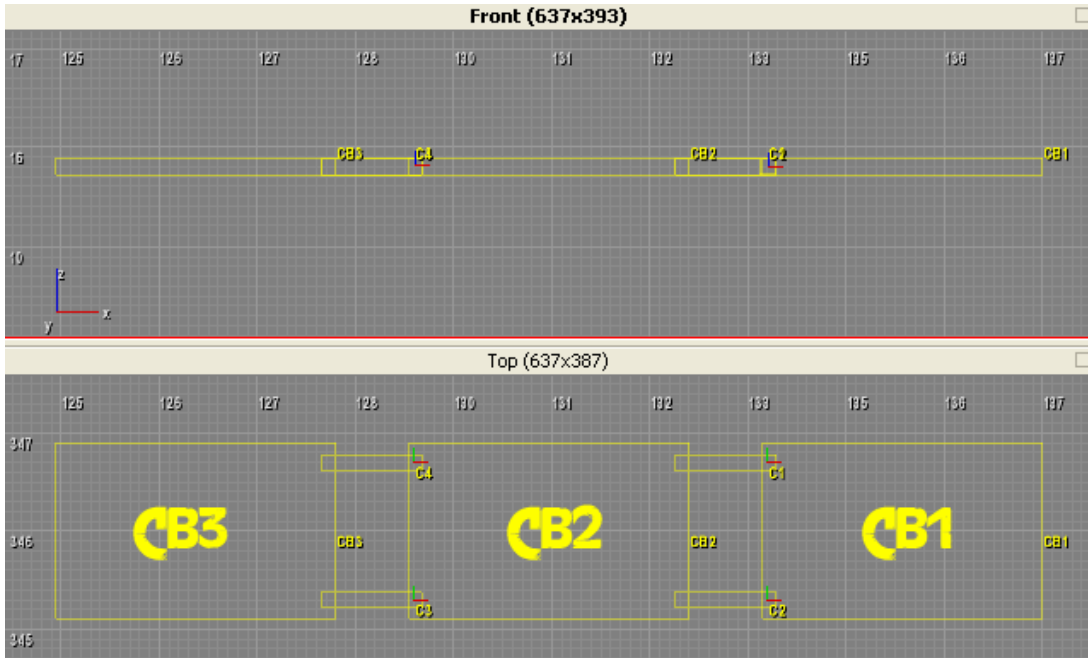
2. Change the name of this element to CB1.

3. Now add the chain swing from [RollupBar](#), [Objects](#), [Entity](#), [Others](#), [ChainSwing](#). Change the [Model](#) parameter under [Entity Properties](#) to `chain_swing_short.cfg`.

4. [Rotate](#)  the chain horizontally and align it near your bridge part, making sure that the 'top' (the part where the 3D-Gizmo is) of the chain is intersecting the bridge, this will be important later.

5. [Clone](#) this chain with [Ctrl-C](#) and align it on the same platform side, but near the other corner. Name these 2 chains c1 and c2 respectively. See image below.

6. Next select all 3 objects, [Clone](#) them ([Ctrl-C](#)) and [move](#)  them over to the left, so that the left edge of the new platform just overlaps the right edge of the first 2 chains. Now clone the 3 parts again, to extend the bridge some more. You can select and delete ([Del](#)) the 'open-ended' chains c5 and c6. You should now have 3 platforms connected by 2 pairs of chains. Make sure that the names of the new entities are as specified: The middle bridge part should be named CB2 and newest part CB3. The 2 new chains should be c3 and c4. If all went well Sandbox should already have properly named everything for you.



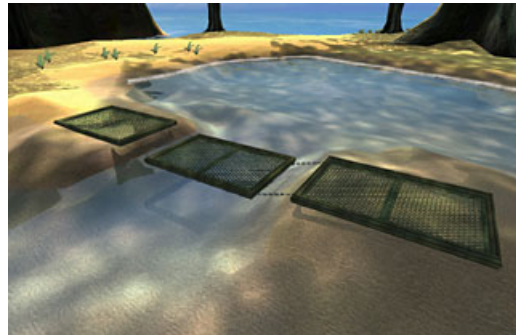
7. Time to 'connect' everything. Start with the first 2 chains we added, c1 and c2. Select them individually and set their **AttachTo** parameter to CB2 and the **AttachToUp** to CB1 (just type the names into those fields). This is where it is important to know the orientation of your chain. The 'top' end of the chain (in the image above, the right side, where the Gizmo is) should connect CB1 via **AttachToUp**. The 'bottom' end of the chain (left side) is to be connected to CB2 via **AttachTo** parameter.

8. Repeat this for the other pair of chains. I.e. chains c3 and c4, **AttachTo** CB3 and **AttachToUp** CB2.

9. To make the bridge section in the **middle** (CB2) 'hang' (Ed. physicalize it), select it and set the **RigidBody** parameter to **True** (under **RollupBar, SimpleEntity Properties, Physics**). That is it!


To make a longer bridge, just keep on cloning sections of the bridge. Just ensure that bridge parts that are supposed to be affected by physics have a **RigidBody** set to **True** and that the platforms at the end do not.

10. Add a gun to the level, make sure that **AI/Physics** button is turned on, or enter game mode (**Ctrl-G**) and start testing your creation. E.g. walk on the middle part of the bridge, and start shooting out the chains, and watch gravity take effect. (Eu4ria)



Note: Grouping the whole bridge (**Group menu, Group**) will let you move the complete bridge, but the physics will no longer work. So ungroup the bridge again after you are done. Alas you cannot rotate the bridge as a whole either.

*How to add Clouds to the Skybox?

A: Under **RollupBar, Terrain tab, Environment, Shaders**, change the **SkyBox** parameter to "CloudsSky1" by clicking the  icon and open the **Select Shader dialog**. In the right half of the dialog under **Shader Script** edit the lua code for "CloudsSky1" by changing a line at the top of the code from

```
 "//Nomipmaps" to
```

```
 Nomipmaps
```

And instead of the default SkyBox use the name/path of your favorite skybox, e.g. change "SkyBox = Skys/Sky1/Box" to

```
SkyBox = Skys/Carrier/Box
```

Note you will need to hit the [External Edit](#) button to be able to actually edit and save the shader changes. When done, hit the [Save](#) button in the dialog, and [OK](#) to close it. Be sure to click the [Apply](#) button in the [RollupBar](#) to make the clouds visible. Enjoy the cloudy sky. (Ed. changing any default scripts can be potentially dangerous, and mess up the game).



Tip: By default CloudsSky1 has **3 layers**, you can easily add more. It is also possible to change the **speed** and **direction** of the cloud layers. Feel free to experiment.

*How to build an Elevator?

A: The Demo level includes a working elevator that you could use, but it is probably more interesting to fully understand how to build one from scratch. It is recommended to set things up on a flat piece of terrain, and maybe use a lookout tower to reach the upper level of the elevator (Tutorial by Keeval).

1. Place your Elevator ([RollupBar](#), [Objects](#), [Entity](#), [Elevators](#), [AutomaticElevator](#)) in the level. Change the [Model](#) parameter under [Entity Properties](#) to e.g. `Objects\indoor\lift\lift_3x3x3m.cfg`. And rename the elevator entity to "Lift1".

2. Add two switch unit entities to the map: Open the [Window menu](#), [Show Database View](#), [DataBaseView dialog](#), [Entity Library tab](#), then load the `Doors_and_Switches` library via [Library menu](#), [Load Library](#). In the [RollupBar](#), [Objects](#), [Archetype Entity](#) pick the two switches, e.g. [Switches](#), [CallElevatorHightech](#). One switch should be placed at the bottom of the elevator 'shaft', the other at the top.

3. Create two proximity triggers ([RollupBar](#), [Entity](#), [Triggers](#), [ProximityTrigger](#)) and set their [DimX](#), [DimY](#), and [DimZ](#) parameters to "1". Place them so that they cover the previously placed switches. Also set the [TextInstruction](#) parameter to something like "Press use to call the elevator". Name the bottom trigger "Lift_TriggerBottom1" and the top trigger "Lift_TriggerTop1". Ensure that both triggers have the [ActivateWithUseButton](#) parameter set to `True`.

4. Next create two more proximity triggers ([RollupBar](#), [Entity](#), [Triggers](#), [ProximityTrigger](#)) and set their [DimX](#), [DimY](#), and [DimZ](#) parameters to "1" again. Tip: Clone ([Ctrl-C](#)) the previous bottom and top triggers to avoid having to set up everything again. Place the first trigger in your elevator car, covering the switch model there. Place the second at the top of the shaft where your elevator car will stop. Call these triggers "Lift_TriggerBottom2" and "Lift_TriggerTop2" respectively. Again ensure that these both have the [ActivateWithUseButton](#) parameter set to `True`.

5. Now put some doors in front of your elevator 'shaft', e.g. [RollupBar](#), [Entity](#), [Doors](#), [AutomaticDoor](#), and keep all the default parameters unchanged. Obviously you will want to use a prettier door model ([Model_Left](#), [Model_Right](#)). Name these doors "Lift_LowerDoor" and "Lift_UpperDoor".

To avoid any problems in multiplayer, you may want to set following parameters for both doors:

```
CastShadowMaps = False
AllowRigidBodyToOpenDoor = False
Automatic = False
CloseTimer = False
Enabled = False
```

Okay, now that all the pieces are in place – let us make them do something:

6. For "Lift_TriggerBottom1" set the following **On Enter** events, under **RollupBar, Input/Output Events**. You will need these two events:

```
Lift1 [Activate]
Lift1 [Close]
```

Do the following: Select **On Enter**, click **Pick New** button, and then select the **Lift1** entity in the level. This creates an event link. You will need to do this again, to get two such links. Now select the second **On Enter** event "Lift1 [Activate]", then **right-click** it to open the context menu, and pick **Close**, changing the link to "Lift1 [Close]".

This will activate the lift and send it to the bottom when the button is pressed (or it will appear to).

7. For "Lift_TriggerTop1" set the following **On Enter** events (same procedure as 6.)

```
Lift1 [Activate]
Lift1 [Open]
```

This will activate the lift and send it to the top when the button is pressed.

8. For "Lift_TriggerTop2" set the following **On Enter** events

```
Lift_UpperDoor [ForceClose]
Lift1 [Activate]
Lift1 [Close]
```

Tip: To create "Lift_UpperDoor [ForceClose]" select the **Lift_UpperDoor** entity in the level via **Pick New** this time instead.

This will send the lift down when the button inside the lift is pressed at the top, after closing the doors.

9. For "Lift_TriggerBottom2" set the following **On Enter** events

```
Lift_LowerDoor [ForceClose]
Lift1 [Activate]
Lift1 [Open]
```

This will send the lift up when the button inside the lift is pressed at the bottom, after closing the doors.

Now for the final part of the puzzle - the elevator itself:

10. Set the following events on "Lift1" entity:

```
On Closed:
Lift1 [Deactivate]
Lift_TriggerBottom1 [Disable]
Lift_TriggerTop1 [Enable]
Lift_UpperDoor [Deactivate]
Lift_LowerDoor [Activate]
Lift_LowerDoor [Open]
```

```
On Opened:
Lift1 [Deactivate]
Lift_TriggerBottom1 [Enabled]
Lift_TriggerTop1 [Disabled]
Lift_UpperDoor [Activate]
Lift_UpperDoor [Open]
Lift_LowerDoor [Deactivate]
```

And there you go, a fully working elevator.

A problem that may occur: If there is more than one player on the map it is possible for them to jump through the doors before they are locked while the elevator is moving. Then they would die, when the lift comes back down. If you want to avoid that, you will need to activate and deactivate the doors on

the "Lift_TriggerBottom2" and "Lift_TriggerTop2" instead of in the lift. The doors will then be locked as soon as the lift begins to move (Ed. untested).

Tip: The default **MovingDistance** of 2, the amount the elevator (`Lift1`) moves up, will most likely need to be manually changed to fit your needs. In this example, using the lookout tower as a upper platform, use a value of 12. The elevator's default **MovingSpeed** is 0.5. This is painfully slow, so you might like to up it as well to something speedier like 2.



(Ed. there is still an issue with calling the elevator from above when the lift is at the bottom and the lower doors are open. The elevator moves up, but the lower doors do not close. Maybe someone can figure this out?)

TEXTURES, COLORS, MATERIALS, & LIGHTING


How to change Materials (textures) on an Object, i.e. the teapot?

A: From the [Windows menu](#) turn on [Show Data Base View](#), and select the [Materials tab](#) there. Here you can add materials (shaders) and so on, e.g. from [Library menu](#), [Load Library](#) the Shaders. Select the object you want to put the shader on, then [right-click](#) on the [Material name](#) and click [Assign to Selected Objects](#).

Tip: The metal sphere & the tea pot can be found under [RollupBar](#), [Simple Entity](#), [Editor](#).

****I am getting huge amounts of warnings, when loading the Shader lib, normal? (AEon)*

*What are the three Lighting Types: Precise, Hemisphere, and DP3 for?

A: In the [Terrain Lighting dialog](#) ([Terrain menu](#), [Lighting](#), or toolbar  icon), there are three [Lighting Types](#) to choose from: [Precise \(fast\)](#), [Hemisphere](#), and [DP3](#).

According to Timur.Davidenko (Lead Sandbox Programmer, Crytek), **Precise** lighting should be used for all of your Final renderings and yields the highest precision and quality lighting. All original Far Cry maps by Crytek use this setting.

Hemisphere and DP3 are used in 'special cases' and should not be used for final texture generation.

*Martin Mittring (Crytek) sends word that: "[Precise](#) lighting is precise and fast. The other two lighting modes are much simpler approximations (similar to precise with quality 0) we kept for compatibility.

Always use [Precise \(fast\)](#) with some quality setting >0 , because only with this mode you can calculate sky accessibility (how much skylight affects each point). Use a **blue-like sky** color and a **yellow-like sun** color for interesting lighting."

*How to control the level of Darkness in Shadow Areas?


A: Use can use the [DP3](#) setting (see "[What are the three Lighting Types: Precise, Hemisphere, and DP3 for?](#)"), it allows you to directly control the level of ambient light in your map, therefore giving you control over the 'darkness' of your shadows. This can at times improve the look and feel of the level, but it may also make the level look 'bleached' out. Experiment!

As an alternative is also possible to brighten up the shadowed areas in levels by using the recommended [Precise \(fast\)](#) lighting mode as well. Instead of trying to up the [Terrain Lighting dialog, Settings, Ambient](#) slider, simply use a 'lighter' color for your [Sky Color](#). The lighter the color, the more resulting ambient light. Unlike [DP3](#), this allows you to recreate the subtle but important phenomenon of complementary lights and shadows quite easily.

*How to Remove the strange Purple Tint on my Terrain?

