



## ReportXplorer User Guide

[ReportXplorer](#) is a web application that allows users to view and analyze Xilinx® reports.

There are several advantages of using ReportXplorer:

**No installation:** because it's a web application, it doesn't require installation. ReportXplorer uses Adobe Flash plug-in, which is already installed on most of the web browsers. The application can be used on any computer and in any operating system environment, including Mac OS and mobile devices.

**Ease-of-use:** It only takes two steps and a few seconds to open multiple Xilinx reports: enter the application URL in a browser, and navigate to reports within a "Load Reports" dialog.

**Time-saver:** Engineers spend a lot of valuable time opening and analyzing reports scattered in different directories on different machines. ReportXplorer helps reduce that time, and make the process more organized and productive.

**Analytics:** ReportXplorer parses reports and provides instant visual analytics that enables rapid comprehension of critical information, and can help find design problems. That is done much faster than by analyzing text-based reports, using existing tools, or running custom search scripts. Users can open multiple instances of the application in different browser tabs. That allows side by side comparison of report sections, analysis of trends between builds, or identifying potential problems such as new warnings or high logic utilization.

**Security:** the application has been developed with security as the most important requirement. ReportXplorer is inherently secure because it's entirely client-based. No confidential design information contained in the reports is sent to the server. All the report processing is done locally on a client inside a web browser sandbox.

**Fast response time:** ReportXplorer is designed to allow customization and easy addition of new features. It's a small application supported by a team of practicing logic designers and software engineers. Hence, the response time to add a new feature or fix a bug is fast. You don't need to wait several months for the "next release".

**Use Cases:** ReportXplorer can be used in the following cases and situations:

- To provide more report viewing and analysis capabilities comparing to existing tools.
- To enable report viewing in a system that doesn't have native tools installed, such as on a Mac computer or a mobile device.
- To enable report viewing of a build that doesn't have an associated Xilinx ISE project, for example builds from script.
- Side-by-side comparison of multiple reports opened in the same or different applications.

## Main Features Rev. 0.95

- Support of the following Xilinx reports

Report	Extension
Synthesis XST	.syr .srp
NGDBUILD	.bld
MAP	.mrp
PAR	.par
Timing Report	.twr
BITGEN report	.bgn
PAD report	.pad
Physical synthesis report	.psr
DRC report	.drc
PCF report	.pcf
Unroutes report	.unroutes
Synthesis Synplify	.srr
Timing constraints interaction report	.tsi

