

graphviz-dot-mode Manual

edition 0.3.10.a
for graphviz-dot-mode version 0.3.10

graphviz-dot-mode by Pieter Pareit, et al.
manual by Daniel Birket

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This is the `graphviz-dot-mode` *Manual*, edition 0.3.10.a, by Daniel Birket, updated 2 July 2017, which describes how to install and use the Emacs package `graphviz-dot-mode`, version 0.3.10, released 25 May 2015, which was written by and Copyright © 2002-2015 Pieter Pareit, et al. (See <http://ppareit.github.com/graphviz-dot-mode>)

This manual is based upon (and frequently copied verbatim from) the documentation in the `graphviz-dot-mode.el` source code, which begins with:

```
;;; graphviz-dot-mode.el --- Mode for the dot-language used by graphviz (att).

;; Copyright (C) 2002 - 2012 Pieter Pareit <pieter.pareit@gmail.com>

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...

;; Authors: Pieter Pareit <pieter.pareit@gmail.com>
;; Rubens Ramos <rubensr AT users.sourceforge.net>
;; Eric Anderson http://www.ece.cmu.edu/~andersoe/
;; Maintainer: Pieter Pareit <pieter.pareit@gmail.com>
;; Homepage: http://ppareit.github.com/graphviz-dot-mode/
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```

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Graphviz is by AT&T Labs Research. (See <http://graphviz.org>)

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1 Introduction

This manual describes how to install and use **graphviz-dot-mode**, an Emacs package for working with *Graphviz* DOT-format files. The features of this package help you to create `.dot` or `.gv` files containing syntax compatible with the separate *Graphviz* package and use *Graphviz* to convert these files to diagrams.

Graphviz is a set of open source graph visualization tools created by AT&T Labs Research. A *graph* is a way of representing information as a network of connected *nodes* (shapes) and *edges* (lines). *Graphviz* is documented at <http://graphviz.org>.

The powerful text editor, Emacs, was created in 1976 by Richard Stallman. It is highly extensible and has 40 years of other extensions. *GNU Emacs* is documented at <https://www.gnu.org/software/emacs/>. *XEmacs* is documented at <http://www.xemacs.org>.

2 Installing

This chapter describes how to install `graphviz-dot-mode`.

2.1 Recommended Installation

The recommended way to install the package `graphviz-dot-mode` is to use `package.el`, which has been integrated with Emacs since version 24. (It is included in version 23, but must be initialized.)

To install `graphviz-dot-mode`, first add the MELPA Stable archive to the list of archives used by `package.el` (if it is not already there) by adding the following lines to your `.emacs`, `.emacs.d/init.el`, or other Emacs startup file and restarting Emacs (or just evaluate the statements):

```
(require 'package)
(add-to-list 'package-archives
  '("melpa-stable" . "https://stable.melpa.org/packages/"))

(package-initialize)
```

Then, after restarting Emacs (or otherwise evaluating the above statements), type the following command:

M-x package-install RET graphviz-dot-mode RET.

When installed using the package manager this way, `graphviz-dot-mode` will be used automatically for file names ending in either `.dot` or `.gv`.

You may browse the 1500+ other Emacs packages in the MELPA-Stable archive at <http://stable.melpa.org/> or by typing *M-x list-packages RET* (after adding it to your package-archives list, above).

2.2 Manual Installation

You can manually download and install `graphviz-dot-mode`.

First, download `graphviz-dot-mode.el` from:

<http://ppareit.github.com/graphviz-dot-mode>

Then save the file where Emacs can find it in a directory listed in your `load-path` like `/usr/local/share/emacs/site-lisp`.

Then configure `graphviz-dot-mode` to load automatically by adding the following to your `.emacs`, `.emacs.d/init.el`, or other Emacs startup file:

```
(autoload 'graphviz-dot-mode
  "graphviz-dot-mode"
  "Major mode for editing Graphviz DOT files" t)
(add-to-list 'auto-mode-alist '("\\.dot\\'" . graphviz-dot-mode))
(add-to-list 'auto-mode-alist '("\\.gv\\'" . graphviz-dot-mode))
```

3 Using graphviz-dot-mode

This chapter describes how to use `graphviz-dot-mode`.

3.1 Compiling & Viewing

This section describes how to use compile and view functions. See Section 4.1 [Compile & View Variables], page 5.

`C-c p graphviz-dot-preview`

This command shows the output of the current dot file visited by the *Emacs* buffer, provided that *GNU Emacs* or *XEmacs* is running on a graphical display capable of displaying the graphic file output by `dot`.

See `image-file-name-extensions` in *GNU Emacs* or `image-formats-alist` in *XEmacs* to customize the graphic files that can be displayed.

`C-c c compile`

This command compiles the current dot file visited by the *Emacs* buffer. The output file is in the same directory and has the extension determined by the variable `graphviz-dot-preview-extension`.

`C-c v graphviz-dot-view`

This command invokes an external viewer specified by the variable `graphviz-dot-view-command`. If `graphviz-dot-view-edit-command` is `t`, you will be prompted to enter a new `graphviz-dot-view-command`. If `graphviz-dot-save-before-view` is `t`, the buffer is saved before the external viewer command is invoked.

(See <http://graphviz.org/content/resources> for a list of *Graphviz* viewers and editors.)

3.2 Editing

This section describes how to edit with `graphviz-dot-mode`. See Section 4.2 [Editing Variables], page 6.

`C-M-q graphviz-dot-indent-graph`

This command will indent the graph, digraph, or subgraph at point and any subgraph within it.

`TAB` Indent.

`RET electric-graphviz-dot-terminate-line`

If the variable `graphviz-dot-auto-indent-on-newline` is `t`, `RET` will insert a newline and indent the next line.

`{ electric-graphviz-dot-open-brace`

If the variable `graphviz-dot-auto-indent-on-braces` is `t`, `{` will insert a `{`, newline and indent the next line.

`} electric-graphviz-dot-close-brace`

If the variable `graphviz-dot-auto-indent-on-braces` is `t`, `}` will insert a `}`, newline and indent the next line.

`; electric-graphviz-dot-semi`

If the variable `graphviz-dot-auto-indent-on-semi` is `t`, `;` will insert a `;`,
newline and indent the next line.

3.2.1 Completion

See Section 4.2.2 [Completion Variables], page 6,

`M-t graphviz-dot-complete-word`

This command will complete the attribute or value keyword at point. If more
than one completion is possible, a list is displayed in the minibuffer.

3.2.2 Commenting

`M-;` Insert new comment line.

`M-j` Indent new comment line.

`C-c C-c comment-region`

This command will comment-out the region.

`C-c C-u graphviz-dot-uncomment-region`

This command will un-comment the region.

4 Customizing

This section describes the customizable variables of `graphviz-dot-mode`. You may customize variables by typing

M-x graphviz-dot-customize RET

This function invokes the Emacs customization facility to allow you to view and change the `graphviz-dot-mode` variables below.

4.1 Compile & View Variables

This section describes variables related to compiling and viewing. See Section 3.1 [Compiling & Viewing], page 3,

`graphviz-dot-dot-program`

string, default: “dot”

This variable determines the command name (and path, if necessary) used to invoke the *Graphviz* dot program. The `C-c c compile` function invokes this command.

`graphviz-dot-preview-extension`

string, default “png”

This variable determines the file extension used for the `C-c c compile` and `C-c p graphviz-dot-preview` functions. The format for the compile command is `dot -T<extension> <filename>.dot > <filename>.<extension>`

`graphviz-dot-save-before-view`

boolean, default `t`

This variable controls whether the buffer will be saved to the visited file before the `C-c v graphviz-dot-view` function invokes the external dot-file viewer command. Set this boolean variable to `t` (true) or `nil` (false).

`graphviz-dot-view-command`

string, default: “doted %s”

This variable determines the command name (and path, if necessary) used to invoke an external dot-file viewer program. The `C-c v graphviz-dot-view` function invokes this command. The name of the file visited by the buffer will be substituted for `%s` in this string.

(See <http://graphviz.org/content/resources> for a list of *Graphviz* viewers and editors.)

`graphviz-dot-view-edit-command`

boolean, default: `nil`

This variable controls whether you will be prompted for the external dot-file viewer command name when you use `C-c v graphviz-dot-view`. Set this to `t` (true) to be prompted to edit the viewer command variable `graphviz-dot-view-command` every time you use `C-c v` or `nil` to avoid the prompt.

4.2 Editing Variables

This section describes variables related to editing. See Section 3.2 [Editing], page 3,

4.2.1 Indenting Variables

This subsection describes variables related to indenting.

graphviz-dot-auto-indent-on-braces

boolean, default `nil`

This variable controls whether the functions `electric-graphviz-dot-open-brace` and `electric-graphviz-dot-close-brace` are called when `{` and `}` are typed. Set this boolean variable to `t` (true) or `nil` (false).

graphviz-dot-auto-indent-on-newline

boolean, default `t`

This variable controls whether the function `electric-graphviz-dot-terminate-line` is called when a line is terminated with a newline. Set this boolean variable to `t` (true) or `nil` (false).

graphviz-dot-auto-indent-on-semi

boolean, default `t`

This variable controls whether the function `electric-graphviz-dot-semi` is called when a semicolon `;` is typed. Set this boolean variable to `t` (true) or `nil` (false).

graphviz-dot-indent-width

integer, default: `default-tab-width`

This variable determines the indentation used in `graphviz-dot-mode` buffers.

4.2.2 Completion Variables

This subsection describes variables related to completion.

graphviz-dot-delete-completions

boolean, default: `nil`

This variable controls whether the completion buffer is automatically deleted when a key is pressed. Set this boolean variable to `t` (true) or `nil` (false).

graphviz-dot-toggle-completions

boolean, default: `nil`

This variable controls whether repeated use of `M-t graphviz-dot-complete-word` will toggle the display of possible completions in the minibuffer. If this variable is set to `nil`, when there are more than one possible completions, a buffer will display all completions. Set this boolean variable to `t` (true) or `nil` (false).

4.3 Keyword Variables

This section describes the variables containing DOT-language keywords, which may change if *Graphviz* is updated. You may update these variables after new releases of *Graphviz* from <http://www.graphviz.org/doc/schema/attributes.xml>.

graphviz-dot-attr-keywords

list of strings, default: (“graph” “digraph” ...)

This variable holds a list of keywords for attribute names in a graph. This is used by the *M-t* auto completion function. The actual completion tables are built when the mode is loaded, so changes to this variable are not immediately visible.

graphviz-dot-value-keywords

list of strings, default: (“true” “false” ...)

This variable holds a list of keywords for attribute values in a graph. This is used by the *M-t* auto completion function. The actual completion tables are built when the mode is loaded, so changes to this variable are not immediately visible.

4.4 Mode Hook

graphviz-dot-mode-hook

list of functions, default: `nil`

This variable determines which functions are called when `graphviz-dot-mode` starts. To use it, add a line like below to your `.emacs` or other startup file.