A: This seems to be an effect of using the default environment settings, which give your world a general gray-purplish look and feel. You will want to change these settings to provide a more realistic appearance in your map. To do that, click on the [Terrain Tab](#) in the [RollupBar](#) and click on [Environment](#). Try changing the [Color](#) under [Fog](#), and [EnvColor](#) under [EnvState](#), by changing [EnvColor](#) to a warmer color that is typical of real sunlight. Also try this with [OutdoorAmbientColor](#) (probably the main reason for the purple hues), and [SunColor](#). Similarly you can change the [FogColor](#) under [Ocean](#) to give your water a different hue.

Sun effects can also be altered in the [Terrain Lighting dialog](#) ([Lighting](#)  icon on toolbar or [Terrain menu, Lighting](#)). Here you can change the [Sky Color...](#) and [Sun Color...](#) via buttons.

Finally, in the [Terrain Editor dialog](#) ([Terrain](#)  icon on toolbar or [Terrain menu](#), [Edit Terrain](#)) make sure your Texture Layers for the 'far away' view and surface textures for the 'close-up' view have a desirable color. Remember to go to [File menu](#), [Generate surface texture](#), and choose the resolution you started with, such as 1024x1024.

*Note: "Texture Layers for the 'far away' view and surface textures for the 'close-up' view...", quite probably refers to the base textures and detail textures, respectively.

When I create a New Map and generate textures, my Texture is Purple?

A: The reason for this is the bluish default 'sky color' which mixes with several other environment colors to become a purplish color on your terrain.


To fix this change the **sky color** to something **other than** that **blue** color. Tip: Make the **color bright**, since you do not normally want a dark color as your sky color, but do not make it pure white either because this can cause a 'shiny' blinding brightness on textures.

You should also check your Textures for anything that has a purple color to it. A mistake that has been made in the past is to export the texture settings from a Crytek map, import them into your map and leave the settings at default. Crytek's maps use an underwater texture that has a purple 'far away' texture which starts at 16 (Z) elevation. You will need to change this to something like 12 to lower this texture far enough below your 'above' water textures so that it does not effect them.

After you have checked both of the above, [File menu](#), [Generate surface texture](#). If you made changes to the environment settings, make sure you hit [Apply](#).


Tip: Also read "[How to Remove the strange Purple Tint on my Terrain?](#)" for details.

How to create a Floodlight?

A: Place a new dynamic light ([RollupBar](#), [Entity](#), [Lights](#), [DynamicLight](#)) in your map, and use the following settings under [Entity Properties](#), [Diffuse](#): Any color you want. [OuterRadius](#): Start with a value of 20. [ProjectFov](#): Try 140, but feel free to experiment. As [ProjectorTexture](#), click on the folder  icon and browse to the file `textures\lights\gk_spotlight_lg.dds`. Set [lightShader](#) to [LightBeamHangingYellow](#). Set [Lighttype](#) to 0 for Normal light, 1 for Normal light with an object around it, 2 for a hanging industrial light, and 3 for a swinging light. Again, feel free to experiment with different textures and light shaders.

How to create shootable Swinging Lights?


A: Open your [RollupBar](#), [Objects](#), [Entity](#), [Lights](#), and [double-click DynamicLight](#). Slide your dynamic light just below the ceiling, where you want the light to be placed. Sandbox automatically somehow knows to attach the other end of the light cable to your ceiling. Now edit the [RollupBar](#), [Entity Properties](#) for the dynamic light:

[LightType](#) - 2 = long industrial style light, 3 = round lamp style light. Note: Make sure you hit the [Reload Script](#) button after changing the [LightType](#) to update the settings. The length of the light cable can be changed by moving ([Select and Move](#)  icon, or hit [Ctrl-3](#)) the lamp along its Z axis.

[LightStyle](#) - Experiment with this setting. Creates a 'blinking' or 'fade in/out' effect for the light.



[OuterRadius](#) - Indirectly also controls the light intensity of your lamp.

[ProjectorTexture](#) - To create a spotlight effect, choose the `gk_spotlight01.dds` file under "`Far Cry\textures\lights\`".


lightShader - As a test choose the "LightFlicker_flare2" shader by clicking . Experiment with the many more "Light..." related shaders, if you will.

Tip: Also see "[How to create a Floodlight?](#)" on this.

In a Night Map, ambient level is zero, how to Remove the Sun completely?

A: Set the **SunLensFlare** value to StateNoCull (**RollupBar**, **Terrain tab**, **Environment button**, **Shaders**) by clicking on the  icon beside it. Then change **SkyBox** to a dark skybox like 06_Steam by clicking on the  icon. Finally press the **Apply** button to see the result.

Where to find Snow and Ice Textures/Decals?

A: In the **Terrain Layers Editor** dialog (**Terrain**  icon on toolbar), you can import snow textures via **Static**, **Load Texture...** button by browsing the texture\terrain\ folder, pick snow.bmp or snow2.bmp. Do not forget to set a Detail texture for your snow as well: **Static**, **Edit Surface Types** button, **Detail Texture**, and pick e.g. textures\terrain\detail\2_rock.dds (there is no snow detail texture alas). See the Editor Manual, on how to create a new texture layer for your terrain (i.e. for snow mountain tops).



Frost decals can be found under **RollupBar**, **Objects**, **Brush**, **decals**, **frost_**.

What do the different Shadow types do?

A: There are three kinds of shadows:

Static - **CastLightmap** = True on the light and casting object, and **ReceiveLightmap** = True on the wall. Must be rendered before visible.

Shadowmaps - **CastShadowMaps** = True and **CastLightmap** = False on both the light and casting object.

Volumetric - **CastShadowVolume** = True and **CastLightmap** = False on both the light and casting object.

You also need **UsedInRealTime** = True on the light when using Shadowmaps and Volumetric. Shadowmaps only seem to work outdoors, not in VisAreas. In addition Shadowmaps cast just one shadow, from the nearest light source.

Tip: Also see "[What Shadow type settings does the Sun use?](#)" on this.

What Shadow type settings does the Sun use?

A: It seems the Sun's parameters cannot be changed directly (as was suggested in "[What do the different Shadow types do?](#)" for light sources). Maybe scripting will let you do that. Apparently the Sun casts shadows of the type Shadowmaps and Static, but not Volumetric. So the parameters seem to be:

```
CastLightmap = True
CastShadowMaps = True
UsedInRealTime = True
```


When using Static shadows the Sun renders shadows via **Game menu**, **Generate Lightmaps** on **brushes** and via **File menu**, **Generate surface texture** on the **terrain**. So to get proper shadows in mixed in/outdoor areas **both** need to be rendered.

Where to find more detailed info on Shadows and Lighting?


A: Aarbro has put together a wonderful guide on shadows and lighting for Far Cry, on what you need to do to set things up properly and also provides preview screenshots, letting you check the effect right away:

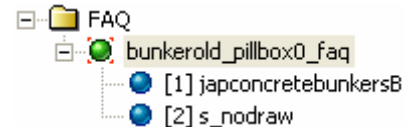
Lights & Shadows Guide by aarbro (<http://w1.312.telia.com/~u31225218/fc/intro.html>)

How to change Textures on Brushes?

1. Add the Brush you re-texture to the Level, e.g. use the **RollupBar**, **Objects**, **Brush**, **outdoor**, **fortifications**, **bunkerold_pillbox** brush. It has an un-textured top face, perfect for this example.
2. With the brush still selected, open the **DataBaseView** (**Window menu**, **Show Data Base View**) and click on the **Materials tab**.
3. On the **Materials tab**, click the **Get Material from Selection**  icon.
4. Clicking this button brings up a warning dialog box saying "Selected Object does not had Material. Do you want to create Material for it?". Click **Yes**, and then in the string gadget enter **Group** name e.g. **FAQ**. This effectively creates your **own** set of custom materials. So call it whatever you want, but you should only need to do this once.


In the second **Name** string gadget the default name of the material already shown. Tip: Add a postfix like **"_faq"** to the name, yielding **"bunkerold_pillbox0_faq"**, to make it clear you are editing **your** version. Click **OK** to close the dialog.

5. The Material is added to the tree on the left in the database and if you click the **Draw Selected Geometry**  icon, you will see your brush drawn in the preview window. Now expand the tree, this will show all the sub-materials that make up the textures of this brush.



Select the **[1]japconcretebunkersB** entry to change it (**not** **[2]s_nodraw** as might be expected).

6. Selecting it shows many options in the pane on the right. Under the **Texture Maps rollout** you can now choose and load Diffuse maps, Bump maps, assign Normalmaps and change the Tiling values (How many times the texture is repeated across the object. Useful if you have scaled a brush up massively and the textures have begun to look a bit blurry).


For this example, load the "textures\ww2style\asphalt.dds" texture into the **Diffuse** slot of **[1]japconcretebunkersB**. Should the Brush's texture not change in the Perspective window, click the **Assign Material to Selection**  icon from the **DataBaseView dialog**. This should update the texture. That is it!

Note: The above method can be applied to anything you want, like that rusty metal texture of a railing or a whole wall. Feel free to experiment.

*How to make Textures show up in the Layer Painter?

- A: **Non-Auto Generate Mask** layers (under **Terrain**  icon, **Terrain Layers Editor dialog**, **Layer Mask Auto Generation**) at times do not show up in the **Layer** list in the **RollupBar**. To force an update double-click the **RollupBar**, **Terrain**, **Layer Painter** button. It seems the **Layer** list is not always dynamically updated.



*Surface Texture looks too Checkered up close, and Blurry from afar?

A: Try change the tile size of the texture. The 'tiling' value could to be too large, resulting in a checkered look. A smaller number will 'stretch' out the texture more and make it look better. To do this go to the [Texture](#)  icon, [Terrain Layers Editor dialog](#), select a [Layer](#): texture, and click on the [Edit Surface Types](#) button. Now look for fields for [X Scale](#) and [Y Scale](#). The defaults should be 1, but go ahead and change it to 0.5 and see what happens. It should fix the problem. Note: The smaller the number, the bigger the tiles.

*What is the recommended Size for Surface Textures?

A: The surface texture size will vary depending on the size of your map. But you may want to try lower resolution textures as well, since this makes compiles significantly faster.

*Trouble applying Bump Mapping to e.g. Sand textures?

A: To apply .bmp textures, open the [Terrain Layers Editor dialog](#) by clicking the [Texture](#)  icon. In the box to the left your [Layers](#): are shown. If none was created, only the [Default](#) layer is shown. Now add a [New Layer](#) via  icon, give that new layer a name, and then with it still highlighted click the [Edit Surface Types](#) button.

This opens the [Surface Types dialog](#), again [Default](#) is shown. Click the [Add](#) button to add a new surface type and then the [Rename](#) button to name it. Under [Surface Type Settings](#), pick a [Material Name](#) that fits your needs. Further down click on the [...](#) icon for [Detail Texture](#) and choose a texture from the `Textures\terrain\detail` folder. Then click on the [...](#) icon for [Detail Bump Map](#). Again choose a suitable file from `Textures\terrain` folder, and finally hit [OK](#).

Back in the [Terrain Layers Editor dialog](#), highlight your layer in left box and then ensure that the correct [Surface Type](#) is shown by choosing the correct type (the one you just made in the previous paragraph). Then ensuring the [Auto Generate Mask](#) is ticked, select whatever [Altitude Range](#) you want this layer use. E.g. Beaches usually start at 16, which is the default water level height. Also look into picking an appropriate [Slope Range](#), if you will.

*How to keep the Frame Rate up in Sandbox? Hide Dynamic Lights!

A: Since dynamic lights work in real-time, they can have a large impact on frame rates in the editor and the game. To temporarily make the editor faster, try this after you have generated Lightmaps ([Game menu](#), [Generate Lightmaps](#)): Select all of your Dynamic Lights, and then hide them ([Edit menu](#), [Hide Selection](#), or hit the [h](#)-key). You should see the **frame rate double** or triple. Something you may want to consider at this point. Do you really need all these dynamic lights, or would static lights do just as well?

Tip: To unhide the hidden lights again use [Edit menu](#), [Unhide All](#), or [Ctrl-H](#).

LIGHT & SHADOWS – Special by aarbro

1 – An Introduction to Light and Shadows

A: Lighting is one of the more complex and important parts of a good level design in Far Cry.

I have opted to use the light names as described in the Sandbox manual. These are just classifications though. Lights are very customizable and there are numerous combinations possible. Also note that the same entity, the **Dynamic Light** ([RollupBar](#), [Objects](#), [Entity](#), [DynamicLight](#)) is used to create all lights! To create a Fake Light for instance, place a [DynamicLight](#) entity in the map and then change its parameters so it becomes a Fake Light. The most difficult part of learning how to use lights is the confusing, at times even misleading naming.

To avoid any confusion when describing the different light types, take a look at this room:

The [lamp](#) is **casting light** on the barrel.

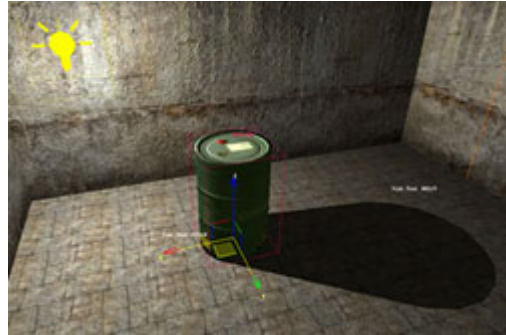
The [barrel](#) is **receiving the light** and **casting a shadow**.

The [floor](#) is **receiving** both the **light** and the **shadow**.

Fairly straightforward, but at times the **light** must also be set to **cast shadows**! So even if the barrel is set to cast shadows it sometimes only does so when the light is set to do so too. When something does not work as expected, check this chain of 'events': Light source, Shadow caster and Receiver of set parameters.

The notes about frame rate impact for the different techniques are just estimates, but should help avoid resource hungry settings that could bog down your level.

For each type of light, shadow and effect the relevant parameters are shown with their values.
(aarbro)



2 – Light and Shadow tutorial level? LightLab!

A: LightLab is a small tutorial level that is designed to show off and explain how the lighting and shadows work in Far Cry. The map is split into 6 rooms with increasingly complex light setups. Each room is placed in a [VisArea](#). One of the 'rooms' is actually outdoors (there is no terrain present however). You will find Signs on the walls describing each room, so the map is something of a virtual walkthrough.