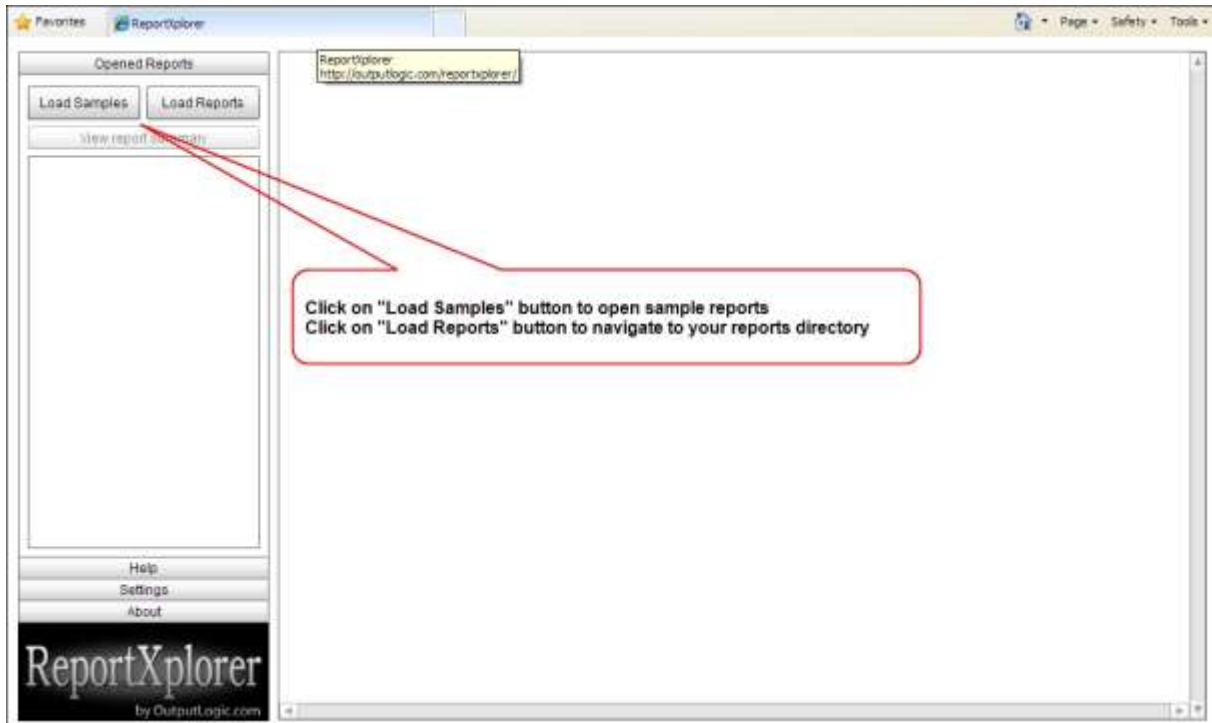
- Two views: table and text. Table view has less information, but it's better organized for faster understanding. Key build metrics is extracted and visually represented. Columns in the table view can be sorted.
- String and regular expression text search. There is a list of predefined search terms.
- Contextual Hyperlinking of errors and warnings in report text view.
- Highlighting of potential design problems. Examples: logic utilization higher than 75% (MAP report), not all IOs in the design are locked (PAR reports).
- Export to CSV of relevant report sections.
- Summary view of all opened reports

## Screenshots

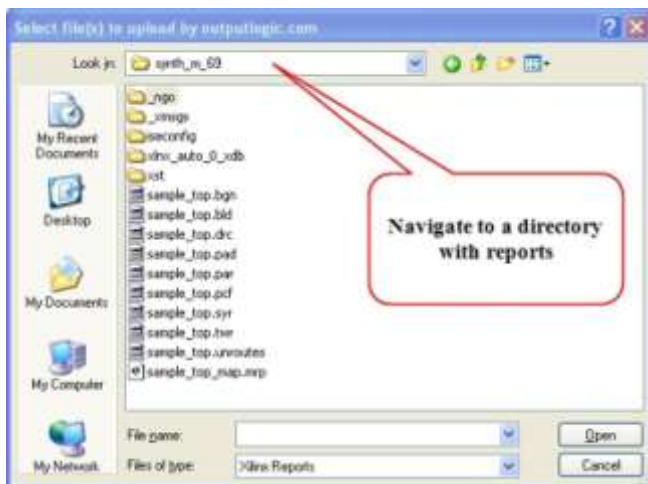
### Main application window

Click on “Load Sample” button to open sample reports

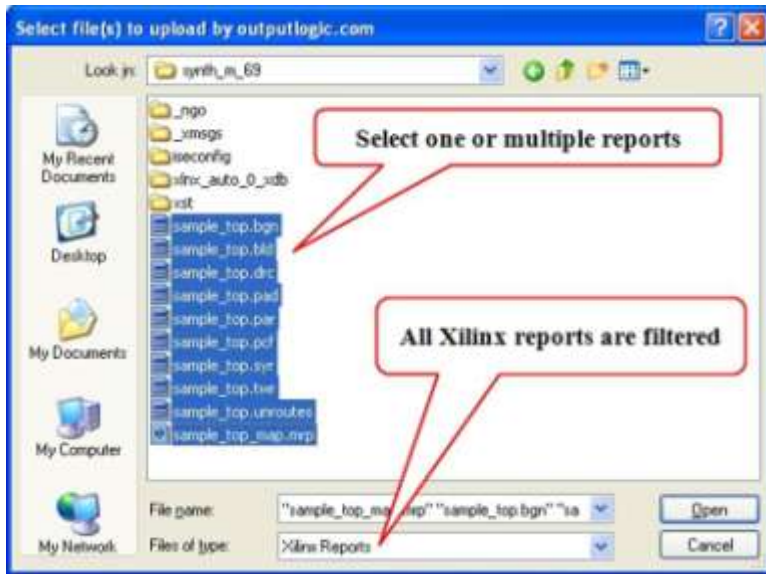
Click on “Load Reports” button to navigate to report directory



