



DOOM HAVEN



bbcast



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AMMO	HEALTH	TOOL	ARMOR	DIS	400
				PAG	2423
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4.11.2021 Doom-Modding Workshop Led by Eben Kling & Aude Jomini (FEED)

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TWITCH link: <https://www.twitch.tv/audehelene>

When DOOM was created and released in 1993 its creators were strong proponents of copyleft and free remix culture. A year later the first shareware level editing and game modding software was released. The beauty of Doom is its continued accessibility, the speed of the game and its thriving community of sharing knowledge online. It is still fast and fun, with instant multi-player potential, and we still love to play. With recent improvements through ZDoom, higher resolution images allow improved possibilities for creative storytelling. We want to encourage other artists to make worlds in it too.

About us, and why Doom?

We are not experienced coders or software engineers: we are painters and architects. We have been making work with *Doom* during COVID to express our ideas about digital identity, void-like architecture and public space more directly. *Doom* became our site of collaboration for 2020, a complicated love letter to our city. Our game, a conversion mod called *Doom-Haven*, is set in Long Wharf and downtown New Haven. Using *Doom* as a medium has given us a way to travel back in time while thinking through current issues. Endless *Ports of Doom* in multitude testify to the game's enduring wide reach, as well as its code's resiliency and continued accessibility. The code and textures live in ".wad" files, named for "where is all the data?" Wads can be taken apart in their entirety, thus unlocking both the images and code lumps that make up the game. The back-end builder for maps allows free exploration and fast experimentation using the engine, allowing for digital travel into a 27-year repository of other mods. Various enthusiasts have taken up the mantle of upkeep and have sustained the life of this game for the past 27 years, extending the functionality and resolution of its building tools. It's such an awesome world.

Post your experiments... We would love to see them!

- ***On Instagram: tag us... @feedfeednhv, @babycastles***
- ***On Itch.io: link to our resource at <https://audehelene.itch.io/>***



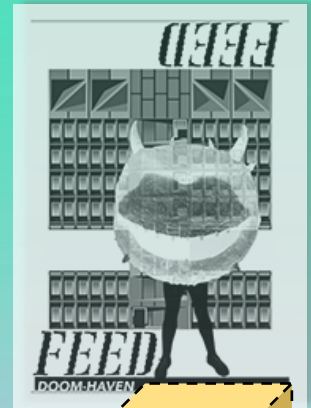
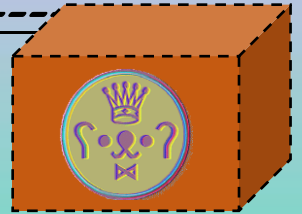
Babycastles Academy is the education arm of Babycastles. Help keep Babycastles thriving during COVID-19! Venmo: @babycastles to make a donation or sign up for a membership at: <https://withfriends.co/babycastles>

LESSON PLAN AND WORKSHOP RESOURCES

Using our own experimental game, Doom-Haven (at <http://www.feedfeednhv.com/digital/index.html>) we will show you how to make a game using Slade and DoomBuilder, including scripting in Decorate and ACS. We will go over basic tips and map making tricks, share our custom sprites and textures as an asset pack, and explain multi-player server setup. We will point you to the Doom community resources which helped us most along the way. The lesson plan and quick-start guide with downloadable resources are outlined below.

WORKSHOP OUTLINE

- | | |
|--|--|
| <p>A. Intro & Workshop setup</p> <ol style="list-style-type: none"> 1. Mac OS notes 2. Quick-Start Resource Links and Contents 3. Software Setup Overview 4. Install Console using DoomHaven Demo 5. Base Game – Doom2 vs Freedoom 6. Setting Up Modding Tools <p>B. Resource Links and Overall Game Structure (SLADE)</p> <p>C. Overall functions and Basic Map Building (GZDoomBuilder)</p> <ol style="list-style-type: none"> a. Bowling Alley Room 1: Basics & Sector building <p>D. Importing Textures and Making Actors (SLADE)</p> <ol style="list-style-type: none"> a. TEXTURES for UDMF b. custom assets and DECORATE c. Interfacing with the map editor <p>E. More details on Map Building (GZDoomBuilder)</p> <ol style="list-style-type: none"> a. Room 2: Texturing and Offsets b. Room 3: Doors, Lifts, 3D Floors & Bridges c. Room 4: Switches, Lighting, Fog, and ACS scripting d. Room 5: The newsstand....Final words <p>F. !Leave you mailing address here to receive our free art newspaper!</p> <p>https://forms.gle/sHmxG1gNo4WjfPPz7</p> | <p>20 Minutes</p> <p>5 Minutes</p> <p>15 Minutes</p> <p>15 Minutes</p> <p>50 Minutes</p> |
|--|--|



STEP BY STEP SETUP & LESSON PLAN

1) ***MAC-OS ONLY USERS: GZDoomBuilder does not have a MacOs compatible release...**



OPTIONS:

- Run Windows using **Parallels**: free 14-day trial <https://www.parallels.com/products/desktop/trial/>
- Run Windows using **BootCamp**: <https://support.apple.com/boot-camp>
- Use **Slade** for map editing-- (a bit more limited functionality, but it works!)

Tutorials and Intro to SLADE Map Editing in UDMF can be found here:

<http://slade.mancubus.net/index.php?page=wiki&wikipage=Tutorials>

2) QUICKSTART RESOURCE:

a. WINDOWS DOWNLOAD:

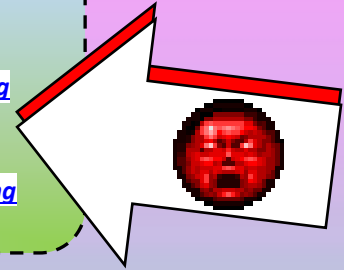
https://drive.google.com/file/d/1iCVWe6zWVB7R_cm2Z5ZIYxygLZ74Jlfm/view?usp=sharing

b. MAC-OS DOWNLOAD*:

<https://drive.google.com/file/d/1kNfQ7GuxdnrzfYd5fKXyNNaip2KfWKBw/view?usp=sharing>

• WHAT IS INCLUDED:

- One click installer for Console + Our demo Game:
 - a. GZDoom
 - b. Free base game:
 - i. FreeDoom2 (modified version)
 - c. Bonus: Doom-Haven Demo game
- Game Editing Tools:
 - a. GZDoomBuilder (Windows Only)
 - b. Slade
- Custom Workshop Assets:
 - a. Workshop Map:
 - i. DoomBowling.wad
 - b. Workshop assets:
 - i. **DoomHaven_Demo01.wad** asset pack includes:
 1. Custom Sprites (FEED)
 2. Custom Textures (FEED w/ Layet Johnson & Phil Lique)
 3. Custom HUD graphics & Tools (FEED)
 4. Custom Sounds (by Nick Grunerud, Nate Lerner)