Download **LightLab**
(<http://w1.312.telias.com/~u31225218/fc/lightlab.zip>, 1.1MB)



3 – Static Lights

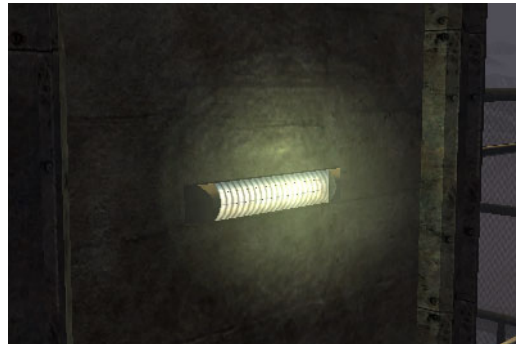
A: Parameters used by all static lights:

```
CastShadowVolume = False  
CastShadowMaps = False
```

Fake Light

A special light that does not radiate any light or project shadows on objects. It is primarily used with shaders to create standalone light beams or coronas. Note that as a lamp model only Brushes are allowed. **Low** frame rate cost.

```
CastLightmap = False  
FakeLight = True  
UsedInRealTime = True
```



Radiosity Light

This is a light that only creates pre-rendered light maps. It is used for background lighting and enhances the effect of dynamic lights. The difference between this light and an ordinary Lightmap light is that radiosity spreads the light more evenly, less localized (centric). It cannot be used with shaders. **Low** frame rate cost.

```
CastLightmap = True  
FakeRadiosity = True  
UsedInRealTime = False
```



Must be rendered in Sandbox via [Game menu](#), [Generate Lightmaps](#).

Lightmap Light

Pre-rendered light is cast on inanimate objects such as walls, floors, furniture and the like. Should not be used when movable objects are nearby. It is called **fake** when using a shader, otherwise **pure**. **Low** frame rate cost.

```
CastLightmap = True  
UsedInRealTime = False
```



Must be rendered in Sandbox. For **brushes** use [Game menu](#), [Generate Lightmaps](#), for **terrain** use [File menu](#), [Generate surface textures](#).

4 – Dynamic Lights

A: Parameters used by all dynamic lights:

```
UsedInRealTime = True
CastShadowVolume = True and/or
CastShadowMaps = True
```

Dynamic Light with Lightmaps

A variant of Lightmap Light that also casts dynamic shadows on specific objects. For example, rendered Lightmaps on fixed objects, and dynamic shadows on movable objects. **Medium** frame rate cost.

```
CastLightmap = True
```

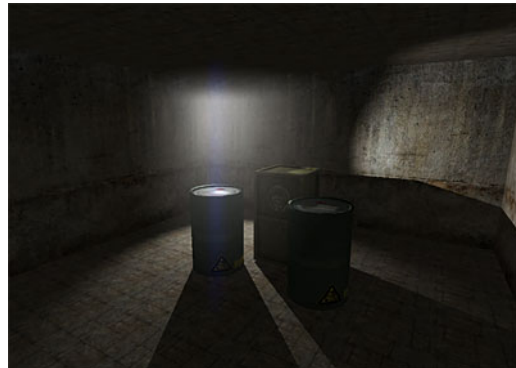
Must be rendered in Sandbox. For **brushes** use [Game menu](#), [Generate Lightmaps](#), for **terrain** use [File menu](#), [Generate surface textures](#).



Dynamic Light

A true dynamic light that only casts real-time shadows. No pre-rendering is required. The dynamic light can be switched on/off in real time. **High** frame rate cost.

```
CastLightmap = False
```



Physical Dynamic Light

Same as Dynamic Light except it is attached to a physics entity that reacts to gunfire and explosions (Ed. e.g. swinging light). **High** frame rate cost.

```
CastLightmap = False
lighttype = 1, 2, 3
Model01/2/3 = <*.cfg>
```

Default model types: 01 = invisible lamp, 2 = industrial lamp, 3 = office lamp.



Sunlight

The sunlight works like a special global light affecting everything outside of [VisAreas](#). It will only cast **static shadows** and **shadow maps**, not volumetric shadows. Compared to an ordinary light, Sunlight uses these parameters:

```
CastLightmap = True
CastShadowMaps = True
UsedInRealTime = True
```

Must be rendered in Sandbox. For **brushes** use [Game menu](#), [Generate Lightmaps](#), for **terrain** use [File menu](#), [Generate surface textures](#).



5 – Shadows

- A: Note that the parameters here are **only** for the **objects** casting and receiving shadows, and **not** for a **light** source entities. Light sources cast several types of shadows, e.g. a Dynamic light with light maps. It all depends on the parameters set on the objects receiving the light.

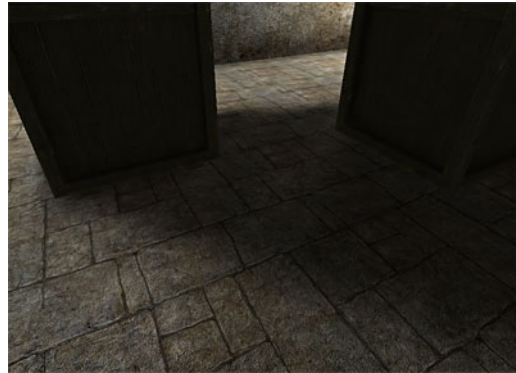
Lightmap Shadows (Static Shadows)

These are static pre-rendered diffuse shadows for brushes and terrain, but not entities. The quality is set via [Game menu](#), [Generate Lightmaps](#), [Quality](#), [Texture Resolution](#) and [Texel Size](#) when generating and [LightmapQuality](#) on the brush receiving the shadow (0-100), read "[On Lightmap images. Shadows and Generate Lightmaps?](#)" for details.

Low frame rate cost.

```
Recv/CastLightmap = True
PrecalcShadow = True
```

Must be rendered in Sandbox. For **brushes** use [Game menu](#), [Generate Lightmaps](#), for **terrain** use [File menu](#), [Generate surface textures](#).



Shadow Maps

Low quality dynamic shadows with soft edges. They do not overlap like a Volumetric shadows and an object from the nearest/strongest light source will cast only one shadow. This is the only real-time shadow cast by the sun and should primarily be used outdoors. (Does not seem to work at all in [VisAreas](#), at least not in-game?). **Medium** frame rate cost.

```
Recv/CastShadowMaps = True
CastLightmap = False
Recv/CastShadow = True
RealTimeShadow = True/False
```

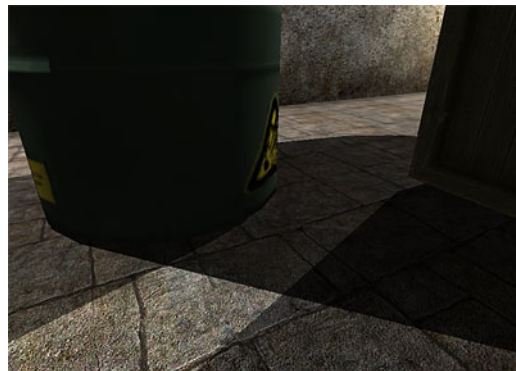


Volumetric Shadows

High quality dynamic shadows with sharp edges. Objects generate one shadow for every light source, with overlap. And the shadow strength is based on distance/brightness of the light sources. It should primarily be used indoors. **High** frame rate cost.

```
CastShadowVolume = True
CastLightmap = False
```

For objects that appear both in- and outdoors, like characters, vehicles, etc., both **Shadow Maps** and **Volumetric Shadows** should be enabled.



6 – Effects

A: Shaders

Add spectacular effects to lights by using shaders. The most common shaders are coronas (flares) and beams, and they work in real-time. But there are many more effects such as rotation, flickering, color changes, etc. Feel free to experiment.

```
UsedInRealTime = True  
lightShader = <shader name>  
CoronaScale = #  
LightDir = x,y,z
```

You have the choice between creating completely new shaders and editing the built-in ones. Note that shaders are programmed in the **LUA script** language.

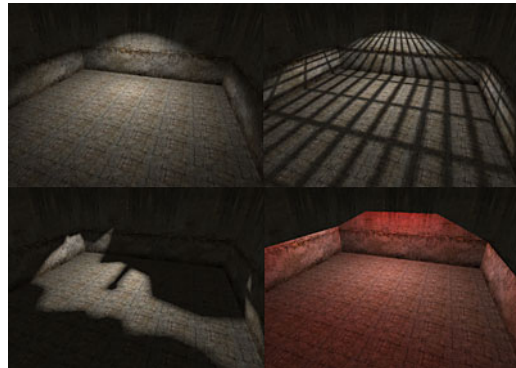


Projectors

Lights using a projector texture give the illusion of a light shining in a specific direction or a light being obstructed by something very detailed (e.g. grates). Projectors only work on Dynamic Lights.

```
ProjectorTexture = <name.dds>  
ProjectorFOV = <angle in degrees>  
LightDir = x,y,z  
ProjectInAllDirs = True/False  
UsedInRealtime = True  
CastLightMap = False
```

Again it is possible to add new projectors or edit the built-in ones. These projectors are simply textures in the DDS format.



Self Shadowing

Self-shadowing is an additional feature available when using **Volumetric Shadows**. It helps make complex brushes look more realistic when the object casts shadows on parts of itself. Self-shadowing requires extra calculation time so expect some **loss** in frame rate. On Static Shadows, self-shadowing is automatically used in the render process.

```
SelfShadowing = True  
CastShadowVolume = True
```



7 – Parameters

A: These parameters affect all types of light sources.

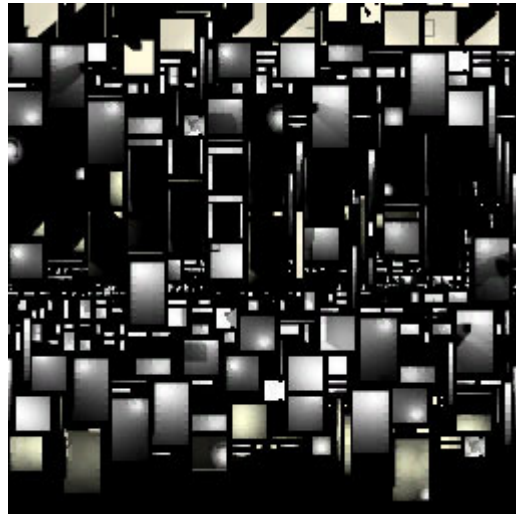
Active	Whether the light is on/off. Use a trigger to turn real-time lights on or off.
AffectsThisAreaOnly	When <code>True</code> , the light will only affect the <code>VisArea</code> where it is located. Performance hit when <code>False</code> , thus should be avoided!
Diffuse	The color of the emitted light. Sometimes also affects shaders such as coronas.
DiffuseMultiplier	The brightness of the light.
Dot3Type	Turns on dot3 bump mapping.
HeatSource	Whether the light should be a heat source for the night vision goggles?
IgnoreTerrain	When set to <code>True</code> , light will not be emitted on terrain, just on brushes.
LightStyle	Sets different styles of flashing, pulsating or flickering for dynamic lights.
Model01	Model to use when lighttype 0 or 1 is used.
Model2	Model to use when lighttype 2 is used.
Model3	Model to use when lighttype 3 is used.
Occlusion	?
OuterRadius	Defines the area size that the light will affect.
Specular	The color of the Shining 'areas' cast on certain textures.
SpecularMultiplier	The brightness of the Shining 'areas'.

On Lightmap images, Shadows and Generate Lightmaps?

A: Introduction to the Problem

To make it easier to understand the following, first take a closer look at the image (`c0.jpg`). This is one of the **lightmaps** from the test map `LightLab`. Each 'rectangle' in that image is a **face of a Brush**, from the face normal. The lightmap basically 'remembers' the **rendered shadows** for each **Brush face**, automatically generated by the light compiler (`Game menu`, `Generate Lightmaps`). Each 'face' is simply rendered and lined up in the lightmap, one by one. If the compiler needs more space another lightmap (image file) is created, e.g. `c1.jpg` and so on.

At this point several image sizes need to be taken into account to be able to create a lightmap image: The **size** of the **lightmap** that in this case is 256x256 pixels, and the **size** of the '**rectangle**' faces. The compiler determines this latter size automatically.



I.e. when the compiler comes across a really large brush, the brush's lightmap ('rectangle') face will be too large to fit inside the current lightmap size. So even when a new lightmap image is created, the brush's face will **not** fit. E.g. the compiler calculates the brush face to be 267x267 pixels large, then there is no way to fit it into the 256x256 lightmap. The only thing the compiler can do is scale down the brush's lightmap face size, **reducing** its **quality**. Note that quality is a multiplier to the face size. Say the compiler tries a factor of 0.75 ($*267=200$) and the brush 'rectangle' face size becomes 200x200. The face will then fit the lightmap. The exact calculation rules are still a bit unclear, but the quality will always be reduced until the brush's lightmap face fits into the lightmap. Note: The compiler will show a **warning message** when the above problem occurs. This 'error' obviously prolongs the lighting compile process.

All this is bad enough, but here is the real problem: When the light compiler lowers the quality it, goes into the very **instance** of each **brush** and **changes the quality** parameter. It also "forgets" to change the value back to what it was in the beginning of the compilation. This is really bad. It is as if a C++ compiler would start changing the source code.

Why this is done, can be understood: If the compiler just gave up with an error it would be quite irritating for the beginner. Still this can create serious trouble in big maps. If you make the mistake of

compiling thousands of brushes into a (too small) 128x128 lightmap, you will get hundreds of the errors, leading to that many changed instances. Fine-tuning the quality is out of the question then, since it can all be ruined by one compilation run.

In other words

When creating Lightmap shadows the light compiler calculates the size of each Brush face receiving the shadow. The **base size** depends on the [Game menu](#), [Generate Lightmaps](#), [Quality](#), [Texel Size](#) setting and the **face dimensions** of the brush itself. This setting is then **modified** by the brush's [LightmapQuality](#) parameter that acts like a multiplier to the size.


The brush's lightmap ('rectangle') face is then placed in the actual lightmap texture. When the brush's lightmap face size becomes too big to fit the lightmap's size, an error is reported during rendering and the quality setting for that face is automatically reduced, and the face is then re-compiled. This iterative process may happen more than once, until the brush's lightmap face fits the lightmap texture dimensions. Note that the compiler will **not** change the lightmap's texture size, since that is fixed, but instead **lower** the **lightmap quality setting** for the **brushes** causing the problem.

This process creates a problem after the rendering is finished: The quality setting for each brush is **not** properly reset. E.g. if you want to keep the quality setting (no downscaling of the lightmap faces), by increasing the size of the lightmap, then you will have to search for all the brushes that 'received' a messed up lower quality setting, due to a previous light compile. This is something to watch out for, especially when rendering Lightmaps for large meshes. The default quality value of 1 may have been massively reduced when trying to render small Lightmaps. (aarbro)

(Ed. Aarbro explained the above in two ways. I am keeping both, because they help get a better grip on the problem.)

SOUNDS

How to place Ambient Sounds?