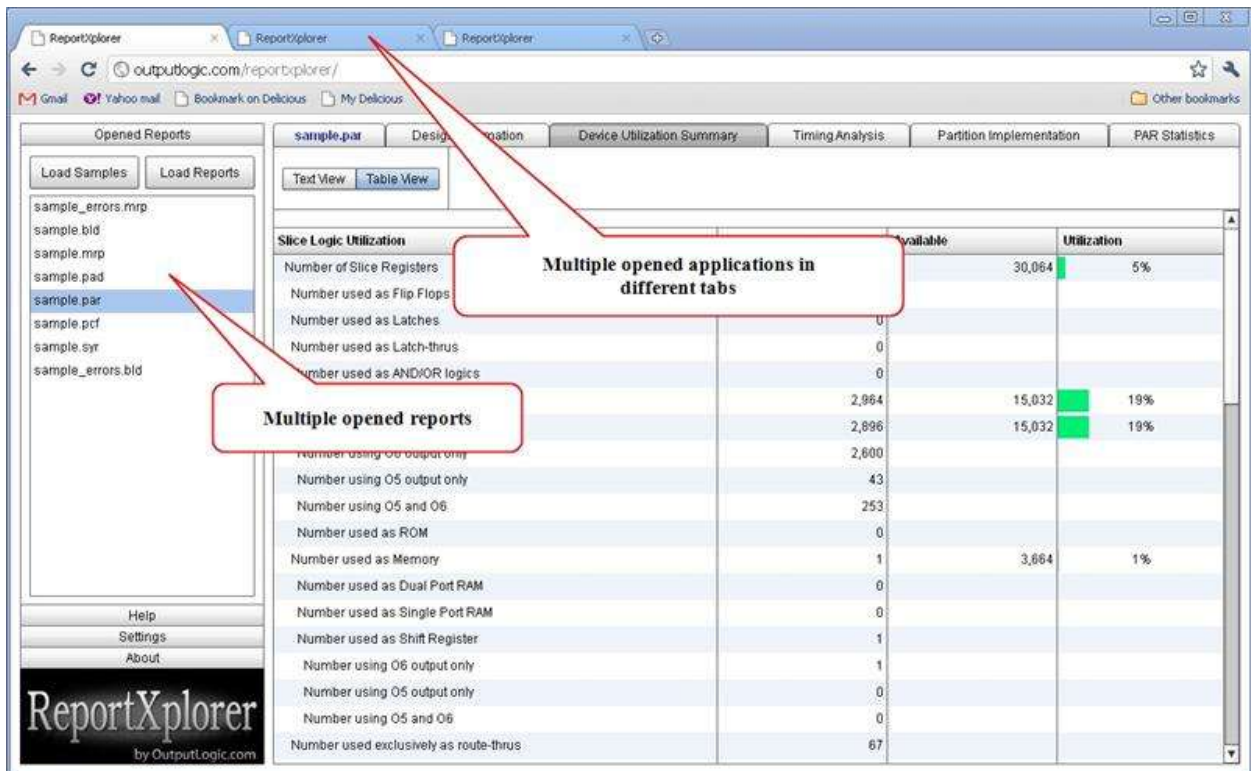
### “Load Reports” dialog



Multiple reports can be selected and opened at once. All supported reports are filtered by file extension.



An example of opened multiple reports and multiple application instances.