```
(add-hook 'graphviz-dot-mode-hook 'my-hook)
```

5 Development

This section is about the development of `graphviz-dot-mode`.

5.1 Credits

`graphviz-dot-mode` was written by:

- Pieter Pareit pieter.pareit@gmail.com
- Rubens Ramos rubensr@users.sourceforge.net
- Eric Anderson <http://www.ece.cmu.edu/~andersoe/>

Other contributors are noted in the version history, below.

5.2 Maintenance

The source code is maintained by Pieter Pareit (pieter.pareit@gmail.com) on GitHub at <http://ppareit.github.com/graphviz-dot-mode>. Please send software issues to the issue tracker there.

This manual is maintained by Daniel Birket (danielb@birket.com) on GitHub at <https://github.com/daniel-birket/graphviz-dot-mode>. Please send manual errata to the issue tracker there.

5.3 Known Issues

This section echoes some issues noted in the 0.3.10 source code.

parse errors

Cleanup the mess of `graphviz-dot-compilation-parse-errors`.

electric indentation

Electric indentation is fundamentally broken, because `{...}` are also used for record nodes. You could argue, I suppose, that any diagrams don't need those, but it would be worth having a note (and it makes sense that the default is now for electric indentation to be off).

comment lines

Lines that start with `#` are comments, lines that start with one or more whitespaces and then a `#` should give an error.

5.4 Version History

The version history from the 0.3.10 source code is below. See also the commit history on GitHub.