A: Draw an AreaBox around your map by clicking [RollupBar](#), [Objects](#), [Area](#), [AreaBox](#). (Ed. [AreaSpheres](#) or [Area Shapes](#) should also work). To resize the box, change the [Width](#), [Length](#) and [Height](#) parameters in the properties ([AreaBox Params](#)), such as 20x20x10 for example. Add a random ambient object to the area box by clicking [Sound](#), [RandomAmbient](#). Connect the AreaBox with the RandomAmbient object, by selecting the [AreaBox](#), then under [Attached Entities](#) click [Pick](#), and finally select the just created [RandomAmbient](#) object. Choose your sounds, e.g. [Sound](#) under [EaxReverbProperties](#), [Sound1](#) (in [SoundExclusive Properties](#)) by clicking on the folder  icon. Set [ChanceOfOccurring](#) from 0 to 1000 to have it occur 100% of the time. A [Volume](#) level of 200 is a good average level. When done, you only need to press the [Reload Script](#) button at the bottom of the [RollupBar](#), to hear the new ambient sounds.

Tip: Should you not hear any sound after the [Reload Script](#), try the more global script reloading via [Tools menu](#), [Reload Scripts](#).

Note: Ambient sounds are always linked to areas. So you cannot just have sounds playing everywhere without a localization via area. The trick is to make the attached Area huge.

Where is the folder with Merc Voices?

A: Look into the following file: "Far Cry\FCData\Localized\English.pak", and open it with an un-ZIP tool.

Custom .wav files Playing Static in Sandbox / Far Cry?

A: All sound files need to be mono (**not** stereo!) for them to properly work in the Editor and the game!

MODDING

How to change Sounds of physicalized Objects, e.g. when knocking down a crate?

A: You tell the object what physics soundset to use, via sound script. The sound script `Scripts\materials\PhysiscsSounds.lua` is in the `scripts1.pak`, if you want to view or edit it. And here a list of the available soundsets with descriptions for less obvious names:

`barrel`, `mbox` (Box made of metal material), `wbox` (Box made of wooden material), `cbox` (Box made of cardboard material), `gastube`, `rock`, `smisc` (an item made of plastic material), `mbucket` (A Bucket made of metal), `book`, `wheeled`, `glass`, `cola`, `spoon`, `beer`, `pot` (the metal kitchen kind), `massivecontainer`, `Hbeam` (Large metal Girder), `heavywood`, `stonewall`, `woodplank`, `heavydoor`, `shark`, `rollingrock`, `aircraft`.

Advanced Users: To add your own custom sounds that you may have recorded or have a .wav for. Go to the .lua (`scripts1.pak\Scripts\materials\PhysiscsSounds.lua`) and look for two entries for each soundset, one that triggers on a `soft impact`, one on a `hard impact`. There are three states for each sound, which are for: `Impact`, `Roll`, and `Slide`.

Note that the `scripts1.pak` file exists, this supersedes the `scripts.pak` file (I did a synchronize, all the files in `scripts1.pak` files are newer, and thus should be used.) IOW, `scripts.pak` is outdated.

Exact object Polygon Counts, Sandbox as Model Viewer?

A: Find out about the Polygon Counts of all objects with the **Model Viewer**. Where is the model viewer? The Sandbox itself is a model viewer!

Associate all `.cgf` files with "`Far Cry\Bin32\Editor.exe`" - then just **double-click** on any of them and it will launch Sandbox as model viewer - from there you should be able to look at the polygon count, materials, and many other things, although it may be necessary for animated models to first extract them from the .pak file with the corresponding `.cal` and `.caf` files. You then get the exact polygon count numbers used in Far Cry from the model viewer. (MarcoC_._Crytek)

Tip: Should the editor already be running with your level loaded, the **double-click** on a `.cgf` will not re-launch Sandbox in Model Viewer mode. Simply close Sandbox and try again.

Changing Far Cry UI Scripts and the Reload command?

A: When editing UI scripts, you do not have to restart Far Cry **every** time to update the changes. You can keep Far Cry running, modify the scripts and then drop down the console and type:
`#UI:Reload()`

Note: In `-DEVMODE` you can execute script code directly from the console. If the line is preceded by a # (hash), it will be executed as script code. You could theoretically even insert an entire script directly typing it from the console.

Note also: The function `UI:Reload()` is actually a script function, calling C++ code, which re-initializes the UI system. If you browse the UI scripts you will find out that the same function is used in a couple of places. In this case the UI system needs to call some C++ code to reset everything properly (videos etc.), but it could have been a pure .lua script function as well (i.e. without being bound to C++ code). We wrote our own wrappers to bind .lua and C++ code. (MarcoC_._Crytek)

Tip: Also read "[How to turn on Developer Mode?](#)" (`-DEVMODE`).

What are the Polygon Counts for Weapons / Characters in Far Cry?

A: Here are some example polygon counts, for various entities in Far Cry:

Merc (Scout) in MP: lod0 5310, lod1 2154, lod2 1326.
Player model for MP: lod0 7098, lod1 3954, (Single Player only uses MP lod0)
1st person hands: **3072** polygons
Weapon AG36: 1st person 7632 polygons (with hands, **4560** without)
Pickup (on ground) lod0 466, lod1 126
Desert Eagle: 1st person 6441 polygons (**3368** without hands)
Pickup lod0 200, lod1 82
Machete: 1st person 5070 polygons (**1998** without hands)
Pickup lod0 122, lod1 44
Buggy: lod0 2626, lod1 828, lod2 438

Note: MP stands for Multiplayer, and lod = Level of Detail, lod0 is the highest quality/detail level.

What are the limits on Texture sizes?

A: Best approach is to look into the "Far Cry\FCDData\Objects.pak" pack file and check the object textures and textures sizes. There does not seem to be a consistent texture size in place. The buggy, for example, uses one 512x512 pixel and a 256x128 texture, while the Humvee uses one 512, two 256, three 128, and one 512x128 texture. A few 1024x textures exist, apparently nothing larger though.

*What Modeling Tools are out there?

A: Apart from the more expensive industry standards such as 3D Studio Max, Maya, Lightwave, and XSI there are some other interesting alternatives:

Wings3D (<http://www.wings3d.com>), free very powerful modeling tool that exports to .3ds format.

Gmax (<http://www.discreet.com/products/gmax>), the free 'Lite' version of 3D Studio Max.

Blender (<http://www.blender.org>).

Note: Though you can start modeling for Far Cry now, you will need the SDK to import those models into Sandbox.

How to turn on Far Cry's the built-in Debugger?

A: In the "Far Cry\system.cfg" configuration file, turn on the debugger via

```
sys_script_debugger = "1"
```

Use any text editor (e.g. wordpad) for this.

*How to turn off the Splash Movies when starting Far Cry?

A: When programming and editing, you will probably be running FarCry.exe quite often, but the splash movies needlessly slow down the startup of the game. To turn them off, thus skip them, browse to your "Far Cry\Languages\Movies\English" (or equivalent for your language) and rename the file Crytek.bik, Sandbox.bik and Ubi.bik to e.g. C-rytek.bik, S-andbox.bik and U-bi.bik. On startup Far Cry will no longer find these movies and thus skip them. *Alternatively, you can just delete them if you are sure you will not need them in future.

*How to Add / Edit Far Cry Textures, e.g. a weapon skin?

A: You can edit almost any texture image in Far Cry, including sky boxes, model skins, wall textures, UI graphics, bump maps, weapon skins etc. Since these are in the .DDS format you will need the DDS tools (http://developer.nvidia.com/object/nv_texture_tools.html) and download the Photoshop plug-in for .dds files. (For more tool details read: "[How to create a Loadscreen image for my Multiplayer map?](#)").

Step 1 - Finding the image file

After installing the plug-in use an unzip tool to unpack the Far Cry .pak files that contain the images. Explore until you find the .dds file you need. For this example we will take a closer look at the **skin** of the **Desert Eagle** weapon. These can be found within the .pak file "Far Cry\FCData\Objects.pak\Objects\Weapons\DE".

Step 2 - Opening the DDS image

When opening the de.dds file in Photoshop, the tool will state that the image has existing **MIP maps** and then ask if you would you like to display them. Answer **No**. There are 7 levels of MIP mapping on all files that have MIP maps and the plug-in will create them for you. Choosing **Yes** without knowing what you are doing can and will mess up your file.

Step 3 - Editing the image

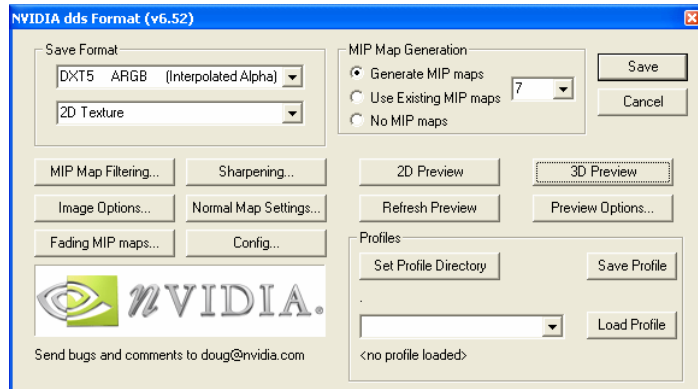
The Far Cry engine scales the skin texture to fit, so you do not have to keep the dimensions of the original file. The great thing about this is that if the original .dds is too low in resolution for detail work, you can increase the image size. However the image size must remain a power of 2, e.g. 512x512, 1024x1024, 1024x512, 256x512, etc.

Note: If the model has **Bump maps** these will also be in .dds file format and are called <skinname>_DDN.dds or <skinname>_DDP.dds. The DDN file defines the bump mapping and the DDP file seems to be a second gloss/detail bump map. If you do major editing on a skin you may also want to edit these bump maps to match your skin.

Step 4 - Saving the Skin in .dds format

A dialog with many options will come up when saving the image. All the defaults are fine except for 2 settings: Change the **MIP Map Generation** level to 7 and change the **Save Format** to "DXT5" (see image). Feel free to experiment with these settings.

Note: If what you are editing is not a texture but a standard 2d graphic with **no** MIP maps you need to tick **No MIP maps** when saving. If Photoshop did not ask you to show MIP maps when opening your image file, then this applies to your file (see Step 2).



Step 5 - Testing

Go to your "Far Cry\Mods\" folder and create a new sub-folder named e.g. "Far Cry\Mods\TestEagle\". Make sure that directory structure in "TestEagle\" matches the directory structure of the original .pak file ("Far Cry\FCData\Objects.pak") **exactly!** The original de.dds file was in "Objects.pak\Objects\Weapons\DE", this means you will need to place the edited Desert Eagle skin in "Far Cry\Mods\TestEagle\Objects\Weapons\DE".

Then create a plain text file named `moddesc.txt` in the "Far Cry\Mods\TestEagle", with the following lines:

```
_Description_ = "<your mod desc>"
_Website_ = "<www.yoursite.com>"
_Version_ = "<0.01a>"
_Author_ = "<your name>"
_Title_ = "<mod name>"
```

To run your new 'tiny' mod, launch the Far Cry game from its desktop icon via

```
FarCry.exe -DEVMODE -MOD:<moddirectoryname>
```

In this example it would be "FarCry.exe -DEVMODE -MOD:TestEagle".

Step 6 – Releasing the Mod content

To release your mod's content, you need to pack all the data into an appropriate structure. Luckily Far Cry provides a `PackerForDistrib.bat` (batch) file that will automatically pack things for you. But you require a some files for this to work properly.

Download the following archive

(<http://www.hx3.de/ext/farcry/Modfiles.zip>, thanks to x.TheCounter.x for the info and file).

Unzip the `pkzip25.exe` and the edited new `PackerForDistrib.bat` (has maximum compression turned on) file into your main "Far Cry\Mods\" folder. (Ed. The test skin image is by AEon, Slomer's skin is a lot better)



From here it is fairly simple. Open a command prompt in the "Far Cry\Mods\" directory (DOSbox; **Windows Start menu**, **Run**, type `cmd`; `cd "Far Cry\Mods\"`) and type

```
PackerForDistrib TestEagle
```

Instead of `TestEagle` you could obviously put in whatever your mod's directory name is. The `.bat` file will create a new folder called "Distrib\" that contains the newly packed `TestEagle.pak` file. For Internet distribution of your mod, zip `TestEagle.pak` and `moddesc.txt` and upload them to some site!

Slomer made an example mod just to show what can be done. It is a rather mediocre looking silver/black desert eagle skin I hacked together. I do like it more than the standard DE in the game though (<http://aq2.action-web.net/easter/testeagle.zip>). (Slomer)

SCRIPTING LUA

What are .lua Scripts?

A: People should realize that you can customize and re-program just about everything in Far Cry. It is the **.lua** script files that let you program all these things. Note .lua files are plain text files, that you can change and edit in any text / programmers editor (e.g. www.UltraEdit.com). Just take them out of the .pak (e.g. "Far Cry\FCData\scripts1.pak") files and edit them.

What Scripts are loaded on Far Cry Startup?

A: Main.lua,
ClassRegistry.lua,
DevMode.lua (when -DEVMODE, loaded from "Far Cry\" root),
and the scripts in the materials\ folders are loaded at startup. (Timur.Davidenko)
Specifically the material folders in "Far Cry\FCData\Scripts.pak\Scripts\materials\" and "Far Cry\FCData\Scripts1.pak\Scripts\materials\" that are in the pack files.

Sandbox will not run my programming Editor?

A: By default Sandbox uses the Crytek preferred UltraEdit programmer's editor. To make the 'live' script editing work from Sandbox, go to **Tools menu, Preferences, General Settings, Files, Files**, and change the fields **Scripts Text Editor** and **Shaders Text Editor**: Copy/paste the full path of your editor .exe into these two fields, e.g. "C:\Program Files\UltraEdit\uedit32.exe" (possibly with the quotes).

*Where to read up on the LUA scripting language?

A: Details on the LUA API can be checked on the official <http://www.lua.org> site. The most current version of LUA is 5.0. But **Far Cry** seems to be using the older **4.0** version. And be sure to read the Reference manual: <http://www.lua.org/manual/4.0/>. Note this is not the documentation of all the CryEngine functions (this will be available with the Far Cry SDK), but the documentation of the LUA API. Also note that there are many new features to LUA 5.0 that may not be compatible with Far Cry!
*Another resource is the LUA Short Reference Wiki providing a concise summary of the LUA syntax and core libraries (<http://lua-users.org/wiki/LuaShortReference>).

LUA programming Editors?

A: There are several editors out there that will help you edit Far Cry's .lua scripts:

- **UltraEdit** (<http://www.ultraedit.com>) used by Crytek, very powerful editor, has syntax highlighting (see "[LUA Syntax Highlighting for UltraEdit?](#)"), trial version available.
- **Crimson** (<http://www.crimsoneditor.com>), free editor, LUA syntax highlighting file (<http://www.crimsoneditor.com/board/data/user0/LuaSyntax.zip>)
- **Lua Ide** (<http://www.gorlice.net.pl/~rybak/luaide>), free editor.
- **Context** (<http://www.fixedsys.com/context>), free editor, very fast, LUA syntax highlighting file (<http://www.fixedsys.com/context/hl/lua.chl>).
- **Jedit** (<http://www.jedit.org>)

LUA Syntax Highlighting for UltraEdit?