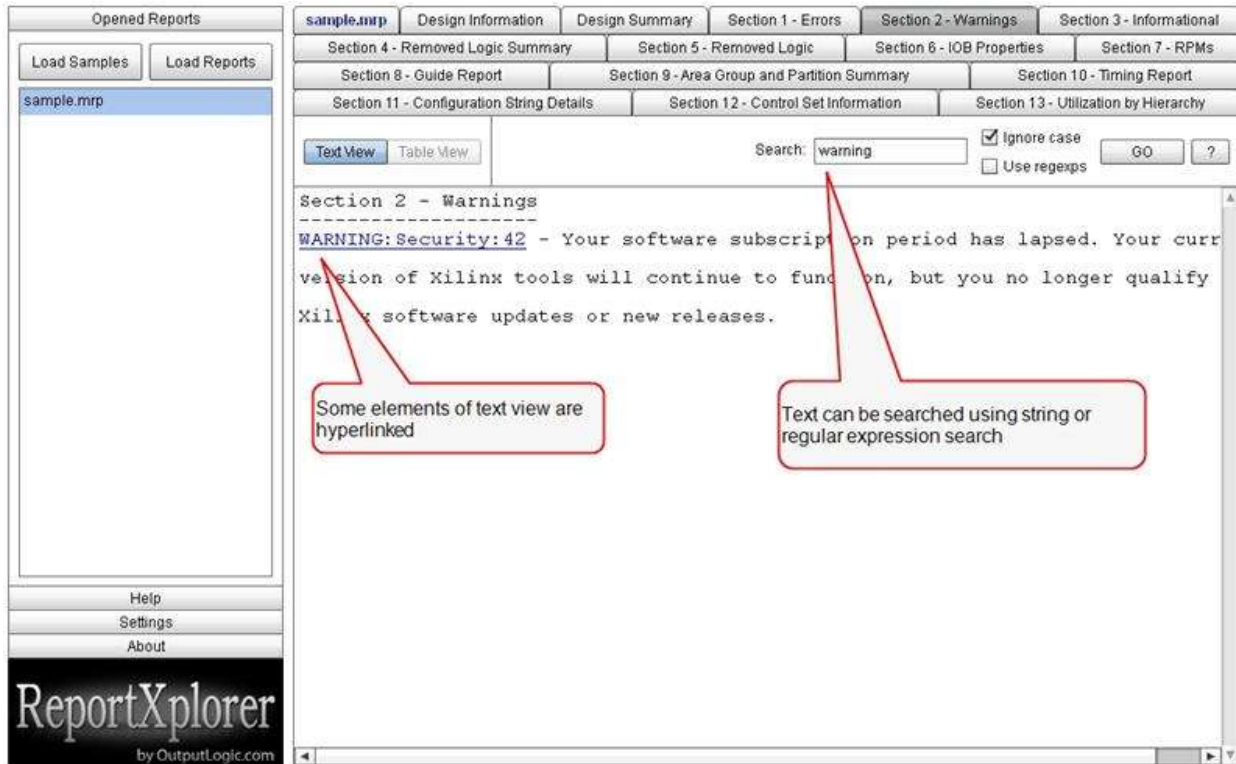


A report is split into sections. Each section is shown in a tab. Top-left tab contains the entire report.