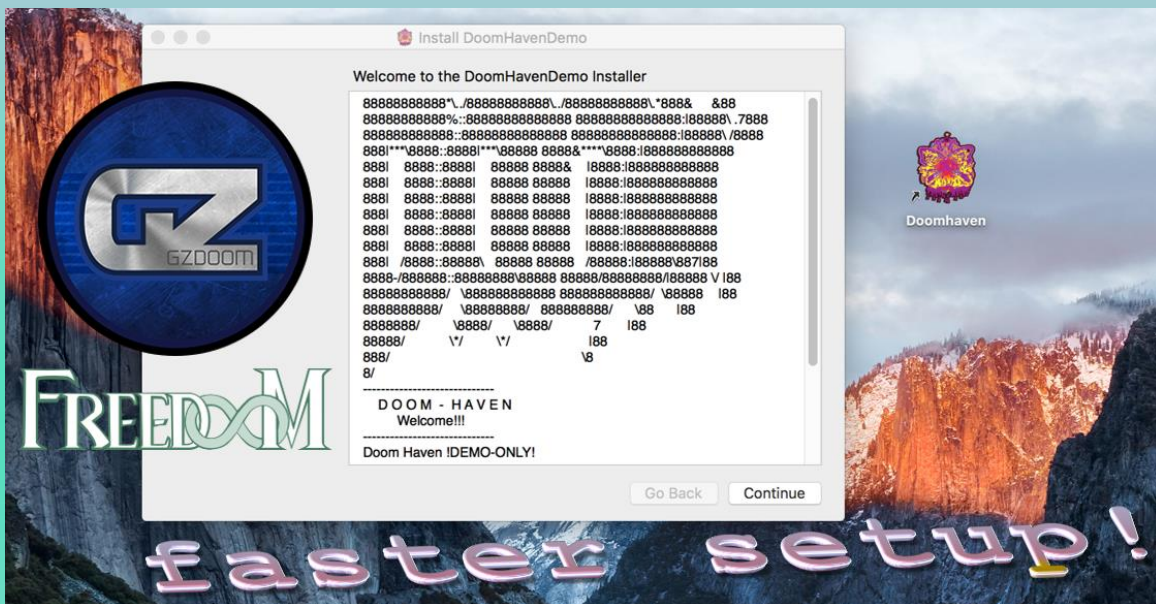
3) SOFTWARE SETUP OVERVIEW

- Download Workshop Starter Pack with all resources
- Use DoomHaven Demo installer for quickest setup
- Installing the Base Game separately
 - Doom2 vs FreeDoom
- GZDoom Console
 - Console Setup
 - Test the game
- Install modding tools
 - Slade
 - GZDoomBuilder
- **Optional:** (if you are new to writing code) Add code editor software:
 - Free Options below, library for ACS here <https://forum.zdoom.org/viewtopic.php?t=46674>
 1. Notepad++ (PC) <https://notepad-plus-plus.org/downloads/>
 2. Brackets (for Mac) <http://brackets.io/>

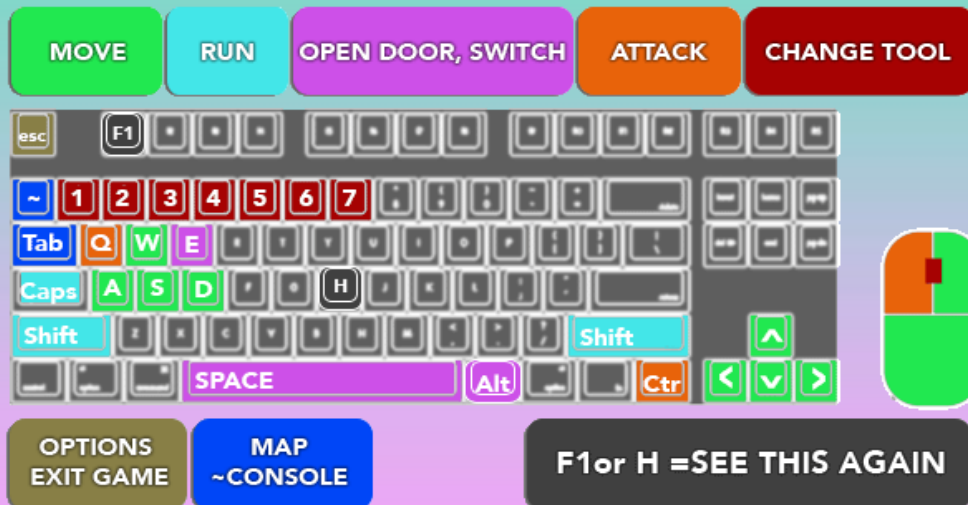


4) DOOM HAVEN DEMO = ONE CLICK CONSOLE INSTALL

- Use our **DoomHaven Demo installer** for a quicker start:
- Double Click and go through the prompts.
 - This will install **GZDoom Console** + a **modified Freedoom base game file**
 - **BONUS:** you also get our DoomHaven demo game.
 - More info about our process and game here:
<http://www.feedfeednhv.com/digital/index.html>
- Test if **GZDOOM** works by double clicking and playing DoomHaven
- This is the default location where console and game resource will install- we will use it later:
C:\Program Files (x86)\DoomHaven_Demo\Support_Files
- Issues: more info on install here: <http://www.feedfeednhv.com/digital/demo01.html>



GZDOOM GAME CONTROLS FOR DOOM-HAVEN



5) BASE GAME

- **DOOM2 (Steam or Gog.com):** USE IF YOU PREFER TO WORK WITH THE CLASSIC SPRITES & ASSETS!
 - \$4.99 https://store.steampowered.com/app/2300/DOOM_II/
 - \$9.99 https://www.gog.com/game/doom_ii_final_doom



OR.....

- **FREEDOOM (modified version for this workshop included in starter pack):**
 - Freedom aims to be compatible with most mods so they can be played without the need to use non-free software: it is a free complete replacement base game for Doom.
 - See website: <https://freedom.github.io/index.html>

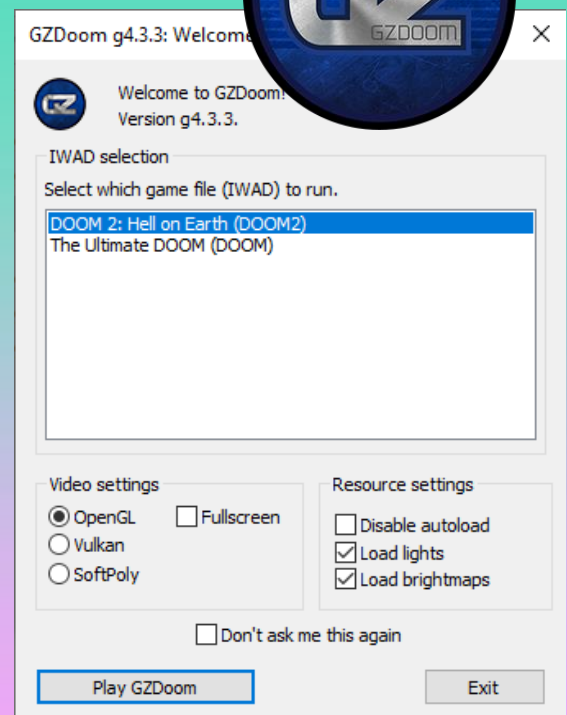


6) GZDOOM CONSOLE SETUP

- **Only the first time:**
 - This console will ask where the base game, or "iwad" is located.
 - Navigate either to Doom2 or Freedom.
- If you bought Doom thru Steam, navigate to your Steam Apps at:
 - **C:\Program Files (x86)\Steam\steamapps\common\Doom 2\base\doom2.wad**
- If you are using our included free base game, navigate to the resource folder and
 - Browse to file called "freedom2.wad":

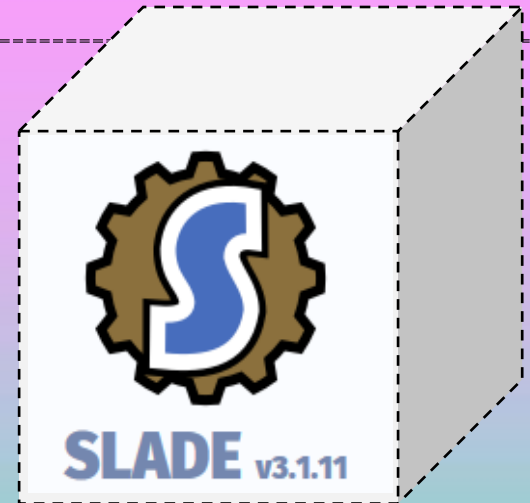
C:\Program Files (x86)\DoomHaven_Demo\Support_Files

- Turn off "Fullscreen" to avoid issues.
- Latest Builds and dev team info: <https://zdoom.org/downloads>