A: Get and install UltraEdit (<http://www.ultraedit.com>), then download the LUA Syntax Highlighting file lua.txt (<ftp://ultraedit.com/wf/lua.txt>) (right-click the link and save target as, e.g. as "c:\lua.txt").

Installing the new Syntax Highlighting file, lua.txt:

Run UltraEdit, go to **Advanced menu, Syntax Highlighting tab**, under **Full path name for wordlist:**, click the **Open** button, then close the dialog with **OK**. A tab will have opened with the wordfile.txt file. This file controls the highlighting of UltraEdit.

Then open a new tab and load the lua.txt file: **File menu, New**, then **File menu, Open**, browse to "c:\\" and select the "lua.txt" file there. After loading, select the lua.txt tab, **Ctrl-A** (to select the complete file) and **Ctrl-C** to copy it. Then select the wordfile.txt tab, scroll to the bottom of that file, and append the clipboard buffer lua.txt content via **Ctrl-V**, and finally save the changed wordfile.txt via **Ctrl-S** (Save). You can then close the wordtext.txt tab again, via **File menu, Close**. From now on whenever you load .lua (or .bin as it seems) files into UltraEdit, you will see the LUA syntax highlighting.


This really helps to make the source code easier to read. Since Crytek uses the editor as well, you may want to try out UltraEdit.

AI & CHARACTERS

Followed directions on Merc driving Buggy along Path. Why does it not work?

A: Go to the [Game menu](#), and click [Generate AI Triangulation](#), and try it again.

Where can I find Helmets for my Mercenaries?

A: Select your Mercenary, then in the [RollupBar](#), click on the folder  icon beside the [HelmetModel](#) parameter under [Entity Properties](#). Then browse to `objects\characters\mercenaries\accessories` and pick `Helmet.cgf` as an example. Make sure you turn on [HelmetOnStart](#), and then hit the [Reload Script](#) button to see the helmet applied to the Merc. Feel free to experiment with the other `.cgf` files.

Tip: To add a mercenary select [RollupBar](#), [Objects](#), [Entity](#), [AI](#), [Merc*](#). There are Cover, Rear, Scout, and Sniper Mercs.

How to get a Mutant to Attack?

A: You need to use the Mutants from the Mutant Library under [RollupBar](#), [Objects](#), [Archetype Entity](#). If they are not there, then add them by going to [Window menu](#), [Show Data Base View](#). Make sure to select the [Entity Library](#) tab first, then click [Library menu](#), [Load Library](#), and finally select `Mutant_Library` (path `Editor\EntityLibrary\`). Now go back to [RollupBar](#), [Archetype](#) (to update the list, click the [Archetype Entity](#) button two times) and add the Mutansts from there. You might want to add all libraries while in the database view (i.e. `Mercenary_Library`, etc.)

How to Reinforce an area with a Cargo Chopper?

A: A quick step by step on setting up the V22 (CargoChopper) for reinforcement:

1. From the [RollupBar](#), [Entity](#), [AI](#), select the [CargoChopper](#) and place it on the map, then change the [AI Character](#) field under [Entity Properties](#) from `HeliV22` to `HeliCargo`.
2. Create 3 Mercs close to the V22 – making sure that both the Mercs and the V22 have the same [groupid](#) in their [Entity Properties](#) 2. Tip: To add a mercenary select [RollupBar](#), [Objects](#), [Entity](#), [AI](#), [Merc*](#).
3. Create 3 ropes next to the V22 by selecting [RollupBar](#), [Entity](#), [Other](#), [Rope](#) and place them on the map. Check the naming of the ropes (i.e. `Rope1`, `Rope2`, `Rope3`). The V22 under [Entity Properties](#) 2 expects [Rope1Name](#) "`Rope0`", [Rope2Name](#) "`Rope1`", and [Rope3Name](#) "`Rope2`". To fix this, select [Rope3](#) and rename it to "`Rope0`" under [Entity](#). Rope names must match for this to work!
4. Place a [TagPoint](#) ([RollupBar](#), [Objects](#), [TagPoint](#), [TagPoint](#)) on the map where you want the reinforcement troops to land, rename that [TagPoint](#) "`Drop`" (default was e.g. `TagPoint1`) and make sure that V22's [Entity Properties](#) [pointReinforce](#) (default already set to correct name: `Drop`) is set to the same name as the landing-TagPoint you just created.
5. Place another [TagPoint](#) on the map where you want the V22 to return after dropping off troops. Name it either "`Base`" or name the V22's [Entity Properties](#) [pointBackOff](#) the same name as your return-TagPoint you just created.
6. Now place a [Trigger](#) or [Trigger Event](#) (i.e. [RollupBar](#), [Objects](#), [Entity](#), [Triggers](#), [ProximityTrigger](#)) anywhere on the map and link it to the V22, by clicking the trigger's [On Enter](#) event under [Input/Output Events](#), then click on the [Pick New](#) button, and finally select the V22. [On Enter](#) now shows the name of your V22, select that name (e.g. `CargoChopper1 [Fly]`), [right-click](#) that V22-event and select [Reinforcement](#).

7. Hit the [AI/Physics](#) button on the toolbar, and 'touch' (in the editor's fly mode, fly into) the proximity trigger to activate the reinforcement via Cargo Chopper.

Note:

- You can add up to 6 Mercs to the Cargo Chopper. For some fun, add Pigs.
- Should you omit the Base TagPoint the Chopper will drop off the Mercs at the Drop TagPoint and then also land there.
- Placing that ProximityTrigger in the path of an AI (Buggy race) will trigger the Cargo Chopper as well.

How do you get Civilians to use Weapons?

A: Pick any [Merc](#) or [Grunt](#) and change the [Model](#) parameter under [RollupBar](#), [Entity Properties](#), to e.g. `Objects\characters\story_characters\valerie\valeri.cgf`, for a Valerie Merc.



Cannot Scale AI entities, but I can scale walls etc.?

A: Character Entities (like Sharks) are **not** scalable.

How to Equip AI (Mercs) with Guns?


A: Much like you can equip the player with certain weapons on respawn, the AI (Mercs) also need to have equipment packs assigned to them. To do this, go to the [Mission menu](#), [Edit Equipment-Packs](#). There click on [Import](#) button and browse to your "Far Cry\Editor\EQUIPMENT_PACKS" folder. There should be two packs, load them both. When you add a Merc now ([RollupBar](#), [Archetype Entity](#), [Mercenary_Library](#)), he should find the correct equipment pack, and shoot at you.

Tip: Should the `Mercenary_Library` be missing, read up on "[How to get my Mutant to attack?](#)", on how to install it.


How to make Mercs fight With you?


A: Select the Merc, and then change the [species](#) property from default 1 to 0, under [RollupBar](#), [Objects](#), [Entity Properties](#). Note: It does not seem to be possible to change this property for Archetype Entity Mercs (see "[How to equip AI with guns?](#)"), because these are locked to that Archetype. Changes would change the properties for all instances of that Archetype.

How to change the appearance of Mercs?

A: After placing several Mercs in your level, it becomes quite apparent that all look exactly the same (face, uniform, etc.). To add a little variety open the DataBaseView ([Window menu](#), [Show Data Base View](#)), under the [Materials tab](#), click on the [Load Library](#)  icon and select the "Far Cry\Editor\Materials\Mercenaries" library:

In the left hand window of the Mercenaries database, there is a list of different Merc categories (e.g. Coretech, Cover, DeffCommander, etc.).

Each category contains several variations, like Cover / Default, Black, Yellow, etc. Select a Merc in the Perspective window, pick a specific Material e.g. Cover / Black from the database list and then click on the [Assign Material to Selection](#)  icon located at the very left database's [Material tab](#). The appearance of your Merc will change! Feel free to experiment.

Tip: You can reset your Material tests by clicking the [Reset Material on Selection to Default](#)  icon.

How to make Mercs chat with one another?

- A: Begin by placing an [AIAnchor](#) object from [RollupBar, Objects, AI](#) in the Level. Then set its [Ai Action](#) parameter to "AIANCHOR_MISSION_TALK", by clicking the [...](#) icon. As you will note, nothing happens because you must give the AIAnchor a specific name. This name defines what dialog the Mercs will use. The name is a composite of an original Far Cry single player map name and an appended "_generic" term, i.e. "fort_generic" or "rebellion_generic". Rename the AIAnchor to "fort_generic" as a test. Now place two Mercs ([RollupBar, Objects, Archetype Entity, Mercenary_Library](#)) with the same [groupid](#) e.g. "66" (under [Properties2](#)) near the AIAnchor.

Where to find preset Mercs, like merc_M4?

- A: Open your DataBaseView ([Windows menu, Show Data Base View](#)), then switch to the [Entity Library](#) tab. Click on [Library menu, Load Library](#) and open the [Mercenary_Library.xml](#) in your "Far Cry\Editor\EntityLibrary\" folder. Then you can drag and drop Mercs into your level via [RollupBar, Objects, Archetype Entity](#) list.

*How to add a Shark and make it Attack?

- A: Add a shark entity to the level via [RollupBar, Objects, Entity, AI, Shark](#). Place it in the water so that it's dorsal fin is visible, but the body is submerged. Ensure that the shark is the selected entity and then change the [KEYFRAME_TABLE](#) parameter under [RollupBar, Entity Properties](#) form "PIG" to "SHARK". Finally select [Tools menu, Reload Scripts](#) to apply the changes.



If you now step into the game via [Ctrl-G](#) from Sandbox, the Shark should attack and cause damage as long as you are close enough by default (Ed. It attacked but did not seem to cause damage). It is also possibly to give the shark a path to follow (see the Jeep walkthrough in the Manual). To avoid having the shark swim onto the beach, define a [Forbidden Area](#) around it.

***Need info on creating a forbidden area.

*How to make Mercs Shoot at specific Targets?

- A: In the single player map [Training](#), at the edge of the main camp, you may have noticed Mercs shooting at targets from behind sandbags. Follow this walkthrough on how to make the AI shoot at targets (or anything else for that matter):

1. Create a [Grunt](#), (from [RollupBar, Objects, Entity, AI](#)) and in the Grunts options, under [Entity Properties](#), make sure to give him a weapon (ones that shoot bullets only).
2. In this example click on the [...](#) icon for the [Equipment](#) parameter, this will open the [Equipment-Packs](#) dialog. Under [Available Equipment](#), select [WPN - Falcon](#), and click the [>>](#) button to move the weapon to [Used Equipment](#), thus giving the Grunt a weapon. Click [OK](#) to close the dialog.
3. Back in the [RollupBar](#) click [Reload Script](#) button at the bottom of the page.
4. Set the Grunt's [behavior](#) under [Entity Properties 2](#), to "Job_PracticeFire". Take note of the Grunt's name, e.g. "Grunt6".
5. Add a [TagPoint](#) ([RollupBar, Objects, TagPoint](#)) where you want the Grunt to shoot. To help the Grunt shoot better, change the [accuracy](#) from the default 0.6 to 0.9.
6. Rename the [TagPoint](#) from e.g. "TagPoint1" to the Grunt's name **and** append "_SHOOT" to the name. Note this **is** case sensitive. In this example the TagPoint should then be named "Grunt6_SHOOT".

7. **Move**  the Grunt right where you want him to shoot from, as he will note move and shoot from that position. Also make sure to **Rotate**  the Merc, to make him to face the **TagPoint** you just placed.

8. To update the AI click **Game menu**, **Generate AI Triangulation**.

9. Finally test the AI by clicking the **AI/Physics** button at the bottom of the Sandbox view.

Note: The number of bullets the Grunt has for the weapon does not matter when he is in shooting range mode. He has unlimited ammo in this case. The rotation of the **TagPoint** does not matter either BTW.

Tip: Try **RollupBar**, **Objects**, **Brush**, **buildings**, **m03**, **compound_area**, **coa_shooting_range_target**, as a nice shooting range target.

*When to use Generate AI Triangulation?

A: You only need to **Game menu**, **Generate AI triangulation** when the environment (e.g. Terrain) was somehow changed. You do **not** need to do it every time you place an AI or change something AI related.


*Tips on getting AI to Patrol TagPoints?

A: Ensure that all the following points are correctly set up, otherwise patrol tag points will work:

1. Does the AI Merc have an unique name, differing from other Mercs?
2. **TagPoints** have to be of the type "TAGPOINT" **not** "RESPAWN". At times you may be accidentally placing respawn points. To check on this, select the **TagPoint**, look at the **RollupBar**, there should be a caption called **TagPoint**.
3. All patrol **TagPoint** 'additions' (e.g. "_P0") have to be named in **capital letters**, e.g. `ainame_P0`, `ainame_P1`. Note the capital P, this will not work with a lowercase p.
4. The path segment **has to start** with 0, the first tag point should never start with P1.
5. You have to **Game menu**, **Generate AI triangulation**, otherwise AI will behave strangely. If the AI keeps on behaving strangely, then check the **Error Report dialog** after the triangulation. It will tell you exactly **why** the triangulation was aborted. Not triangulation is equivalent to making the AI blind and it will force all your AI to be positional.
6. Do not think, just because something does not work in your current map, that starting a new map will fix it. The editor normally is quite causal, i.e. no magic needs to happen.

GENERAL EDITING/NAVIGATING ABOUT SANDBOX



How to enter tunnels, caves, buildings in Sandbox? Getting knocked back outside!

A: Turn off Terrain Collision by pressing **Q** or via **Game menu**, **Terrain Collision** or click on the toolbar  icon at the bottom of Sandbox and toggle it off.

How to Zoom in and out in the 2D Viewports?


A: Either use the **mouse wheel** or hold down **Shift, right-click** and **drag**.

How to properly Place Objects on Terrain?

A: There are two buttons on the main toolbar - **Follow Terrain**  and **Follow Terrain & Snap to Objects**  (shortcut key **4**) - click these when placing objects. It auto-aligns objects just above the terrain at the mouse pointer's current position.

Placing an Object without Locking it to terrain. How to Align it to Terrain?

A: When you placed an object in your map, and forgot to lock it to terrain (**Edit menu**, **Constrain**, **Constrain to Terrain**, or shortcut key **4**), you will not be able to align it to terrain by simply turning on terrain lock and moving the object. You will need to reset the objects Z-axis offset to the terrain:

Select the Object, go to the **Modify menu**, **Select Object(s) Height...** (or click the  icon in the toolbar), and then set Object's Z height to 0.

Following the Sandbox Manual's Walkthrough (p15), where is the mat_sand material?

A: Use a sand material from somewhere else, like `mat_sand_dry` from `Objects\Indoor\props\Corporate\planter1\` instead.

