

The Okteta Handbook

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Contents

1	Introduction	1
2	Basics	2
2.1	Starting Okteta	2
2.2	Usage	2
3	Tools	4
3.1	File Info	4
3.2	Binary Filter	4
3.3	Strings	4
3.4	Byte Table	4
3.5	Statistics	5
3.6	Decoding Table	5
4	Menu Entries	6
4.1	File Menu	6
4.2	Edit Menu	7
4.3	View Menu	8
4.4	Windows Menu	9
4.5	Bookmarks Menu	9
4.6	Tools Menu	9
4.7	Settings Menu	9
4.8	Help Menu	10
4.9	Toolbar	10
5	Credits and License	11
A	Installation	12
A.1	How to obtain Okteta	12
A.2	Compilation and Installation	12

Abstract

Okteta is a hex editor for the KDE environment.

Chapter 1

Introduction

Okteta is a simple editor for the raw data of files. The data is displayed in the traditional view with two columns: one with the numeric values and one with the assigned characters. Editing can be done both in the value column and the character column. Besides the usual editing capabilities Okteta also brings a small set of tools, like a table listing decodings into common simple data types, a table listing all possible bytes with its' character and value equivalents, a info view with a statistic and a filter tool. All modifications to the data loaded can be endlessly undone or redone.

Chapter 2

Basics

2.1 Starting Okteta

Type **okteta** at a command prompt or select Hex Editor from the Applications → Utilities group in the K menu.

The standard Qt™ and KDE command line options are available, and can be listed by entering **okteta --help**.

Command line options specific to Okteta are:

`<URL (s) >` - open file(s) from the specified URL(s)

2.2 Usage

The main Okteta window has the following components: a menu bar, a toolbar, a data view and a sidebar with tools.

When a file is opened or a new byte array is created, the bytes are displayed in the traditional view with two columns: one with the numeric values and one with the assigned characters. On the left side the offset of the lines are shown.

The data can be edited, cut, copied, pasted, dragged and dropped much as text can be in a text editor. A cursor marks the current position. Pressing the **Insert** key toggles between overwrite and insert modes. All operations can be done both in the value column and the character column.

NOTE

Okteta displays two linked cursors in the byte column and in the character column. Depending on the active column, indicated by a blinking cursor, you can enter only characters in the character column and byte values in the byte column.

The Okteta Handbook

The search dialog allows the user to search for a specific string of bytes, definable as hexadecimal, decimal, octal, binary, or text.

Multiple byte arrays can be open at the same time but only one can be active. Use the Windows menu to select which byte array will be active.

Chapter 3

Tools

3.1 File Info

The view displays some information about the current file, including its type, the location of storage and the size.

3.2 Binary Filter

The filter performs binary operations on the selected bytes. After choosing the operation (AND, OR, ROTATE..) the parameters, if any, can be set in the box below. The filter is executed on the use of the Filter button.

3.3 Strings

This tool locates the strings in the selected bytes. After choosing the minimum string length, the strings are grepped for on the use of the Update button. The list of the strings displayed can be narrowed by entering a filter term.

3.4 Byte Table

The table lists all possible byte values, both as character and numerical value.

The selected value can be inserted at the cursor position for a defined number of bytes. This can be achieved by using the Insert button or double-clicking the line in the table.

3.5 Statistics

The view displays a statistic for the selected bytes. The statistic gives the frequency of the occurrence of each byte value in the selection. It can be brought uptodate by using the Update button.

3.6 Decoding Table

The table displays the value of the byte or the bytes starting at the cursor, interpreted as common simple data types like Integer or Float.

Chapter 4

Menu Entries

Note that most menu commands also have a keyboard shortcut.

4.1 File Menu

File → **New (Ctrl+N)** Creates a new byte array.

File → **Open... (Ctrl+O)** Open an existing file.

File → **Open Recent** Choose from a list of the last opened files.

File → **Save (Ctrl+S)** Save byte array to a file.

File → **Save As...** Save byte array to another file with a new name.

File → **Export** Export the selected bytes to a file...

- **Values:** ... encoded as byte values.
- **Plain Text:** ... encoded as characters.
- **C array:** ... defined as an array in the programming language C.
- **View in Plain Text:** ... as in the data view with offset, byte values and characters.

File → **Revert** Revert all changes and reset the edited byte array to the content of the file.

File → **Print... (Ctrl+P)** Print the current byte array.

File → **Permissions** Set modification privileges:

Read only When set, changes may not be made to the loaded byte array.

File → **Close (Ctrl+W)** Close the current byte array.

File → **Quit (Ctrl+Q)** Close the Okteta window.

4.2 Edit Menu

Currently in KDE 4.1 copy and cut send data to the clipboard with the mime-type "application/octetstream", Klipper is not able to display this data. And almost all other applications cannot handle this, too, as this is simply raw data.

Edit → **Undo (Ctrl+Z)** Undo the last action.

Edit → **Redo (Ctrl+Shift+Z)** Redo the last undone action.

Edit → **Cut (Ctrl+X)** Delete the selected bytes and copy them to the clipboard.

Edit → **Copy (Ctrl+C)** Copy the selected bytes to the clipboard.

Edit → **Paste (Ctrl+V)** Insert the cut or copied bytes in the clipboard.

Edit → **Copy as** Copy the selected bytes to the clipboard...

- Values: ... encoded as byte values.
- Plain Text: ... encoded as characters.
- C array: ... defined as an array in the programming language C.
- View in Plain Text: ... as in the data view with offset, byte values and characters.