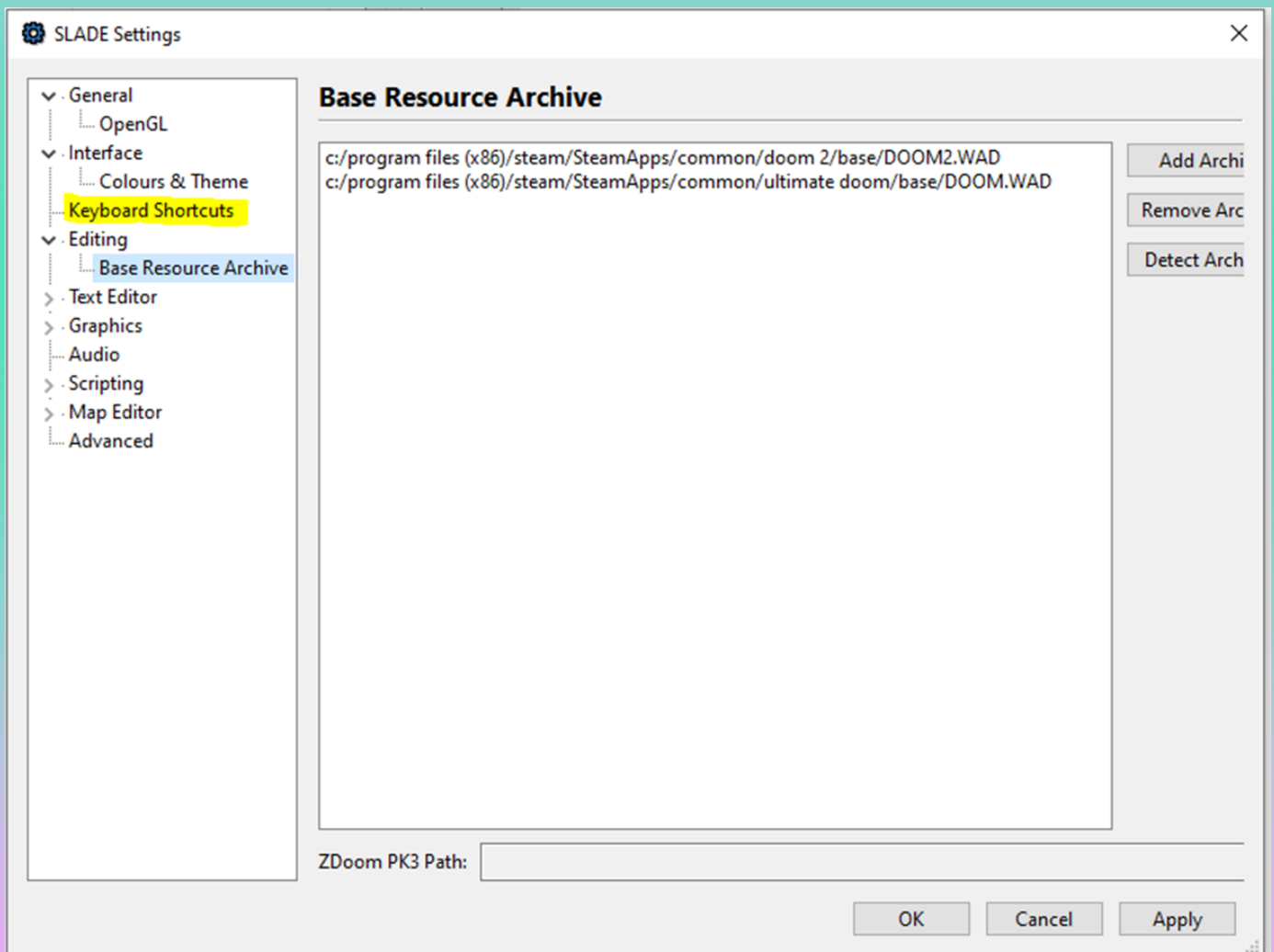
7) SETTING UP MODDING TOOLS:

- **SLADE SETUP**
- Included in starter pack, or at <https://slade.mancubus.net/index.php?page=downloads>
- Run this software in Admin mode to avoid issues.
- Only the first time:
 - Tell the software where the base game, or "iwad" is located in Settings.



C:\Program Files (x86)\DoomHaven_Demo\Support_Files

- You can use this software to edit Maps on MacOS.
- Open any WAD or PK3 mod you find on the web,
- including the base doom2.wad: Exports any assets as PNGs and sounds as WAV.



- **GZDOOMBUILDER SETUP**

- **Included in the resource.**

For latest builds & dev team info:

<https://devbuilds.drdteam.org/doombuilder2-gzdb/>

- **Install both GZDoomBuilder and GZDB Prerequisites.**

- *This may require Windows restart*

- Open GZDoomBuilder as Administrator

- NAVIGATE TO: Tools\Game Configurations**

- If you bought Doom thru Steam, browse to your Steam Apps--likely at:

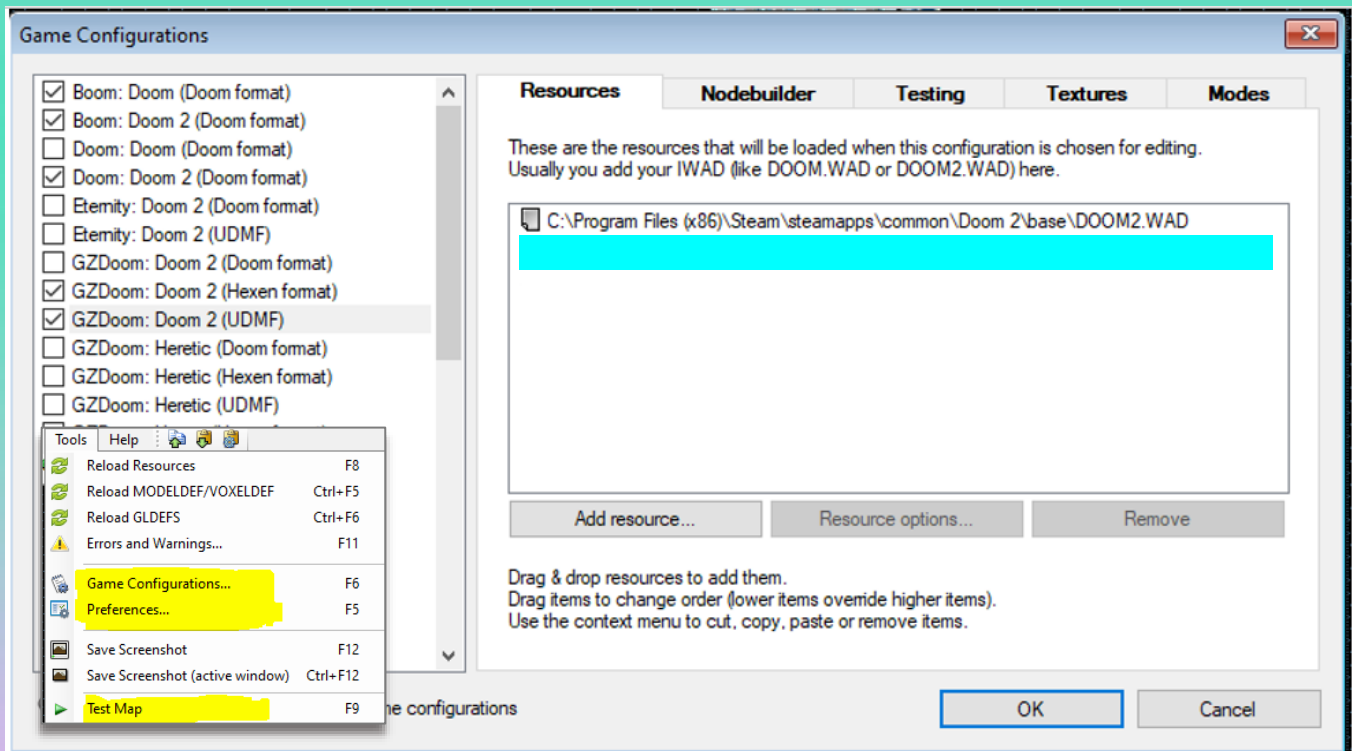
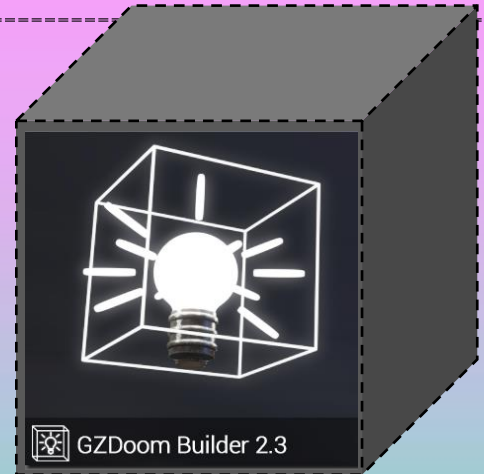
C:\Program Files (x86)\Steam\steamapps\common\Doom 2\base\doom2.wad

- If you are using our included **free** base game, browse to this folder again

C:\Program Files (x86)\DoomHaven_Demo\Support_Files

- Add "freedom2.wad"**. Add this as your base resource if you don't have real Doom from Steam.