VisAreas rectangular only?

A: VisArea must have 4 points, i.e. they have to be rectangular.

A different way of explaining VisAreas and Portals?

A: The idea behind the VisArea: It seems that anything IN a VisArea is invisible from the outside, this is intended, since most indoors are in terrain, and **should** be invisible from the outside, i.e. not drawn by engine to keep polygon counts low. So leaving your indoor VisAreas will hide the inside areas.

The only 'proper' connections to the 'outside' via 'gates' are the Portals that let you look into the indoor areas. The manual describes the use of VisAreas and Portals quite well, and also features a walkthrough on building an indoor area.

Is the Overlapping of VisAreas allowed?

A: Tests seem to show that overlapping does not work, and that the overlap region simply does nothing. I.e. having two VisAreas in the same spot is the same as having no VisArea there at all. Also note that the non-overlapping parts are still different areas. Means irregular shapes have to be made out of many VisAreas 'blocks' and Portals, or use one huge VisArea around everything that is supposed to be 'inside'.

How come the various dialogs in Sandbox have no Tooltips?

A: Tooltips inside of dialogs are currently not possible. Check out the Sandbox Status Bar instead, since it displays the same information string as mouse-over Tooltips for buttons.

How to Transfer Content from one Level to another?

A: Keep your materials in shared libraries. Then import the same material libraries into your new level. [Modify menu](#), [Save to .grp](#) is the easiest way to export/import objects between levels. (Timur.Davidenko)

Alternative, **Layer** import/export: Open a single player map, place all the stuff you are interested into a separate layer, export that layer and then import it into your own map. This is not always that elegant to do (since the **Ctrl-T** object selection dialog does not let you change the layer on the fly), but possible. Alas when testing this in Dam (SP volcano outside map), with the broken bridge over lava, the following problems cropped up:

1. The object coordinates were totally off from the center of the tiny test map. Placed somewhere far out in the ocean. Understandable, since the absolute coordinates saved by layers stay the same.
2. The much bigger problem is that layers do not preserve texture references. The bridge uses some texture for the 'road', missing on re-import, leading to many warnings in the test map. (AEon)

Third method build and use **Prefabs** "[How to build a Prefab for use in other levels?](#)".

How to turn on Developer Mode?

A: In developer mode you have many cheats at your disposal, like fly mode, god mode, all weapons, full ammo, 3rd person view even when not using vehicles, and many other features, that are not available in normal gaming. These are very useful for mappers, since they better let you better test/check your maps.

To activate developer mode, **right-click** on the `FarCry.exe` icon and add `-DEVMODE` (all CAPS is important!) to the end of its path, i.e.:

Before: `"C:\Program Files\Ubisoft\Crytek\Far Cry\Bin32\FarCry.exe"`

After: `"C:\Program Files\Ubisoft\Crytek\Far Cry\Bin32\FarCry.exe" -DEVMODE`

Warning: The `-DEVMODE` will also unlock all single player levels!

This will also give you 3rd person view, in-game at any time (not just in vehicles) by pressing **F1**. Some other useful cheats:

```
#AllWeapons()
```

This gives you all of the weapons, but without ammo! The shortcut key: **p**

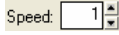
```
#MoreAmmo()
```

This gives you 999 ammo for the selected weapon and weapon mode. The shortcut key: **o**

There is NO GOD MODE cheat by default!

Tip: The "Far Cry\DevMode.lua" file lets you program the cheats, re-bind the cheat functions to other keys, etc. Try AEon's DevMode.lua file "[Developer Mode with God Mode and AI Ignore?](#)"





How to control the Movement Speed in Sandbox?


A: To change the movement speed of the **cursor** keys, or **W, S, A, D**, either look under: **Tools menu, Preferences, Viewports, Movement, Camera Movement Speed**. Or, more conveniently change the movement speed on the fly from the toolbar: At the bottom of the Editor screen, change the number to the right of **Speed:** . The default is "1", changing this value to ".2" will give you much better control.

Tip: Holding the **Shift** key + **W, S, A, D** will **increase the movement speed** temporarily. And you can set this fast speed via **Tools menu, Preferences, Viewports, Movement, Fast Movement Scale** (holding **Shift**), default value is 3.

How to properly Align many Objects, such as fences?

A: For this example create a flat area terrain with a height of 17 units/meters. The fence elements we want to align are `fence_4m` long, and are to enclose a perimeter. To do this:

1. Adjust the terrain to 17 units height, either using the **Flatten** tool (**RollupBar, Terrain, Modify**) or **Set to Height** function in the **Terrain dialog** (**Terrain**  icon on the toolbar).
2. Set **Snap to Grid** to "1" **and** turn on the grid  by selecting the icon, multiple-select your fences, click the **Align Object to Grid**  icon, in **Select and Move**  mode choose a Z-axis, and move the fences down until they snap to the ground at 17 units.
3. If you have some fence components that were originally placed at a different height than the others, you may have to work with smaller groups, performing the same procedure as described in steps 1 and 2.

(Ed. The most important tip is setting the grid to "1", so that all fence pieces will 'fit' onto the 1 unit grid. If you place every fence piece while **Lock to Terrain**  is turned on, the fence should automatically have the correct height).

Tip: Get fence objects from **RollupBar, Objects, Brush, outdoor, barriers, fence_***.

How to build a Prefab for use in other levels?

A: Open the **DataBaseView** (**Windows menu, Show Data Base View**) and select the **Prefabs Library tab**. Add a new library by clicking on the **Add Library**  icon and give it a name, e.g. "MyPrefab". Important, this newly created library will be the active library.

Click on the main **Perspective window** and select all the brushes or entities that are to be part of the new Prefab. Go to the **Modify menu, Prefabs, Make from Selection**. This will open the **New Prefab Name dialog**, where the **Group** name and the **Name** of the Prefab can be entered. Tip: If you are placing a fence that is on a beach into the Prefab, you could e.g. use Group "Beach" and Name "Fence". Then click **OK**.

Your selection is then surrounded by a yellowish bounding box that is your Prefab. Now the Prefab is available under **RollupBar, Objects, Prefabs**, letting you forth on place it in the level very much the same way as this is done with any brush or entity.

Go back to the **DataBaseView dialog**, check that your Prefab library name ("MyPrefab") is selected (in the drop down list) and then click on the **Save Modified Libraries**  icon. To use the Prefab in another

map, load it again in the [DataBaseView, Prefabs Library](#) tab by clicking the [Load Library](#)  icon there. Your Prefab library is stored in the "Far Cry\Editor\Prefabs\" folder.

Note: Concerning the use of Prefabs. At times when moving a Prefab in the map, some of its components seem to misalign. To fix this, go to the [Modify menu, Prefabs, Refresh All](#).

To get access to the Prefab's components list, simply select the Prefab, and check [RollupBar, Prefab Parameters](#). Here some or all the objects in that Prefab can be extracted.

Prefab import causes Duplicate GUID error?

A: Fix this by opening the Prefab .xml file (in a text editor like Wordpad) and changing the first line from "Level" to "Level2" or something similar. The line just needs to be unique, and try to import the Prefab again.

How to check on Polygon Limits?

A: To get a Polygon Count/ FPS (frames per second) display in both Far Cry and Sandbox, type:

```
\r_displayinfo 1
```

into the console (to open console press key left of '1' under [Esc](#)). Note to be able to open the console in Sandbox you will first need to be in game mode ([Ctrl-G](#)).

Or in Sandbox you can [right-click](#) in the typing area of the log window ([Window menu, Show Console](#)). This brings up a dialog box with many options.

For a bit more convenience install AEon's DevMode.lua (read "[Developer Mode with God Mode and AI Ignore?](#)" on this), hit [Ctrl-G](#), and then simply use the [F1](#)-key to toggle the display info.

What are the Polygon Count limits in Levels?

A: Most multiplayer levels seem to stay below a limit of **150,000** polygons (this includes terrain, vegetation and all objects, excepting player models). But this is just an approximate value. Load up some of the Crytek multiplayer maps with "[\r_displayinfo 1](#)" turned on (see "[How to check on Polygon Limits?](#)") and check for yourself.

Tip: The polygon count for the whole map does not really matter, what matters is how many polygons the player can **see** at any given time. So avoid adding too many models in a small area, i.e. avoid a overly dense spacing. Also try using Terrain 'canyons' to occlude high polygon areas with many objects.

How to add '\ ' to console commands? Tab Command Completion!

A: On some keyboards the '\ ' may not be available (e.g. on a Spanish keyboard), but since the '\ ' is a required prefix for every console command you would be in trouble. Luckily the '\ ' can also be automatically generated by the console itself. Try this:

Type "map" (without the quotes), then hit the [TAB](#)-key, the console will then prefix the command with a '\ ' yielding "\map". You can then type the map name, and everything should work.

Tip: The [TAB](#)-key does a **command completion**. E.g. if you type "m" and then hit [TAB](#), you can scroll through all commands that begin with "m", if you keep tapping the [TAB](#)-key.

*How to change the FOV of Sandbox's Perspective View?

A: To change the FOV (Field of View) of the Perspective View in Sandbox, simply go to [Tools menu, Preferences, Viewports, General Viewport Settings, Perspective View FOV](#). By default the FOV is 90, but you can change it to any value you prefer.

*On Heightmap Resolution and Grid (Level) Dimension?

A: The most important lesson first: The **Grid Units** in Sandbox are **constant** and can be read in meters, **1 Unit = 1 Meter**, always!

Alas the [File menu, New, New Level dialog](#) uses the terms in a bit confusing way. But by changing the naming of terms a bit, all should become quite clear. In this example we want to create a map that is **512 by 512 meters** in size. As mentioned above this is the same as 512x512 grid **units**. Note that you cannot directly set the level size; you need to use the [Heightmap Resolution](#) and [Meters Per Unit](#) parameters for this.

On Heightmaps: To begin you can choose how detailed the terrain should be, by setting the resolution (in x,y-plane) under [Heightmap Resolution](#). The heightmap is simply a 16-bit grayscale image, with 65k shades of gray, measured in **Pixels**. Note that the image, much like the terrain area, need to be square.

As a trick you can use the RGB (8-bit per channel) color picker settings to define height changes in steps of 1 meter. This yields the heights 0 meters to 255 meters in elevation. E.g. RGB color 0,0,0 (= black) is elevation 0 meters (lowest elevation, black), the next elevation is RGB 1,1,1 = 1 meter, the highest elevation is 255,255,255 = 255 meters (pure white). Note that in 16-bit gray scale, you have 256 shades of gray between RGB 0,0,0 and 1,1,1.

Since we want to create a level that is **512x512** meters, we have several choices. E.g. a [Heightmap Resolution](#) of **256x256** and a value of **2** as [Meters Per Unit](#) would do the job.

Note: This is where the current dialog description is less than obvious. What the [Meters Per Unit](#) actually means is **Units(Meters) Per Pixel**. This parameter actually has **nothing** to do with **changing** Grid Units, the **Grid is always the same!** It is simply a factor between the pixel resolution of the heightmap image and the final level size. In other words the factor lets you indirectly define the size (grid size in meters) of your map.

The question now is what combination of [Heightmap Resolution](#) and [Meters Per Unit](#) to choose: The highest resolution for your heightmap would be 512x512 and 1. This gives you the maximum number of control points in the terrain grid, but will make the map very resource hungry (many polygons need to be drawn). With a slightly less high resolution for the heightmap image 256x256 and 2, you would lose some detail, but the map would be smoother and use less polygons. The lowest heightmap resolution possible is 128x128 and 4. This may make the terrain a bit too smooth, not allowing for enough detail, but will significantly reduce the polygon count. Crytek normally uses a [Meters Per Unit](#) factor of 2, because this gives you good terrain detail with manageable polygon counts, as it seems. But feel free to experiment. To sum it up, the **Grid Dimension** is linked to the **Heightmap Resolution** via [Meters Per Unit](#):

Heightmap Resolution:	256x256
Units(Meters) Per Pixel:	2
Terrain Size:	512x512 Units(Meters)

Tip: Be sure to also read "[On Surface Texture sizes in relation to the Grid Dimension?](#)".

*On Surface Texture sizes in relation to the Grid Dimension?

- A: After you have defined the [Heightmap Resolution](#) and [Meters Per Unit](#) parameters (see "[On Heightmap Resolution and Grid \(Level\) Dimension?](#)"), you will note that certain restrictions apply to the resolution of the Surface Texture covering the terrain. At any time you can change the size of the Surface Texture via [File menu](#), [Generate surface texture](#), [Select Texture Dimensions dialog](#). In principle the texture dimensions are independent from you're the other settings in your map. But Sandbox seems to have problems with overly large texture dimensions. The maximum factor between map size (x or y size) and texture dimension (x or y) is a factor of **4**. For a map with 512x512 Meters (=Units) in size, the maximum size of the Surface Texture is 2048x2048 ($512 \times 4 = 2048$) texture.

Note: Large Surface Textures will lead to massive amounts of warnings. Note also that by default Sandbox always suggest a Surface Texture size of 4096x4096, so be sure to correct this setting every time should that be required.

Tip: Also read "[Error 'C3DEngine::MakeSectorLightMap: Requested image size is bigger than...?'](#)".

*Heightmap Resolution vs. Polygon Counts?

- A: Basically, the higher the Heightmap Resolution, the larger the number of vertices you can manipulate, to add detail to the terrain. The tradeoff, naturally, is a higher polygon count, and hence reduced performance. In other words, try to avoid a too high Heightmap Resolution. Find a balance between terrain detail and in-game performance.

Tip: For more examples and info read "[On Heightmap Resolution and Grid \(Level\) Dimension?](#)".

*Does the scale setting in the New Map dialogue affect the Map Grid?

- A: No, it does not! The [Meters per Unit](#) setting in the [File menu](#), [New](#), [New Map dialogue](#) is essentially an unfortunate choice of terminology, and should be thought of as "**Units per Pixel**". It is important to remember this, since the object placement **grid is independent of terrain mesh density**. The grid, in other words, remains a constant, **1 grid unit is always 1 meter**, regardless of terrain scale. All a, e.g. 4 meter terrain scale setting does, is limit the amount of detail with which you can sculpt your terrain, since you are limited to elevation changes every 4 grid units, instead of, say, every 1 grid unit.

SERVERS

How to load a Server Profile on Startup of a dedicated server?

A: You start a server with an edited shortcut with the switch "SProfile_run <name>", with <name> referring to a .cfg file already existing in your Profiles\Server\ directory.

Example 1: If you have a configuration file called `swoop.cfg` (Ed. Hehe), you must **first** rename it to `swoop_server.cfg`, then create your shortcut to read: `FarCry_WinSV.exe "SProfile_run swoop"` (with the quotes!)

