Object, Executable Files Inspection 🚧

Description	Keystroke	Function	Note
Inspecting Object, Executable and Binary Files 🚧 This page is a placeholder, showing which modes can be activated with PEL. Use **`C-h m`** in those modes to see the bindings.	Emacs does not have explicit support for inspecting the content of object files. • However, the following external packages can be used to inspect the content of some object file formats:		
	• **ELF**	📦 **elf-mode**	☑ **pel-use-elf-mode** set to **t** activates it. 🚧☝ Several forks of the original code exist. Some support customization. • The version currently supported by PEL has some customization under the **elf-mode** customization group. • To customize with PEL, type: **<f11> <f2> g** elf-mode Once I have time I'd like to bring every fork together and provide more information on the various features. That's in my to-do list to update PEL to support the latest.
	• **Intel Hex**	📦 **intel-hex-mode**	☑ **pel-use-intel-hex** set to **t** activates this mode. ☑ **pel-intel-hex-activates-minor-modes** allows specifying other minors modes activated for .hex files.
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elf-mode	Open **ELF** (Executable Linkable File) object files with **elf-mode** activated by **pel-use-elf-mode** user-option. • When the elf-mode is active the following key bindings are available. The buffer opens in the **elf-mode-symbols**, showing the symbols.		
	`A`	(**elf-mode-arch-specific**)	
	`G`	(**elf-mode-section-groups**)	
	`I`	(**elf-mode-histogram**)	
	`S`	(**elf-mode-section-headers**)	Lists the object section headers. • Each section name is a **button.** Typing return on it opens a buffer that dumps the binary content of that section.
	`V`	(**elf-mode-version-info**)	
	`c`	(**elf-mode-archive-index**)	
	`d`	(**elf-mode-dynamic**)	
	`e`	(**elf-mode-headers**)	
	`g`	(**revert-buffer** &optional IGNORE-AUTO NOCONFIRM PRESERVE-MODES)	
	`h`	(**elf-mode-header**)	
	`l`	(**elf-mode-program-headers**)	
	`m`	(**elf-mode-md5sum**)	Show the MD5sum of this object file.
	`n`	(**elf-mode-notes**)	Show the notes found in the object file. Each note is on a line and have the following columns: • Owner, • Data size, • Description, • Build ID
	`q`	(**quit-window** &optional KILL WINDOW)	
	`r`	(**elf-mode-relocs**)	List the relocation sections, the name of the section, number of entries inside each section and the data in the following columns: • Offset • Info • Type: Example: R_X86_64_PLT32 , RX86_64_32S • Symbol's value • Symbol's Name + Addend : Example: "printk - 4"
Show symbols • **Buttons to objdump of functions.**	**`s`**	(**elf-mode-symbols**)	List the symbol table (.symtab) in the object file, which has the following columns: • Index number starting at 0 • Value • Size (in bytes) • Type: NOTYPE | FILE| SECTION | OBJECT | FUNC | … • Bind: LOCAL | GLOBAL • Vis(ibility): • Index: UND | ABS | # • Name : The function names are **buttons**. Typing return on them opens a buffer with the objdump output showing the binary, the assembler code and the original source code and comment.
	`u`	(**elf-mode-unwind**)	Decode unwind sections
	`x`	(**elf-mode-dyn-syms**)	
Show strings extracted from the object file	**`z`**	(**elf-mode-strings**)	Prints the the output of running strings on the object file.
Hexadecimal Editing with nhexl See also: ∑ **Buffers**	📦 The **nhexl-mode** external package used to display and manipulate the content of the current buffer in hexadecimal and manipulate hex dump files. ☑ PEL downloads installs and activates this package when the **pel-use-nhexl** user option is set to **t**. • Use the **`<f11> b <f2>`** key sequence to open the PEL buffer customization buffer to access this user option. Once the hexadecimal mode is on, turn it off by executing the **nhexl-mode** command again. ☝ Good **nhexl-mode** features: • The **nhexl-mode** keeps the undo history when you toggle the nhexl mode. Something that the helx mode does not do. • You can use all of the normal navigation commands. You don't need to use specialized commands. PEL **home** and **end** commands work.		
Toggle buffer between normal and hex display	**`<f11> b x`**	(**nhexl-mode** &optional ARG)	Toggle minor mode to edit files via hex-dump format. 📦 Requires the **nhexl-mode** package ☑ activated when **pel-use-nhexl** user option is **t**.
Activate Hex nibble editing mode	**`<f11> b X`**	(**nhexl-nibble-edit-mode** &optional ARG)	Minor mode to edit the hex nibbles in 'nhexl-mode'. ⚠️Note: only works after nhexl-mode has been activated once. 📦 Requires the **nhexl-mode** package ☑ activated when **pel-use-nhexl** user option is **t**.