- Add "DOOMHAVEN_DEMO01.wad"**. These are our combined custom assets, which we will be using to build everything. Or you can use **original doom items** instead, if you prefer.



- In "**NodeBuilder**" settings, Use **ZDBSP – UDMF Normal**

- In "**Testing**" settings, Navigate to where you installed **GZDoom**, likely at

C:\Program Files (x86)\GZDoom\gzdoom-4-3-3-Windows-64bit\gzdoom.exe

- Check out "**Controls**" in settings to see what all the **HOT-KEYS** are. See P13 of this PDF.

8) LET'S BOWL!

NOW FULLY SETUP FOR BUILDING AND TESTING!



Follow along with us as go over how to make new assets and maps.



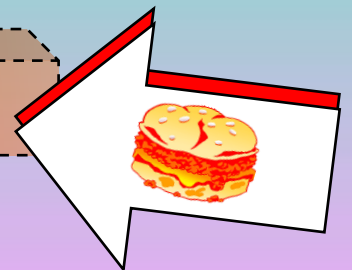
Open the resources below on the web to look up script functions as you go.

9) SCRIPTING AND CODE RESOURCES

https://zdoom.org/wiki/Main_Page

See appendix PDFs: list of ACS functions, action specials, and decorate classes.

- ACS
 - <https://zdoom.org/wiki/ACS>
- DECORATE
 - <https://zdoom.org/wiki/DECORATE>



ADDITIONAL RESOURCES

SINGLE-PLAYER MULTI-MOD CUSTOM SETUP:

- **ZDL with GZDoom** : Use ZDL to setup multi-wad sessions and save custom settings

<https://zdoom.org/wiki/ZDL>



MULTI-PLAYER SETUP:

- **Zandronum Console**: best console for multi-player server games. Test your mod first!*
- **DoomSeeker**: browser for accessing servers to run Zandronum online games

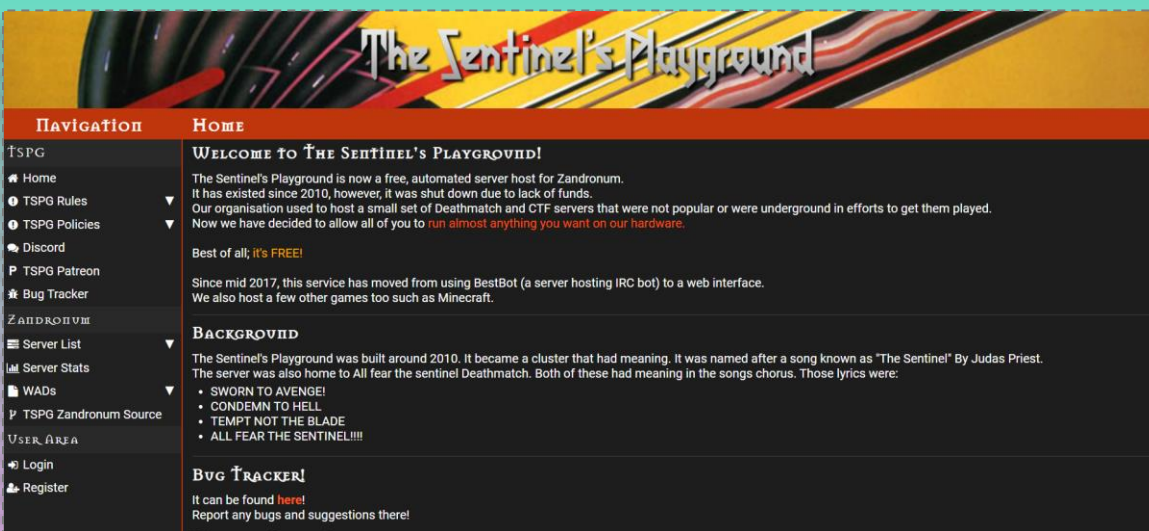
<https://zandronum.com/>



FREE SERVER HOSTING FOR MULTIPLAYER:

The Sentinel's Playground: Free server setup for zandronum-compatible mods

<https://allfearthesentinel.net/>

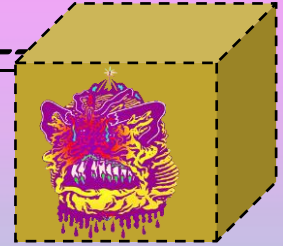


***Warning**: Some GZDoom features are not supported on Zandronum. Slopes and very high resolution UDMF textures can cause issues and must sometime be coded differently. Some code needs to be adjusted.

COMMUNITY & LEARNING

Most useful and relevant websites:

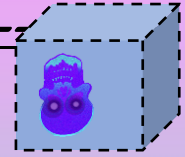
- Zdoom FORUM!
 - Ask any question....chances are, it's already answered <https://forum.zdoom.org/>
- DoomWiki:
 - https://en.wikipedia.org/wiki/Id_Tech
 - https://zdoom.org/wiki/Main_Page
 - <https://zdoom.org/wiki/ACS>
- ModDB: Find any mod to learn from <https://www.moddb.com/>
- DoomWorld: <https://www.doomworld.com/>



Some of our favorite resources:

- Decino's YouTube Channel <https://www.youtube.com/channel/UCJ8V9aiz50m6NVn0ix5v8RQ>
Our favorite resource for how stuff works in Doom, and a showcase for other mods.
- Chubzdoomer's YouTube Tutorials <https://www.youtube.com/playlist?list=PLCE835098C82D8F24>
- LazyGamer: great GZDoomBuilder Tutorials <https://www.youtube.com/channel/UCt3yHgnR9YIO4qXitX03-FA>
- Realm667: great for free assets, textures, monsters and objects. Also a repository of tutorials. <https://www.realm667.com/index.php/en/>

FANDOM, OTHER MODS



Some great examples other wads:

- **Ancient Aliens:** An entirely new Doom game which still uses all the original sprites.
 - Amazing map designs which feel like classic Doom, with a stunning new soundtrack.
 - Great use of linedefs to make level architecture: See **Map 24, "Culture Shock"**
 - <https://www.doomworld.com/forum/topic/87784-ancient-aliens-final-version-on-idgames/>
- **Adventures of Square:** total replacement i-wad
 - <http://adventuresofsquare.com/>
- **Pirate Doom:** lovingly dressed up demons...
 - <https://www.moddb.com/mods/pirate-doom>
- **Sonic Doom :** different use of the platform
 - <https://www.srb2.org/>
- **Chex Quest:** the first infamous game to be included in a cereal box... It's a terrible mod...and funny.
 - <https://www.moddb.com/games/chex-quest/>
- **Nuts3.wad:** joke wads to crash your RAM are a different genre...
 - <https://www.wad-archive.com/wad/NUTS3-WAD-Triple-the-Nut-Double-the-Mongoose>
- **The Sky May Be:** this is a whole other category of weird...
 - https://doom.fandom.com/wiki/The_Sky_May_Be
- "Top 10" Infamous wads:
 - https://doom.fandom.com/wiki/Top_10_Infamous_WADs
- **DOOMWORLD'S CACOWARDS:**
 - **YEARLY AWARD!!! ENTER YOURS!!!**
 - <https://www.doomworld.com/cacowards/>