Example 2: You created a profile called `FFA.cfg`. Again, rename it to the correct naming convention of `<name>_server.cfg`, in this case to `FFA_server.cfg`. Now create a shortcut that reads: `FarCry_WinSV.exe "SProfile_run FFA"` (with the quotes).

How to specify the IP address of a dedicated server?

A: Add the `-IP:<ipaddress>` command line switch in your shortcut, e.g.:

```
FarCry_WinSV.exe -IP:127.0.0.1
```

*How to run Mods from the Console?

A: To run a Modification directly from your "Far Cry\Mods\133tmod\" folder, add following command line switch to your Far Cry shortcut, e.g.:

```
FarCry.exe -DEVMODE -MOD:133tmod
```

Note: If you do not plan to do any testing, drop `-DEVMODE`.

MULTIPLAYER MAPS

*How to create a Loadscreen image for my Multiplayer map?

A: Well first of all you need Photoshop (an older trial version should also work). And you need the NVidia **DDS plug-in** (works for ATI as well) from

http://developer.nvidia.com/object/nv_texture_tools.html

Note: Be sure to also download and install the **DLLs**!

Then download this handy Photoshop template

http://www.coolart.dk/stuff/loadscreen_skabelon.psd

and open it in Photoshop and add a level screenshot to it. Finally save it as a DDS file. Tip: Flatten the image prior to saving, or you may well get an error message on saving. In the NVidia DDS Format dialog change the **Save Format** to DXT5 and under **MIP Map Generation** set No MIP maps.

On naming of the loadscreen image: Say the name of your map is called mp_mymp, then name the loadscreen "loadscreen_mp_mymp.dds" and put it in the directory of your map (Levels\mp_mymp\ in this case). Far Cry will then show this loadscreen image on loading your map.

Tip: Also read "[Does the Loadscreen image need to be a .DDS file?](#)".

*Note: You may want to try a loadscreen package compiled by SkyBox, containing a robust loadscreen template with an example screenshot. Gummy_902's Far Cry True-Type font is also included:

http://www.kxmode.com/tmp/loadscreen_package.zip (2.6 MB)

Does the Loadscreen image need to be a .DDS file?

A: No, instead of a file called "Levels\mp_mymp\loadscreen_mp_mymp.dds", you could also use a normal **JPEG** file as a loadscreen image. Obviously this significantly reduces the file size of e.g. "loadscreen_mp_mymp.jpg". If you really want to waste space you could also use loadscreens in **.TGA** format. Note: **.PNG** files as loadscreen images will not work!

Tip: Also read "[How to create a Loadscreen image for my Multiplayer map?](#)".

Problems with .DDS format saving images with Alpha-maps?

A: There is a standalone program that will let you save images with Alpha-maps properly in .DDS format. Use DXTBmp by Martin Wright:

<http://fly.to/mwgfx/>

Note: The download includes a help file that explains the different alpha settings.

How do get your map running in the game?

A: After saving your map, be sure to export all the needed content to .pak files. This is done for you **File menu**, **Export to engine**. Then in the game open the console (hit key left of the '1' to open the console) and type "\map <yourmapname>" (without quotes).

Tip: Make sure you have your mission set to either TDM, FFA, or DM, or else you will not be able to see it in the map browser when setting up your LAN server. To set it, in Sandbox go to **Mission menu**, **New** and name the mission "TDM", "FFA" or "ASSAULT". Also see "[Creating a New FFA Mission will remove all Brushes?](#)".

Tip: Be sure to have Respawn points (naming them "players" for FFA, "red", "blue" for teams) in your level. And check the manual on how to make a Multiplayer map.

What does Export to Engine actually pack? E.g. custom sound files?

A: **Resource** files are **not** packed with the map, levels only **reference** sound files, geometries and textures. In other words you should make sure that all files that are not part of the Far Cry game, e.g. custom textures are placed in your map's level folder.

Note: Sounds do not need to be in Sounds\ folder, they can be anywhere under the root Far Cry folder.

"In this case you can simply put the sound file in your level directory, and treat this whole directory as level. You can even later zip all resources files in the level folder into a single pak file for distribution." (Crytek)

Tip: Also read "[How to Organize & Pack your Custom Resources for Levels?](#)".

How do to create Player Respawns for SP, FFA, TDM, ASSAULT?

A: To place **FFA** respawns points in your map add a **RollupBar**, **Objects**, **TagPoint**, **Respawn** object. Name **all** of your respawn points "players" (without the quotes).

For **TDM** respawns add **RollupBar**, **Objects**, **TagPoint**, **Respawn**, but this time name your red team respawns "red" and blue team respawns "blue".

ASSAULT respawn points are a bit different, add a **RollupBar**, **Objects**, **Entity**, **Multiplayer**, **ASSAULTCheckPoint**. You are given the following options: **AttackerSpawnPoint**: True/False, **CheckPoint_Number**: x, **DefenderSpawnPoint**: T/F, **Visible**: T/F, **WarmupTime**: x

If you are placing an **Attacker's** spawn point, change **AttackerSpawnPoint** to **True** and **DefenderSpawnPoint** to **False**. If it is a **Defender's** spawn point do the reverse. Finally, change **Visible** to **False**.

Tip: For more details on Assault Multiplayer maps, read the manual.

****Missing info on Single Player respawns.*

Why do Blanks in level Names cause problems?

A: Level names like "mymap foo" containing a blank (space) should be avoided, since this can lead to problems with some applications, shells, and consoles. It is always better to use names only consisting of alpha-numerical characters (a-z, A-Z, 0-9) and maybe an underscore "_". In this example: Where a "\map mymap foo" from the in-game console will fail, "\map mymap_foo" should cause no problems.

In-game Crosshair in 3rd person view?

A: Far Cry was not intended to be played in 3rd person view, thus there is no crosshair. In-game you can already turn on 3rd person view in a few special cases, e.g. hit **F1** while driving any vehicle. Alas that does not work when Jack is running about. But if you launch Far Cry via `FarCry.exe -DEVMODE` (in developer mode), you can turn on 3rd person view in the Single Player game, i.e. when Jack is **not** in a vehicle. You can take neat screenshots that way.



Tip: Also read "[How to turn on Developer Mode?](#)" and "[On Photo-Safari in Far Cry, thanks to DevMode!](#)".

*How to make a vehicle respawn in SP or MP, and set the Respawn Time?

A: Add a [Phoenix](#) object ([RollupBar](#), [Objects](#), [Entity](#), [Multiplayer](#)) close to an existing vehicle. Select the vehicle, click [On OnDeath](#) function ([RollupBar](#), [Input/Output Events](#)), click on [Pick New](#), and select the [Phoenix](#) object. Unselect all, click on the [Phoenix](#) object, you can then set the [RespawnTime](#) in the [Phoenix](#)'s properties ([RollupBar](#), [Entity Properties](#)).

Note: That in order to test this you will need to run the map in Far Cry, since this does not seem to work in the editor's game mode [Ctrl-G](#). Also note that this may at times fail to work.

Creating a New FFA Mission will remove all Brushes?

A: Do not create a [New](#)  mission, instead [Duplicate](#)  the current mission, and name the new mission FFA. This preserves all the entities you may have placed in the 'previous' (default) mission. As an alternative you could rename the current mission to FFA via [Mission menu](#), [Rename](#) if you only want one mission.

Where to Place downloaded single and multiplayer Levels?

A: Normally when you start a new map in Sandbox i.e. "[mymap](#)", a folder called "[Levels\mymap](#)" is created for you. So you would zip the whole "[mymap](#)" folder, when you want to distribute your map.

Anyone who wants to play the zipped (packed) map, will need to unzip the map archive into **his** own "[Far Cry\Levels](#)" folder. To run the map, simply start the game, open the console (hit the key left of '[1](#)'), and type "[\map mymap](#)" to play the map. Most maps can also be accessed via in-game Campaign or Multiplayer menus.

What are the .bak files in the Levels folders for?

A: The [.bak](#) file is an automatic backup file created for the [.cry](#) Level file by Sandbox. So if your original [.cry](#) Level file was corrupted, renaming the [.bak](#) extension to [.cry](#), would let you load a previous, older save version of your level.

How to Organize & Pack your Custom Resources for Levels?

A: AEon: I recently played the nice 'remake' of Training, called Level1. Looking at the already quite large number of files (voice, layers, sequences), it occurred to me to test how all these files could better be organized for distribution. A while back Timur (Crytek) mentioned that you could basically pack everything. Using the custom map "[Far Cry\Levels\Level1](#)" as an example, here are some suggestions:

1. In your "[Levels\Level1](#)" folder do not forget to **delete** the [.bak](#) files. These are backup files for your [.cry](#) level, and are NOT needed for distribution. The file can easily waste 5 MB and more of harddisk space. Note that the [.cry](#) file is the source file of your Level, so that other folks can learn and edit your map. It is **not** necessary to distribute the [.cry](#) file, but is a nice thing to do.

2. It may well be a good idea to collect all your custom files in separate [.pak](#) (= ZIP) files, e.g. place all the voice acting [.wav](#) files in "[Levels\Level1_voices.pak](#)". Here some suggestions for possible naming conventions:

```
Level1_sequences.pak (.seq, .sfk)
Level1_layers.pak   (.lay)
Level1_voices.pak   (.wav)
Level1_textures.pak
Level1_shaders.pak
Level1_scripts.pak
Level1_music.pak
Level1_objects.pak
```

```
Level1_sounds.pak    (.wav)
Level1_effects.pak
```

Note: In your case you will use the name of your map instead of `Level1` obviously, e.g. "`Levels\mp_mymap`" becomes "`Levels\mp_mymap\mp_mymap_voices.pak`".

Note: You could probably also drop the map name as a `.pak` file prefix, yielding "`Levels\mp_mymap\voices.pak`", but that might lead to file name conflicts, at some point.

3. **Alternative**, place your new custom resources in separate sub-folders, e.g. "`Levels\Level1\voices*.wav`". You could then pack those folders recursively, so that "`Levels\Level1\Level1.pak`" contains "`Level1.pak\voices*.wav`" etc.

Note: For an existing level, you cannot simply move resources into a sub-folder. If you do, you will need to update the references in the level via Sandbox. The **relative paths** to resources must always be **preserved**.

4. Personally I would **recommend** the 3rd alternative: Pack ALL custom files in your "`Levels\Level1\`" folder into one **.pak** file, e.g. named "`Levels\Level1\Level1.pak`", but do NOT include:

```
level.pak
level1m.pak
loadscreen_level1.(dds|jpg|tga)
```

This has the following reasons: You **cannot** place `.pak` files in `.pak` files. And if the loadscreen image (dds, jpg, tga) is placed in the `Level1.pak`, Far Cry will ignore it, and not use your custom loadscreen. But everything else, i.e. `Level1.cry`, can conveniently be placed in **one** pack file.

In other words: You are NOT able to simply pack everything in "`Levels\Level1\`" into one pak file e.g. "`\Levels\Level1\Level1.pak`", because this results in a load error.

Note: Sandbox will **not** be able to **access** the files **in** the **.pak** files, e.g. the `Level1.cry` map file, should that be packed in `Level1.pak`. So for editing purposes you will need to unpack the `Level1.pak` file.

Why pack resources?

To keep the folder neat and tidy, to avoid harddisk fragmentation for all the users out there, avoid changing a local resource by accident (change one file, and your local version will differ from the 'server' version, and you will no longer be able to join servers running that map online), and finally avoid the tampering of maps.

How to automatically give Players Weapons on Respawn?

A: To have the player start with weapons, do the following:

In **Mission menu, Edit Equipment-Packs**, click **Import** and load the two files located in the "`Far Cry\Editor\Equipment_Packs\`" folder and hit **OK**.

Then in **Mission menu, Properties**; click the "Player-Equipment-Pack" button (labeled e.g. "FFA"). From the drop down list (in the top left of the dialog) pick "Player". Add weapons that you want to start with to the **Used Equipment** list via **>>** button. Note: When adding weapons you want to start with, be sure to use the `WPN` variety instead of the `Item-Pickup` type. And when done hit **OK**.

Back in the **Mission Properties dialog**, click on the **Weapons tab**. Add all of the weapons that will be used in your level. If you do not, they might not show in your hand after pickup.

Note: The `WPN` weapons will automatically have the default amount of ammo.

What are .cry files for? Needed for Level Distribution?

A: The **.cry** files in the "Far Cry\Levels\" folders are required by Sandbox if you want to edit/change the level. The .cry file is in fact the Level's **source** file. From this file Sandbox will then generate ([File menu](#), [Export to engine](#)) the level.pak file that contains all data required to run the map in Far Cry.

This means that when you distribute single or multiplayer maps, the .cry files are not necessary. But it is a nice touch to let other folks out there learn from your level, by distributing the .cry file as well. Note these .cry files do not zip compress at all. This means a 6 MB .cry file will 'bloat' the resulting level archive that you distribute for download by 6 MB!

How to Rename your Level?

A: As it turns out, the Sandbox source file of your Level, the .cry file(s), do **not** define the name of your Level. The name of the **folder** of your Level does! I.e. a Level in "Levels\myMap\" is called "myMap" and will need to be run from the in-game console via "\map myMap".

So to rename your Level, simply rename the level folder in the "Levels\" folder (in some file browser). E.g. rename "Levels\myMap\" to "Levels\myNewMap\" to forth on be able to load your map via "\map myNewMap".

Note: You will (probably) need to do another [File menu](#), [Export to engine](#), before this works, since all the pertinent files are in the new "Levels\myNewMap\level.pak" file.

*What Level Size is best for Multiplayer maps?

A: That is entirely subjective, and depends on map design/layout, the kind of setting you envision for the map, etc. Also note that some of Crytek's MP maps are bigger than they need to be, as far as gameplay is concerned, but look very believable because of it. It may help to load several of the official Far Cry MP maps, to get a feel for what size fits your mapping ideas best.

*How to Respawn AI?

A: To respawn AI correctly (as used in Co-op levels) you need to:

1. Place an AI entity (e.g. [RollupBar](#), [Objects](#), [Entity](#), [AI](#), [Grunt](#)), and give it a name, e.g. "bob"
2. Add a [TagPoint](#) ([RollupBar](#), [Objects](#), [TagPoint](#), [TagPoint](#)) where you would like the AI to respawn when it dies, and name it "bob_RELOCATE" (template "<NameOfAI>_RELOCATE"). Be sure to follow this naming convention exactly.
3. Create a [DelayTrigger](#) ([RollupBar](#), [Objects](#), [Entity](#), [Triggers](#), [DelayTrigger](#)) and change its [Delay](#) parameters under [Entity Params](#) a delay of say, 5 seconds. This is how long the AI will take to respawn.
4. Link Bob's [On OnDeath](#) event to the delay trigger's input event: Select the Grunt, select the [On OnDeath](#) event under [RollupBar](#), [Grunt](#), hit the [Pick New](#) button, then click the [DelayTrigger](#). Under the [On OnDeath](#) event a new entry (a [link](#)) will appear called e.g. "DelayTrigger1 [Disabled]", select this link, right-click, and select [InputTrigger](#) from the context menu.
5. Select the [DelayTrigger](#), and using the method above (point 4.) link the [On OutputTrigger](#) event to our bob character **twice** (you need two links!). Then right-click set one of them to [Resurrect](#) and the other to [Relocate](#).
6. You may want to do a [Tools menu](#), [Reload Scripts](#), and then enter game mode via [Ctrl-G](#) to test things out.