```
;;; History:
```

```
;; Version 0.3.10 Kevin Ryde
;; 25/05/2015: * shell-quote-argument for safety
;;             * use read-shell-command whenever available, don't set novaproc
;; Version 0.3.9 Titus Barik <titus AT barik.net>
```

```

;; 28/08/2012: * compile-command uses -ofile instead of >
;; Version 0.3.8 new home
;; 27/06/2012: * put graphviz-dot-mode into git, updated links
;; Version 0.3.7 Tim Allen
;; 09/03/2011: * fix spaces in file names when compiling
;; Version 0.3.6 maintenance
;; 19/02/2011: * .gv is the new extension (Pander)
;;             * comments can start with # (Pander)
;;             * highlight of new keywords (Pander)
;; Version 0.3.5 bug (or at least feature I dislike) fix
;; 11/11/2010: Eric Anderson http://www.ece.cmu.edu/~andersoe/
;;             * Preserve indentation across blank (whitespace-only) lines
;; Version 0.3.4 bug fixes
;; 24/02/2005: * fixed a bug in graphviz-dot-preview
;; Version 0.3.3 bug fixes
;; 13/02/2005: Reuben Thomas <rrt AT sc3d.org>
;;             * add graphviz-dot-indent-width
;; Version 0.3.2 bug fixes
;; 25/03/2004: Rubens Ramos <rubensr AT users.sourceforge.net>
;;             * semi-colons and brackets are added when electric
;;               behaviour is disabled.
;;             * electric characters do not behave electrically inside
;;               comments or strings.
;;             * default for electric-braces is disabled now (makes more
;;               sense I guess).
;;             * using read-from-minibuffer instead of read-shell-command
;;               for emacs.
;;             * Fixed test for easymenu, so that it works on older
;;               versions of XEmacs.
;;             * Fixed indentation error when trying to indent last brace
;;               of an empty graph.
;;             * region-active-p does not exist in emacs (21.2 at least),
;;               so removed from code
;;             * Added uncomment menu option
;; Version 0.3.1 bug fixes
;; 03/03/2004: * backward-word needs argument for older emacs
;; Version 0.3 added features and fixed bugs
;; 10/01/2004: fixed a bug in graphviz-dot-indent-graph
;; 08/01/2004: Rubens Ramos <rubensr AT users.sourceforge.net>
;;             * added customization support
;;             * Now it works on XEmacs and Emacs
;;             * Added support to use an external Viewer
;;             * Now things do not break when dot mode is entered
;;               when there is no buffer name, but the side effect is
;;               that in this case, the compilation command is not
;;               correct.
;;             * Preview works on XEmacs and emacs.

```

```

;;          * Electric indentation on newline
;;          * Minor changes to indentation
;;          * Added keyword completion (but could be A LOT better)
;;          * There are still a couple of ugly hacks. Look for 'RR'.
;; Version 0.2 added features
;; 11/11/2002: added preview support.
;; 10/11/2002: indent a graph or subgraph at once with C-M-q.
;; 08/11/2002: relaxed rules for indentation, the may now be extra chars
;;             after beginning of graph (comment's for example).
;; Version 0.1.2 bug fixes and naming issues
;; 06/11/2002: renamed dot-font-lock-defaults to dot-font-lock-keywords.
;;             added some documentation to dot-colors.
;;             provided a much better way to handle my max-specpdl-size
;;             problem.
;;             added an extra autoload cookie (hope this helps, as I don't
;;             yet use autoload myself)
;; Version 0.1.1 bug fixes
;; 06/11/2002: added an missing attribute, for font-locking to work.
;;             fixed the regex generating, so that it only recognizes
;;             whole words
;; 05/11/2002: there can now be extra white space chars after an '{}'.
;; 04/11/2002: Why I use max-specpdl-size is now documented, and old value
;;             gets restored.
;; Version 0.1 initial release
;; 02/11/2002: implemented parser for *compilation* of a .dot file.
;; 01/11/2002: implemented compilation of an .dot file.
;; 31/10/2002: added syntax-table to the mode.
;; 30/10/2002: implemented indentation code.
;; 29/10/2002: implemented all of font-lock.
;; 28/10/2002: derived graphviz-dot-mode from fundamental-mode, started
;;             implementing font-lock.

```

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Version 2, June 1991

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