SOME GZDOOMBUILDER HOTKEYS



See Settings/Preferences for all Hot-Keys or remapping

Action	Key	Action	Key
Visual 3D Mode	Q	EDIT Panel	Right Button
Toggle selection Highlight	H	Paste Offsets	Shift + V
Toggle Info Panel	~	Paste Texture	M Button
Script Editor	F10	Toggle Visual Vertices	ALT+V
Toggle Grid	ALT + G	Grid Decrease, Increase] [
Toggle Event Lines	I	Deselect All, Select All(toggles)	SHIFT+LEFT Button
Clear Selection	C	Navigate in Visual Mode:	E,S,D,F
Copy Selection, Texture	CTRL + C	Select Similar	ALT+LEFT Button
Map Options	F2	Flip LineDef Direction	F
Select	Left Button	Select Bounding Box (thing)	E
Copy Properties	CTRL + SHIFT + C	Move Thing	Right Button (hold)
Fit To Screen	HOME	Select	

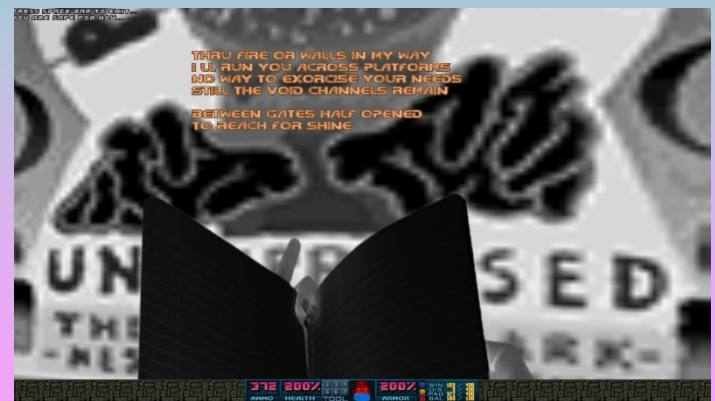
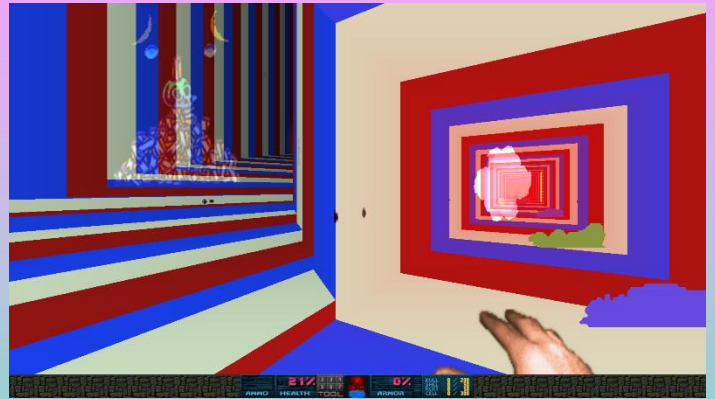
USING INHERITANCE

https://zdoom.org/wiki/Using_inheritance

ID NUMBERS FOR CUSTOM SPRITES

https://zdoom.org/wiki/Magic_numbers

!!!THANK YOU FOR PLAYING!!!



Action specials

#	Name	Category	Script	Line	Engine restriction
0	<i>No special</i>				
1	Polyobj_StartLine	PolyObjects	No script		
2	Polyobj_RotateLeft	PolyObjects			
3	Polyobj_RotateRight	PolyObjects			
4	Polyobj_Move	PolyObjects			
5	Polyobj_ExplicitLine	PolyObjects	No script		
6	Polyobj_MoveTimes8	PolyObjects			
7	Polyobj_DoorSwing	PolyObjects			
8	Polyobj_DoorSlide	PolyObjects			
9	Line_Horizon	Renderer	No script		
10	Door_Close	Doors			
11	Door_Open	Doors			
12	Door_Raise	Doors			
13	Door_LockedRaise	Doors			
14	Door_Animated	Doors			
15	Autosave	Scripting			
16	Transfer_WallLight	Renderer	No script		
17	Thing_Raise	Things			
18	StartConversation	Scripting			
19	Thing_Stop	Things			
20	Floor_LowerByValue	Floors			
21	Floor_LowerToLowest	Floors			
22	Floor_LowerToNearest	Floors			
23	Floor_RaiseByValue	Floors			
24	Floor_RaiseToHighest	Floors			
25	Floor_RaiseToNearest	Floors			
26	Stairs_BuildDown	Stairs			
27	Stairs_BuildUp	Stairs			
28	Floor_RaiseAndCrush	Floors			
29	Pillar_Build	Floors and Ceilings			
30	Pillar_Open	Floors and Ceilings			
31	Stairs_BuildDownSync	Stairs			
32	Stairs_BuildUpSync	Stairs			
33	ForceField	Lines			
34	ClearForceField	Lines			
35	Floor_RaiseByValueTimes8	Floors			
36	Floor_LowerByValueTimes8	Floors			
37	Floor_MoveToValue	Floors			
38	Ceiling_Waggle	Ceilings			
39	Teleport_ZombieChanger	Teleporters			
40	Ceiling_LowerByValue	Ceilings			
41	Ceiling_RaiseByValue	Ceilings			
42	Ceiling_CrushAndRaise	Ceilings			
43	Ceiling_LowerAndCrush	Ceilings			
44	Ceiling_CrushStop	Ceilings			
45	Ceiling_CrushRaiseAndStay	Ceilings			
46	Floor_CrushStop	Floors			
47	Ceiling_MoveToValue	Ceilings			
48	Sector_Attach3dMidtex	Sectors	No script		
49	GlassBreak	Lines			
50	ExtraFloor_LightOnly	Renderer	No script		
51	Sector_SetLink	Sectors			
52	Scroll_Wall	Scrollers			
53	Line_SetTextureOffset	Renderer		No line	
54	Sector_ChangeFlags	Sectors			
55	Line_SetBlocking	Lines			
56	Line_SetTextureScale	Renderer		No line	
57	Sector_SetPortal	Renderer	No script		
58	Sector_CopyScroller	Sectors	No script		
59	Polyobj_OR_MoveToSpot	PolyObjects			
60	Plat_PerpetualRaise	Platforms and Lifts			
61	Plat_Stop	Platforms and Lifts			
62	Plat_DownWaitUpStay	Platforms and Lifts			
63	Plat_DownByValue	Platforms and Lifts			
64	Plat_UpWaitDownStay	Platforms and Lifts			
65	Plat_UpByValue	Platforms and Lifts			
66	Floor_LowerInstant	Floors			
67	Floor_RaiseInstant	Floors			
68	Floor_MoveToValueTimes8	Floors			
69	Ceiling_MoveToValueTimes8	Ceilings			
70	Teleport	Teleporters			
71	Teleport_NoFog	Teleporters			
72	ThrustThing	Things			
73	DamageThing	Things			

Built-in ACS functions

Contents

- Script control**
 - Named scripts
 - Scripting
- Waiting**
- Math**
- Information**
 - UDMF
- Sounds**
- Inventory**
- Display**
- Level alteration**
- Actor control**

Script control

- [Break](#)
- [Continue](#)
- [Restart](#)
- [Suspend](#)
- [Terminate](#)

Named scripts

- [ACS_NamedExecute](#)
- [ACS_NamedSuspend](#)
- [ACS_NamedTerminate](#)
- [ACS_NamedLockedExecute](#)
- [ACS_NamedLockedExecuteDoor](#)
- [ACS_NamedExecuteWithResult](#)
- [ACS_NamedExecuteAlways](#)

Scripting

- [ScriptCall](#)

Waiting

- [ACS_ExecuteWait](#)
- [ACS_NamedExecuteWait](#)
- [Delay](#)
- [NamedScriptWait](#)
- [PolyWait](#)
- [ScriptWait](#)
- [TagWait](#)

Math

- [Ceil](#)
- [cos](#)
- [FixedDiv](#)
- [FixedMul](#)
- [FixedSqrt](#)
- [Floor](#)
- [Random](#)
- [Round](#)
- [sin](#)
- [Sqrt](#)
- [StrLen](#)
- [VectorAngle](#)
- [VectorLength](#)