Any AI that has been resurrected and relocated like this will start their patrol route/jobs from scratch, and should have the equipment pack that you specified in their properties.

Note: Far Cry puts flesh wounds on an AI's model when you shoot them (i.e. bullet holes). The resurrect method does **not reset** the state of the AI's model. So the respawned AI will be covered with the bullet holes after several respawns. These flesh wounds disappear after a certain length of time (30 seconds or so), so be sure to set the [Delay](#) parameter of the [DelayTrigger](#) to something longer than 30 seconds, if you do not want the flesh wounds to show.

Finally, you can omit the "_RELOCATE" method + TagPoint (skip point 2.), if you want the **AI to respawn where** it was **shot**. Tip: Pretty freaky if you replace a Grunt AI's model with a skeleton model.

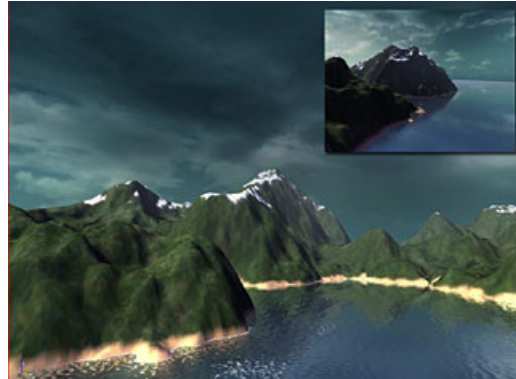
FUN STUFF

Mercs with Santa 'Helmet'?

- A: To put a Santa hat on an AI (Merc), just click on the folder  icon next to the **HelmetModel** parameter on the **RollupBar, Entity Properties** for the Merc and browse to: `\Objects\characters\mercenaries\accessories\merc_offcomm_hatc.cfg`. Do not forget to turn on **HelmetOnStart** and hit the **Reload Script** button. Then hit **Ctrl-G** to see the Merc in action.

Snow in Far Cry?

- A: Glen5700: I made some snow for the mountain peaks and it worked out quite well. I used an auto generated mask and exported it into Photoshop and roughed up the edges of the snow so the snowline was not too straight and perfect looking. For the snow texture I created a white image with tiny bit of light blue in it.



On Photo-Safari in Far Cry, thanks to DevMode!

- A: With an edited version of the "Far Cry\DevMode.lua" script by AEon, you can go on a fun-filled Sightseeing tour of Far Cry. Simply download and install the new file (for details read "[Developer Mode with God Mode and AI Ignore?](#)").

Then start Far Cry (best on a new account) on Veteran skill. In the first map (Training), turn off AI detection with **F8**, turn on god mode (**Backspace**), hit **F11** (full screen mode, no HUD), and just walk through the map enjoying the wonderful scenery and watch/listen to the Mercs.

Note you will have to hit **F8** two times, at the beginning of every single player map, since Far Cry resets the AI on map load. Also bind 3rd person view to a key other than **F1**, e.g. numerical keypad **enter**. The shot shows Jack riding the truck in 3rd person view. And do not forget to test fly mode (noclip) on **v** or **F4**.



EDITING RESOURCES / ERRORS

Where do I get the latest official Crytek Sandbox Manual and FAQ?

A: There is a dedicated sticky thread at the official Far Cry mapping forums:

<http://ubbxforums.ubi.com/6/ubb.x?a=tpc&s=400102&f=273109392&m=715101892>

Here are direct FTP links to the most recent files:

ftp://ftp.ubisoft.com/games/farcry/manual/Sandbox_Editor_FAQ.zip

ftp://ftp.ubisoft.com/games/farcry/manual/Sandbox_Editor_User_Manual_v1.1.zip

There is also an **in-official FAQ by Swoop & AEon** (the one you are currently reading), with many answers to commonly asked questions. See the official Far Cry mapping forum for the latest version:

<http://ubbxforums.ubi.com/6/ubb.x?a=tpc&s=400102&f=273109392&m=292101473>

Is there an 'official' Far Cry mapping channel on IRC?

A: To get immediate feedback on all your mapping questions visit the Far Cry mapping channel on IRC. To join run e.g. mIRC (<http://www.mirc.com>), select the status window, and type

```
/server -m irc.beyondirc.net -j #farcry-mappers
```

in the console, to join.

Is there a way to search all Simple Entities by name?

A: Yes, use Avidal's Web-Based Object Search Tool that will search through the Simple Entities list by name and tell you which ones contain a specific word e.g. "bridge" in them:

<http://www.s104.com/farcry/search.php>

What to do if a Level no longer Loads?

A: First of all, enable the auto-backup feature under **Tools menu, Preferences, General Settings, Files, Auto Backup**. This should keep your work safe in case of any crashes. Turning on **Backup on Save** should also help.

Should the editor not be able to load your level, you can always delete the 'corrupt' level.pak file, and then try re-loading your .cry level file and then re-generate the terrain textures via **File menu, Generate surface texture**, and **File menu, Export to engine**. Note the level.pak file only contains exported data, so nothing will be lost.

Timur.Davidenko, Sandbox Lead (Crytek) programmer asks folks who still have problems, to write up a **step-by-step bug report**, detailing how to reproduce the error/crash, and to post the info at the mapping forum, to help fix such bugs.

Any real world or other Heightmaps for download?

A: Check out the following sites:

<http://data.geocomm.com/dem/demdownload.html>
<http://www.visualizationsoftware.com/3dem/downloads.html>
<http://www.planetside.co.uk/terrigen/>
<http://www.mclusky.co.uk/firmament/>

Where can I host my Far Cry Level or Mod for Download?

- A: - The modding resource group **Xplaygames.com** will host any Far Cry related files whether they are movies, levels or entire mods. If you want something hosted simply send XPGeeos an email greg@xplaygames.com. He will get you an FTP account, or upload the files himself. Note that this is a **Web-Hosting** offer and not an offer for free upload/download space.
- **hosting-4you.com** (t4lkster5) also offers free hosting of levels and mods, with download speeds of about 60-80 kbps. Just send him an email: talkster5@hosting-4you.com
 - <http://www.farcryarena.com> for direct map hosting.
 - <http://www.farcryhq.com> for direct map hosting.

*Where can I get free image hosting for Level Shots?

- A: Try <http://www.uploadit.org> or <http://www.iownjoo.com> or visit the FarSpore.com Gallery at <http://www.farspore.com/modules.php?name=coppermine> to create your own album, upload your pictures, and then link to them.

Xplaygames also lets you upload images at <http://www.forums.xplaygames.com>. Follow these steps:

1. Click the link above, register and log in.
2. Navigate to the **Games, Far Cry forum**.
3. Post a New Topic.
4. When making a new post you will have the option to attach a file.

Are there any Video Tutorials for Sandbox?

- A: Yes, the folks over at **Passion3d.com** have put together 10 (as of 4/30/2004) video tutorials for Sandbox. One of the highlights is a 17 minute tutorial on the use of the CutScene editor in Sandbox. Note: Most of these tutorials are in French. Check out:

http://www.passion3d.com/_new/FarCry/tutoriaux.htm

Where to look up a complete list of Far Cry Console Commands/Vars?

- A: For a comprehensive list of console commands visit:

<http://s88289070.onlinehome.us/games/console.txt>

Also, you can type "`\dumpcommandsvars`" (without the quotes) into the Far Cry console (hit the key left of '1' on your keyboard). This will dump a complete list of commands and variables into a file called "Far Cry\consolecommandsandvars.txt".

Tip: Also read "[How to turn on Developer Mode?](#)".

Photoshop .PGM plug-ins?

- A: You can use Richard Rosenman's Portable Pixmap Importer/Exporter plug-in:

<http://www.pluginworld.com/adobe/photoshop/index.php?editor=498&application=16&plugin=414>

This is a free .PGM format import and export plug-in that works well with the older PhotoShop 6. Note that your image in Photoshop must be converted to RGB mode prior to saving in .PGM format with this plug-in. A more convenient (and just as effective) alternative is to save in 16-bit .RAW, which is natively supported by both Photoshop and Sandbox.

Developer Mode with God Mode and AI Ignore?

A: The Developer Mode can be turned on with FarCry.exe -DEVMODE (Tip: read "[How to turn on Developer Mode?](#)"). On starting Far Cry a script (plain text file) called "Far Cry\DevMode.lua" is loaded. This .lua file lets you code the cheats for the game. AEon has cleaned up the default file and added quite a few nice additions:

Key	Effect
---	-----
I	Give fav. weapons (RL, Sniper, OICW, Machete), Goggles, Light & Heatvision
P	All weapons
O	999 ammunition for that weapon and weapon mode
K	Increase walk/run speed
L	Decrease walk/run speed (Less)
N	Return to default speed (Normal)
V	Toggle noclip = fly mode (same as F4)
BS	Toggle god mode (invincibility on Backspace)
F1	Toggle display info (i.e. FPS, Polygon counts , etc.), saves relocate position for screenshot mode
F2	Move to next checkpoint
F3	Spawn point
F4	Toggle noclip
F5	(Save Game (any time as it seems).) NO WORKIE
F6	Show Debugger (UNTESTED)
F7	Toggle AI: Information (paths, nodes...)
F8	Toggle AI: Bots ignore player and sound perception
F9	(Load Game) NO WORKIE
F10	Old: Toggle screenshot mode (Turns off HUD, Toggles AI)
F11	New: Toggle screenshot mode (Turns off HUD, does NOT toggle AI)

Download AEon's edited DevMode.lua from:

http://www.planetquake.com/aeons/tmp/farcry/AEons_DevMode_lua.zip
(Disclaimer: This edited DevMode.lua file is provided as is, use at your own risk!)

Installation: Backup the original "Far Cry\DevMode.lua" by renaming it "Far Cry\DevMode-org.lua", then unzip and copy the downloaded file into the main "Far Cry\" folder.

Usage: Start the game with the -DEVMODE command line parameter. Then, press one of the above shortcut keys during game play to activate the corresponding cheat function.

Note: In-game you may have already bound some of the above keys, to make the DevMode shortcuts work you may have to delete the in-game bindings first.

Tip: For a bit of fun also read "[On Photo-Safari in Far Cry, thanks to DevMode?](#)".

Dedicated Far Cry Sites?

A: **Far Cry Canada Community** (<http://www.farcry.ca>), will feature Mods and Maps. "Mappers: submit your work to our download database please!"

*Any Far Cry related Fonts out there?

A: There is a really nice Far Cry true-type font by Gumby. For the latest version visit his site at:

<http://cpgraphx.com/fcfont.html>



*Error 'C3DEngine::MakeSectorLightMap: Requested image size is...'?

A: If you keep getting the Sandbox error message "C3DEngine::MakeSectorLightMap: Requested image size is bigger than size of current renderer window. This problem will be fixed in future releases." and the brushes end up not casting any shadows. How to fix this?

There appears to be a maximum size for a given map's surface texture, based on its physical dimensions. The surface texture dimensions can be up to **4** times larger than your current map. To clarify:

A map with heightmap dimensions of 128x128(pixel), at 4 Meter Per Unit, has a physical size of 512x512 meters (=units). The largest Surface Texture you can generate, therefore, will be 2048x2048. Anything larger will result in the above error. As with almost anything in life, there are a couple of caveats:

1. When generating surface textures at the maximum size for your map, you will need to maximize the Perspective Viewport (double-click the title bar or click the square icon at the top right of the Viewport). Failing to do so will result in the above error (oddly enough, resizing the Viewport to the same dimensions will not work; the Viewport must be maximized). At lower-than-maximum resolutions, this is not necessary.
2. Currently it does not seem possible to generate surface textures larger than 4096x4096 (attempting so results in a "Failed to allocate xxx memory" error). The theory is that the engine uses your video card's RAM to generate and store the surface textures prior to compressing them. 8192x8192 (which is the next larger texture size) would take up 256MB of RAM, meaning a 256MB video card would have to be entirely idle in order to store the texture (which is obviously not possible). The approach of 512MB video cards may alleviate this, though the gain in image quality is questionable, in my opinion (since detail textures are responsible for the bulk of the aesthetics work).

Note: Bear in mind that testing led to the above findings, while exhaustive, were only tested on a system with a 128MB video card. Thus, the question of whether or not the limits posed above are Video RAM-dependent still needs to be proven beyond a doubt. (LoTekK)

APPENDIX


To-do List

- Better Organize questions into groups (will be done for the Far Cry Wiki).
- Add reference to my FAQ walkthrough test map.
- Add more Q/As...

Disclaimer

This FAQ is provided as is, use at your own risk.

History

- v2.18 Added **48** new Q/As, plus **16** updated/corrected old Q/As. Any new content since the last public release is marked with a  star. Added coloring to the FAQ, should make it easier to read the Q/As: Colors for **Keyboard shortcuts** (Ctrl-Alt-S, "red"), **paths to commands** (Ctrl-Alt-A, "light orange"), **commands** (Ctrl-Alt-D "light blue"), **arguments** (Ctrl-Alt-W "green"). Changed thousands of small design and formatting issues, removed all ' related shortcuts, like "don't", changed to "do not" etc., added new intro paragraphs, added a 'color' Legend paragraph. Special on Light & Shadows by aarbro added (+8 Q/As).
- v1.67 Added **23** new Q/As, plus **6** updated/corrected old Q/As. Made the main Answer font only 8 pt large, to reduce the number of pages in the FAQ. All paths, web links, console commands, typed info is now shown in `Courier New`, to improve readability.
- v1.44 Added **34** new Q/As, plus **4** updated/corrected old Q/As. Removed the "Still to be Edited" section, it was too ugly ☹. Added hyperlinks to let you quickly jump to other content related Q/As. Made TOC font size more compact, improves overview. Thanks go to le Yo, for sending in 5 new Q/As via email. Changed style and size of question font should be easier to read now.
- v1.10+Fixed layout page alignment.
- v1.10 Added 16 more Q/As.
- v0.93 Style improved, layout improved, logo added, images/icons added.
- v0.92i Table of Contents added, changed style a bit, added page numbers,
- v0.92 added more than 20 new Q/As, every Q/A was edited for clarity and correctness, and tested in Sandbox. Introduced consistent naming conventions for menu calls etc. Added more empty lines, to make things easier to read.