Edit → **Select All (Ctrl+A)** Select the entire byte array.

Edit → **Deselect (Ctrl+Shift+A)** Deselect the current selection.

Edit → **Find... (Ctrl+F)** Find a specified pattern in the document. Hexadecimal, decimal, octal, binary or text patterns can be searched for.

Options in the dialog box allow you to specify the starting point, direction and range of the search.

Edit → **Find Next (F3)** Find the next instance of the Find pattern.

If there isn't a pattern specified, the dialog box will be shown.

Edit → **Find Previous (Shift+F3)** Find the previous instance of the Find pattern.

If there isn't a pattern specified, the dialog box will be shown.

Edit → **Replace... (Ctrl+R)** Replace the find pattern with a different pattern.

Edit → **Overwrite Mode (Ins)** Switch between Insert mode and Overwrite mode.

NOTE

Overwrite mode is implemented to be very strict, it is not possible to change the size of the data (no appending or removing of bytes).

Edit → **Goto Offset... (Ctrl+G)** Move the cursor to a specified offset.

Edit → **Insert**

Insert Pattern... (Ctrl+Ins) Insert a specified string of bytes at the cursor.

Options in the dialog box allow you to specify the number of insertion of the pattern and it's format (Hexadecimal, Decimal, Octal, Binary or Character(s)).

4.3 View Menu

View → **Zoom In (Ctrl++)** Increase the size of the font.

View → **Zoom Out (Ctrl+-)** Decrease the size of the font.

View → **Show Non-printing Chars** Toggle display of non-printing chars on and off. If the display is turned off, at the corresponding places in the character column a substitute char is shown instead.

View → **Show Line Offset (F11)** Toggle display of the line offset on a pane to the left on and off.

View → **Show Values or Chars** Select which of the byte interpretations are shown. Possible are:

- Values
- Chars
- Values and Chars

View → **Value Coding** Select the coding of the values from:

- Hexadecimal
- Decimal
- Octal
- Binary

View → **Char Coding** Select the coding of the chars from the submenu.

View → **Resize Style** Set the rules for the layout of the data display. This defines how many bytes are displayed per line, depending on the width of the view. Possible rules are:

- No Resize: The layout is fixed to the current and not adapted on the change of the view size.
- Lock Groups: Puts as many bytes per line as possible, as long as groups of bytes are complete.
- Full Size Usage: Same as previous, but allows also uncomplete groups of bytes.

View → **View Mode** Select the layout for the view from:

- Columns: The values and chars interpretations are shown in the classic layout with each listed in a separate column.
- Rows: The char interpretation of a byte is directly shown under the value interpretation.

View → **Full Screen Mode (Ctrl+Shift+F11)** Toggle full screen mode on and off.

4.4 Windows Menu

Provides a list of the current views. Select the active window.

4.5 Bookmarks Menu

Multiple bookmarks can be set for a single byte array. Each byte array has its own set of bookmarks, and the appropriate set is displayed at the bottom of the Bookmarks menu. Choose a bookmark from the menu to move the cursor and the view to it.

Bookmarks → **Add Bookmark (Ctrl+B)** Bookmark a location within the byte array.

Bookmarks → **Remove Bookmark (Ctrl+Shift+B)** Remove the current bookmark. This command is only available if the cursor is at a bookmarked location.

Bookmarks → **Remove All Bookmarks** Clear the bookmark list.

Bookmarks → **Goto Next Bookmark (Alt+Down)** Move the cursor to the next bookmark.

Bookmarks → **Goto Previous Bookmark (Alt+Up)** Move the cursor to the previous bookmark.

4.6 Tools Menu

Provides a list of installed tools. Toggle the display of each tools on or off. A detailed description of each tool you find in the [Tools](#) section.

4.7 Settings Menu

Settings → **Show Toolbar** Toggle display of the toolbar below the menu bar.

Settings → **Show Statusbar** Toggle display of the status bar.

Settings → **Configure Shortcuts...** Change program action shortcuts.

Settings → **Configure Toolbars...** Control the content of the toolbar.

4.8 Help Menu

Help → **Okteta Handbook (F1)** Invokes the KDE Help system starting at the Okteta help pages. (this document).

Help → **What's This? (Shift+F1)** Changes the mouse cursor to a combination arrow and question mark. Clicking on items within Okteta will open a help window (if one exists for the particular item) explaining the item's function.

Help → **Report Bug...** Opens the Bug report dialog where you can report a bug or request a 'wishlist' feature.

Help → **Switch Application Language...** Opens a dialog where you can edit the Primary language and Fallback language for this application.

Help → **About Okteta** This will display version and author information.

Help → **About KDE** This displays the KDE version and other basic information.

4.9 Toolbar

The toolbar contains icons for the following commands:

<p>NOTE (All behave identically to the menu command.)</p>
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- New
- Open
- Save
- Revert
- Print
- Undo
- Redo
- Cut
- Copy
- Paste
- Find
- Find Next

Chapter 5

Credits and License

Okteta

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Appendix A

Installation

A.1 How to obtain Okteta

Okteta is part of the KDE project <http://www.kde.org/> .

Okteta can be found in the kdeutils package on <ftp://ftp.kde.org/pub/kde/> , the main FTP site of the KDE project.

A.2 Compilation and Installation

For detailed information on how to compile and install KDE applications see [Building KDE4 From Source](#)

Since KDE uses **cmake** you should have no trouble compiling it. Should you run into problems please report them to the KDE mailing lists.