Information

- [ActivatorTID](#)
- [CanRaiseActor](#)
- [CheckActorCeilingTexture](#)
- [CheckActorClass](#)
- [CheckActorFloorTexture](#)
- [CheckActorProperty](#)
- [CheckActorState](#)
- [CheckClass](#)
- [CheckFlag](#)
- [CheckFont](#)
- [CheckPlayerCamera](#)
- [CheckProximity](#)
- [CheckSight](#)
- [ClassifyActor](#)
- [GameSkill](#)
- [GameType](#)
- [GetActorAngle](#)
- [GetActorCeilingZ](#)
- [GetActorClass](#)
- [GetActorFloorTerrain](#)

#	Name	Category	Script	Line	Engine restriction
74	Teleport_NewMap	Exits			
75	Teleport_EndGame	Exits			
76	TeleportOther	Teleporters			
77	TeleportGroup	Teleporters			
78	TeleportInSector	Teleporters			
79	Thing_SetConversation	Things			
80	ACS_Execute	Scripting			
81	ACS_Suspend	Scripting			
82	ACS_Terminate	Scripting			
83	ACS_LockedExecute	Scripting			
84	ACS_ExecuteWithResult	Scripting			
85	ACS_LockedExecuteDoor	Scripting			
86	Polyobj_MoveToSpot	PolyObjects			
87	Polyobj_Stop	PolyObjects			
88	Polyobj_MoveTo	PolyObjects			
89	Polyobj_OR_MoveTo	PolyObjects			
90	Polyobj_OR_RotateLeft	PolyObjects			
91	Polyobj_OR_RotateRight	PolyObjects			
92	Polyobj_OR_Move	PolyObjects			
93	Polyobj_OR_MoveTimes8	PolyObjects			
94	Pillar_BuildAndCrush	Floors and Ceilings			
95	FloorAndCeiling_LowerByValue	Floors and Ceilings			
96	FloorAndCeiling_RaiseByValue	Floors and Ceilings			
97	Ceiling_LowerAndCrushDist	Ceilings			
98	Sector_SetTranslucent	Renderer			
99	Floor_RaiseAndCrushDoom	Floors			
100	Scroll_Texture_Left	Scrollers	No script		
101	Scroll_Texture_Right	Scrollers	No script		
102	Scroll_Texture_Up	Scrollers	No script		
103	Scroll_Texture_Down	Scrollers	No script		
104	Ceiling_CrushAndRaiseSilentDist	Ceilings			
105	Door_WaitRaise	Doors			
106	Door_WaitClose	Doors			
107	Line_SetPortalTarget	Lines			
109	Light_ForceLightning	Lighting			
110	Light_RaiseByValue	Lighting			
111	Light_LowerByValue	Lighting			
112	Light_ChangeToValue	Lighting			
113	Light_Fade	Lighting			
114	Light_Glow	Lighting			
115	Light_Flicker	Lighting			
116	Light_Strobe	Lighting			
117	Light_Stop	Lighting			
118	Plane_Copy	Sectors	No script		
119	Thing_Damage	Things			
120	Radius_Quake	Scripting			
121	Line_SetIdentification	Lines	No script		
125	Thing_Move	Things			
127	Thing_SetSpecial	Things			
128	ThrustThingZ	Things			
129	UsePuzzleItem	Scripting	No script		
130	Thing_Activate	Things			
131	Thing_Deactivate	Things			
132	Thing_Remove	Things			
133	Thing_Destroy	Things			
134	Thing_Projectile	Things			
135	Thing_Spawn	Things			
136	Thing_ProjectileGravity	Things			
137	Thing_SpawnNoFog	Things			
138	Floor_Waggle	Floors			
139	Thing_SpawnFacing	Things			
140	Sector_ChangeSound	Sectors			
145	Player_SetTeam	Scripting			 (Skulltag only: not supported by ZDoom)
152	Team_Score	Scripting			 (Skulltag only: not supported by ZDoom)
153	Team_GivePoints	Scripting			 (Skulltag only: not supported by ZDoom)
154	Teleport_NoStop	Teleporters			
156	Line_SetPortal	Lines			
157	SetGlobalFogParameter	Renderer			 (GZDoom only: not supported by ZDoom)
158	FS_Execute	Scripting			
159	Sector_SetPlaneReflection	Renderer			 (OpenGL only: not supported by ZDoom)
160	Sector_Set3dFloor	Sectors	No script		
161	Sector_SetContents	Sectors	No script		
168	Ceiling_CrushAndRaiseDist	Ceilings			

- [GetActorFloorTexture](#)
- [GetActorFloorZ](#)
- [GetActorLightLevel](#)
- [GetActorPitch](#)
- [GetActorPowerupTics](#)
- [GetActorProperty](#)
- [GetActorRoll](#)
- [GetActorVelX](#)
- [GetActorVelY](#)
- [GetActorVelZ](#)
- [GetActorViewHeight](#)
- [GetActorX](#)
- [GetActorY](#)
- [GetActorZ](#)
- [GetAirSupply](#)
- [GetAmmoCapacity](#)
- [GetArmorInfo](#)
- [GetArmorType](#)
- [GetChar](#)
- [GetCVar](#)
- [GetCVarString](#)
- [GetLevellInfo](#)
- [GetLineActivation](#)
- [GetLineRowOffset](#)
- [GetLineX](#)
- [GetLineY](#)
- [GetPlayerInfo](#)
- [GetPlayerInput](#)
- [GetPolyobjX](#)
- [GetPolyobjY](#)
- [GetScreenHeight](#)
- [GetScreenWidth](#)
- [GetSectorCeilingZ](#)
- [GetSectorFloorZ](#)
- [GetSectorLightLevel](#)
- [GetSigilPieces](#)
- [GetUserArray](#)
- [GetUserCVar](#)
- [GetUserCVarString](#)
- [GetUserVariable](#)
- [GetWeapon](#)
- [IsPointerEqual](#)
- [IsTIDUsed](#)
- [LineSide](#)
- [PlayerClass](#)
- [PlayerCount](#)
- [PlayerFrag](#)
- [PlayerInGame](#)
- [PlayerIsBot](#)
- [PlayerNumber](#)
- [SetResultValue](#)
- [StrArg](#)
- [StrCmp](#)
- [StrIcmp](#)
- [ThingCount](#)
- [ThingCountName](#)
- [ThingCountNameSector](#)
- [ThingCountSector](#)
- [Timer](#)
- [UniqueTID](#)

UDMF

- [GetLineUDMFInt](#)
- [GetLineUDMFFixed](#)
- [GetSectorUDMFInt](#)
- [GetSectorUDMFFixed](#)
- [GetSideUDMFInt](#)
- [GetSideUDMFFixed](#)
- [GetThingUDMFInt](#)
- [GetThingUDMFFixed](#)

Sounds

- [ActivatorSound](#)
- [AmbientSound](#)
- [LocalAmbientSound](#)
- [LocalSetMusic](#)
- [PlayActorSound](#)
- [PlaySound](#)
- [SectorSound](#)
- [SetMusic](#)
- [SetMusicVolume](#)
- [SoundSequence](#)
- [SoundSequenceOnActor](#)
- [SoundSequenceOnSector](#)
- [SoundSequenceOnPolyobj](#)
- [SoundVolume](#)
- [StopSound](#)
- [ThingSound](#)

Inventory

- [CheckActorInventory](#)
- [CheckInventory](#)
- [CheckWeapon](#)
- [ClearActorInventory](#)
- [ClearInventory](#)
- [DropInventory](#)
- [DropItem](#)
- [GetMaxInventory](#)
- [GiveActorInventory](#)



#	Name	Category	Script	Line	Engine restriction
169	Generic_Crusher2	Ceilings			
170	Sector_SetCeilingScale2	Sectors		No line	
171	Sector_SetFloorScale2	Sectors		No line	
172	Plat_UpNearestWaitDownStay	Platforms and Lifts			
173	NoiseAlert	Scripting			
174	SendToCommunicator	Scripting			
175	Thing_ProjectileIntercept	Things			
176	Thing_ChangeTID	Things			
177	Thing_Hate	Things			
178	Thing_ProjectileAimed	Things			
179	ChangeSkill	Scripting			
180	Thing_SetTranslation	Things			
181	Plane_Align	Sectors	No script		
182	Line_Mirror	Renderer	No script		
183	Line_AlignCeiling	Renderer		No line	
184	Line_AlignFloor	Renderer		No line	
185	Sector_SetRotation	Sectors			
186	Sector_SetCeilingPanning	Sectors			
187	Sector_SetFloorPanning	Sectors			
188	Sector_SetCeilingScale	Sectors			
189	Sector_SetFloorScale	Sectors			
190	Static_Init	Sectors	No script		
191	SetPlayerProperty	Scripting			
192	Ceiling_LowerToHighestFloor	Ceilings			
193	Ceiling_LowerInstant	Ceilings			
194	Ceiling_RaiseInstant	Ceilings			
195	Ceiling_CrushRaiseAndStayA	Ceilings			
196	Ceiling_CrushAndRaiseA	Ceilings			
197	Ceiling_CrushAndRaiseSilentA	Ceilings			
198	Ceiling_RaiseByValueTimes8	Ceilings			
199	Ceiling_LowerByValueTimes8	Ceilings			
200	Generic_Floor	Floors			
201	Generic_Ceiling	Ceilings			
202	Generic_Door	Doors			
203	Generic_Lift	Platforms and Lifts			
204	Generic_Stairs	Stairs			
205	Generic_Crusher	Ceilings			
206	Plat_DownWaitUpStayLip	Platforms and Lifts			
207	Plat_PerpetualRaiseLip	Platforms and Lifts			
208	TranslucentLine	Renderer			
209	Transfer_Heights	Renderer	No script		
210	Transfer_FloorLight	Renderer	No script		
211	Transfer_CeilingLight	Renderer	No script		
212	Sector_SetColor	Sectors			
213	Sector_SetFade	Sectors			
214	Sector_SetDamage	Sectors			
215	Teleport_Line	Teleporters	No script		
216	Sector_SetGravity	Sectors			
217	Stairs_BuildUpDoom	Stairs			
218	Sector_SetWind	Sectors			
219	Sector_SetFriction	Sectors			
220	Sector_SetCurrent	Sectors			
221	Scroll_Texture_Both	Scrollers			
222	Scroll_Texture_Model	Scrollers	No script		
223	Scroll_Floor	Scrollers			
224	Scroll_Ceiling	Scrollers			
225	Scroll_Texture_Offsets	Scrollers	No script		
226	ACS_ExecuteAlways	Scripting			
227	PointPush_SetForce	Sectors	No script		
228	Plat_RaiseAndStayTx0	Platforms and Lifts			
229	Thing_SetGoal	Things			
230	Plat_UpByValueStayTx	Platforms and Lifts			
231	Plat_ToggleCeiling	Platforms and Lifts			
232	Light_StrobeDoom	Lighting			
233	Light_MinNeighbor	Lighting			
234	Light_MaxNeighbor	Lighting			
235	Floor_TransferTrigger	Floors			
236	Floor_TransferNumeric	Floors			
237	ChangeCamera	Scripting			
238	Floor_RaiseToLowestCeiling	Floors			
239	Floor_RaiseByValueTxTy	Floors			
240	Floor_RaiseByTexture	Floors			
241	Floor_LowerToLowestTxTy	Floors			
242	Floor_LowerToHighest	Floors			

- GiveInventory
- SetWeapon
- TakeActorInventory
- TakeInventory
- UseActorInventory
- UseInventory


Display

- HudMessage
- HudMessageBold
- Log
- Print
- PrintBold
- SetFont
- SetHudClipRect
- SetHudSize
- SetHudWrapWidth
- SetMugShotState
- StrLeft
- StrMid
- StrParam
- StrRight
- StrCpy

Level alteration

- ChangeCeiling
- ChangeFloor
- ChangeLevel
- ChangeSky
- ClearLineSpecial
- QuakeEx
- Radius_Quake2
- ReplaceTextures
- SectorDamage
- SetAirControl
- SetCameraToTexture
- SetCeilingTrigger
- SetCVar
- SetCVarString
- SetFloorTrigger
- SetFogDensity  (GZDoom only: not supported by ZDoom)
- SetGravity
- SetLineActivation
- SetLineBlocking
- SetLineMonsterBlocking
- SetLineSpecial
- SetLineTexture
- SetSectorDamage
- SetSectorGlow  (GZDoom only: not supported by ZDoom)
- SetSectorTerrain
- SetSkyScrollSpeed
- SetUserCVar
- SetUserCVarString
- SpawnParticle

Actor control

- CancelFade
- ChangeActorAngle
- ChangeActorPitch
- ChangeActorRoll  (GZDoom only: not supported by ZDoom)
- CreateTranslation
- DamageActor
- FadeRange
- FadeTo
- LineAttack
- MorphActor
- PickActor
- SetActivator
- SetActivatorToTarget
- SetActorAngle
- SetActorFlag
- SetActorPitch
- SetActorPosition
- SetActorProperty
- SetActorRoll  (GZDoom only: not supported by ZDoom)
- SetActorState
- SetActorTeleFog
- SetActorVelocity
- SetAirSupply
- SetAmmoCapacity
- SetMarineSprite
- SetMarineWeapon
- SetPointer
- SetSubtitleNumber (development version b7bbfd4 (<http://zdoom.org/Changelog/b7bbfd4/files>) only)
- SetThingSpecial
- SetTranslation
- SetUserArray
- SetUserVariable
- Spawn
- SpawnDecal
- SpawnForced
- SpawnProjectile
- SpawnSpot
- SpawnSpotFacing
- SpawnSpotFacingForced
- SpawnSpotForced

#	Name	Category	Script	Line	Engine restriction
243	<u>Exit_Normal</u>	Exits			
244	<u>Exit_Secret</u>	Exits			
245	<u>Elevator_RaiseToNearest</u>	Floors and Ceilings			
246	<u>Elevator_MoveToFloor</u>	Floors and Ceilings			
247	<u>Elevator_LowerToNearest</u>	Floors and Ceilings			
248	<u>HealThing</u>	Things			
249	<u>Door_CloseWaitOpen</u>	Doors			
250	<u>Floor_Donut</u>	Floors			
251	<u>FloorAndCeiling_LowerRaise</u>	Floors and Ceilings			
252	<u>Ceiling_RaiseToNearest</u>	Ceilings			
253	<u>Ceiling_LowerToLowest</u>	Ceilings			
254	<u>Ceiling_LowerToFloor</u>	Ceilings			
255	<u>Ceiling_CrushRaiseAndStaySilA</u>	Ceilings			
256	<u>Floor_LowerToHighestEE</u>	Floors			
257	<u>Floor_RaiseToLowest</u>	Floors			
258	<u>Floor_LowerToLowestCeiling</u>	Floors			
259	<u>Floor_RaiseToCeiling</u>	Floors			
260	<u>Floor_ToCeilingInstant</u>	Floors			
261	<u>Floor_LowerByTexture</u>	Floors			
262	<u>Ceiling_RaiseToHighest</u>	Ceilings			
263	<u>Ceiling_ToHighestInstant</u>	Ceilings			
264	<u>Ceiling_LowerToNearest</u>	Ceilings			
265	<u>Ceiling_RaiseToLowest</u>	Ceilings			
266	<u>Ceiling_RaiseToHighestFloor</u>	Ceilings			
267	<u>Ceiling_ToFloorInstant</u>	Ceilings			
268	<u>Ceiling_RaiseByTexture</u>	Ceilings			
269	<u>Ceiling_LowerByTexture</u>	Ceilings			
270	<u>Stairs_BuildDownDoom</u>	Stairs			
271	<u>Stairs_BuildUpDoomSync</u>	Stairs			
272	<u>Stairs_BuildDownDoomSync</u>	Stairs			
273	<u>Stairs_BuildUpDoomCrush</u>	Stairs			
274	<u>Door_AnimatedClose</u>	Doors			
275	<u>Floor_Stop</u>	Floors			
276	<u>Ceiling_Stop</u>	Ceilings			
277	<u>Sector_SetFloorGlow</u>	Sectors			
278	<u>Sector_SetCeilingGlow</u>	Sectors			
279	<u>Floor_MoveToValueAndCrush</u>	Floors			
280	<u>Ceiling_MoveToValueAndCrush</u>	Ceilings			
281	<u>Line_SetAutomapFlags</u>	Lines			
282	<u>Line_SetAutomapStyle</u>	Lines			

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Classes:Doom

This is a list of the default classes available in Doom 1 and 2. For classes from other games, see the main article.

Contents

Characters

- Monsters
- Stealth Monsters
- The Marines

Explosives

Pickups

- Weapons
- Ammo
- Powerups
- Keys

Props

- Tech
- Hell
- Corpse
- Gore

Misc

Characters

Monsters

```
Arachnotron // Arachnotron
Archvile // Arch-vile
BaronOfHell // Baron of Hell
HellKnight // Hell knight
Cacodemon // Cacodemon
Cyberdemon // Cyberdemon
Demon // Demon
Spectre // Partially invisible demon
ChaingunGuy // Former human commando
DoomImp // Imp
Fatso // Mancubus
LostSoul // Lost soul
PainElemental // Pain elemental
Revenant // Revenant
ShotgunGuy // Former human sergeant
SpiderMastermind // Spider mastermind
WolfensteinSS // Wolfenstein soldier
ZombieMan // Former human trooper
```

Stealth Monsters

```
StealthArachnotron // Stealth Arachnotron
StealthArchvile // Stealth Archvile
StealthBaron // Stealth Baron
StealthHellKnight // Stealth Hell Knight
StealthCacodemon // Stealth Cacodemon
StealthDemon // Stealth Demon
StealthChaingunGuy // Stealth Chaingunner
StealthDoomImp // Stealth Imp(Doom)
StealthFatso // Stealth Mancubus
StealthRevenant // Stealth Revenant
StealthShotgunGuy // Stealth Sergeant
StealthZombieMan // Stealth Trooper
```

The Marines

```
MarineBFG // BFG Marine
MarineBerserk // Marine (Powerful Punch)
MarineChaingun // Chaingun Marine
MarineChainsaw // Chainsaw Marine
MarineFist // Marine (Punches)
MarinePistol // Pistol Marine
MarinePlasma // Plasma Gun Marine
MarineRailgun // Railgun Marine
MarineRocket // Rocket Launcher Marine
MarineSSG // Super Shotgun Marine
MarineShotgun // Shotgun Marine
ScriptedMarine // Marine (No Attack)
MBFHelperDog // Marine Best Friend Helper Dog (The dog is not available in programs similar to Zdoom)
```

Explosives

```

ArachnotronPlasma // Arachnotron Plasma Bolt
ArchvileFire // Fire (This shows the fire prior to the attack)
BaronBall // Baron/Hell Knight Fireball
CacodemonBall // Cacodemon Fireball
BFGBall // BFG Plasma Ball
BFGExtra // BFG Hit Animation
BulletPuff // Bullet Puff
DoomImpBall // Imp Fireball(Doom)
FatShot // Mancubus Fireball
PlasmaBall // Blue Plasma Bolt
RevenantTracer // Revenant Missile
RevenantTracerSmoke // Revenant Homing Missile Trail
Rocket // Fired Rocket

```

Pickups

Weapons

```

BFG9000 // BFG 9000
Chaingun // Chaingun
Chainsaw // Chainsaw
Fist // Punch (yes thats right)
Pistol // Pistol
PlasmaRifle // Plasma Gun
RocketLauncher // Rocket Launcher
Shotgun // Shotgun
SuperShotgun // Double-barreled Shotgun

```

Ammo

```

Backpack // Backpack (Increase carrying capacity)
Cell // Cell
CellPack // Cell Pack
Clip // Ammo Clip
ClipBox // Box of Bullets
RocketAmmo // Rocket
RocketBox // Box of Rockets
Shell // 4 Shells
ShellBox // Box of Shells

```

Powerups

```

Allmap // Computer Area Map
ArmorBonus // Armor Helmet
Berserk // Berserk Pack (Full Health+Super Strength)
BlueArmor // Heavy Armor
BlurSphere // Partial Invisibility
GreenArmor // Light Armor
HealthBonus // Health Potion
Infrared // Light-Amp Goggles
InvulnerabilitySphere // Invulnerability
Meditkit // Medikit(+25 Health)
MegaspHERE // MegaspHERE (+200 Health/Armor)
RadSuit // Radiation Suit
Soulsphere // Soul Sphere (+100 Health)
Stimpack // Stimpack(+10 Health)

```

Keys

```

BlueCard // Blue Keycard
BlueSkull // Blue Skull Key
RedCard // Red Keycard
RedSkull // Red Skull Key
YellowCard // Yellow Keycard
YellowSkull // Yellow Skull Key

```

Props

Tech

```

Column // Mini Tech Light
BurningBarrel // Barrel Fire
ExplosiveBarrel // Exploding Barrel(Doom)
TechLamp // Large Tech Lamp
TechLamp2 // Small Tech Lamp
TechPillar // Tech Column

```

Hell

```

BigTree // Big Scorched Tree
BlueTorch // Large Blue Torch
Candelabra // Candelabra
Candlestick // Candle
EvilEye // Floating Eye above Candle
FloatingSkull // Floating Skulls
GreenTorch // Large Green Torch

```



```

HeadCandles // Skulls with Candles
HeadOnAStick // Stick with Impaled Head
HeadsOnAStick // Stick with several Impaled Heads
HeartColumn // Green Pillar with Heart
RedTorch // Large Red Torch
ShortBlueTorch // Small Blue Torch
ShortGreenColumn // Short Green Pillar
ShortGreenTorch // Small Green Torch
ShortRedColumn // Short Red Pillar
ShortRedTorch // Small Red Torch
SkullColumn // Red Pillar with Skull
Stalagmite // Stalagmite (on the ground)
TallGreenColumn // Tall Green Pillar
TallRedColumn // Tall Red Pillar
TorchTree // Small Burned Tree

```

Corpse

```

DeadCacodemon // Cacodemon Corpse
DeadDemon // Demon Corpse
DeadDoomImp // Imp Corpse(Doom)
DeadLostSoul // Lost Soul Corpse (If you give it one)
DeadMarine // Marine Corpse
DeadShotgunGuy // Sergeant Corpse
DeadZombieMan // Trooper Corpse
GibbedMarine // Gibbed Marine Corpse
GibbedMarineExtra // Gibbed Marine Corpse 2

```

Gore

```

BloodyTwitch // Twitching Hanging Body
BrainStem // Brains
ColonGibs // Blood Pool with skin
DeadStick // Dead Impaled Body
Gibs // Crushed Gibs (Placeable in level editor)
HangBNoBrain // Hanging Body (Missing Brain)
HangNoGuts // Hanging Body (Missing Insides)
HangLookingDown // Hanging Torso looking down
HangLookingUp // Hanging Torso looking up
HangNoBrain // Hanging Torso (Missing Brain)
HangSkull // Hanging Torso (Exposed Brain)
LiveStick // Twitching Impaled Body
Meat2 // Hanging Body
Meat3 // Hanging Body with missing leg
Meat4 // Hanging Torso
Meat5 // Hanging Leg
NonsolidMeat2 // Hanging Body (Not Blocking)
NonsolidMeat3 // Hanging Body with missing leg (Not Blocking)
NonsolidMeat4 // Hanging Torso (Not Blocking)
NonsolidMeat5 // Hanging Leg (Not Blocking)
NonsolidTwitch // Twitching Hanging Body (Not Blocking)
SmallBloodPool // Small Blood Pool

```

Misc

```

BossBrain // Romero Head
BossEye // Spawn Cube Shooter
BossTarget // Spawn Cube Landing Spot (Spawn these before you
spawn the shooter or it won't spit cubes!)
SpawnShot // Spawn Cube
SpawnFire // Spawn Cube Teleport Fire
CommanderKeen // Hanging Commander Keen
DoomPlayer // Marine (Player-Controlled)
DoomUnusedStates // A placeholder for some Dehacked-only states

```

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