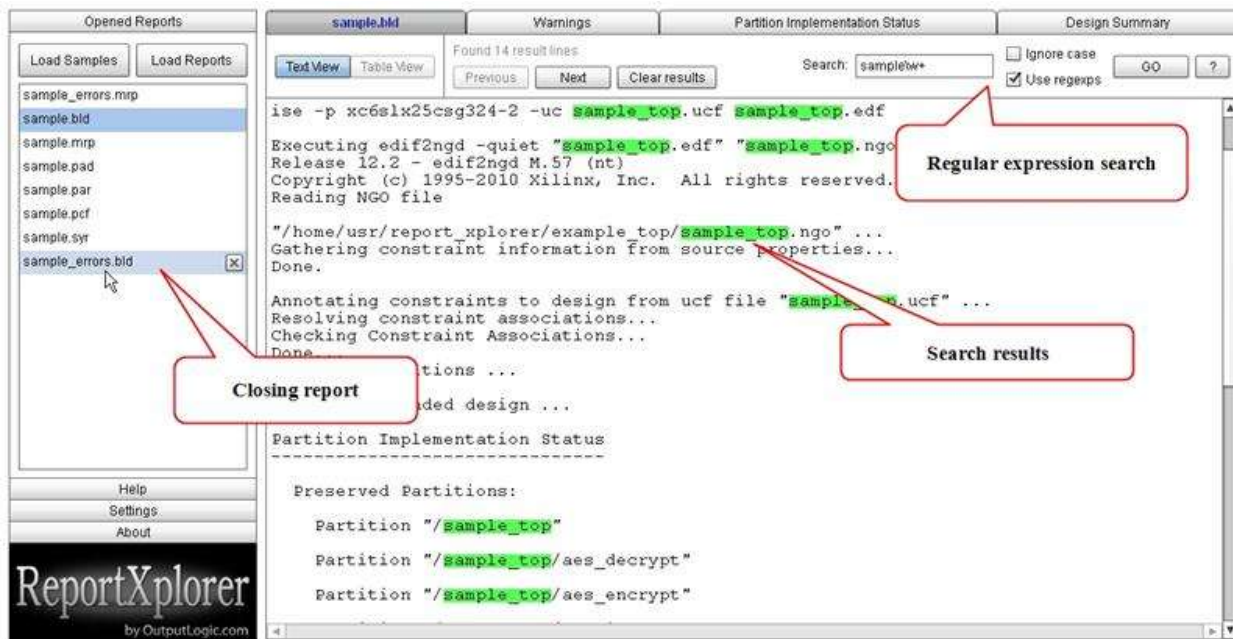
The screenshot displays the ReportXplorer application interface. On the left, a sidebar titled 'Opened Reports' shows a list of reports, with 'sample.mrp' selected. Below this list are buttons for 'Load Samples', 'Load Reports', 'Help', 'Settings', and 'About'. The main window features a tabbed interface with the following tabs: 'sample.mrp', 'Design Information', 'Design Summary', 'Section 1 - Errors', 'Section 2 - Warnings', 'Section 3 - Informational', 'Section 4 - Removed Logic Summary', 'Section 5 - Removed Logic', 'Section 6 - IOB Properties', 'Section 7 - RPMs', 'Section 8 - Guide Report', 'Section 9 - Area Group and Partition Summary', 'Section 10 - Timing Report', 'Section 11 - Configuration String Details', 'Section 12 - Control Set Information', and 'Section 13 - Utilization by Hierarchy'. The 'sample.mrp' tab is active, showing a text view of the report. A search bar and checkboxes for 'Ignore case' and 'Use regexps' are visible above the text. The report content includes: 'Release 12.1... Map M.57 (nt)', 'Xilinx Mapping Report File for Design 'sample\_top'', 'Design Information', 'Command Line: ... -detail sample\_top.ngd', 'Target Device: ...', 'Target Platform: ...', 'Target Speed: ...', 'Mapper Version: ... on: 1.52 \$', 'Mapped Date: ... wed Oct 06 15:29:45 2010', and a 'Design Summary' section with the following data:

Design Summary			
Number of errors:	0		
Number of warnings:	0		
Slice Logic Utilization:			
Number of Slice Registers:	1,796	out of 30,064	5%
Number used as Flip Flops:	1,796		
Number used as Latches:	0		
Number used as Latch-thrus:	0		
Number used as AND/OR logics:	0		
Number of Slice LUTs:	3,032	out of 15,032	20%
Number used as logic:	2,910	out of 15,032	19%
Number using O6 output only:	2,600		
Number using O5 output only:	57		
Number using O5 and O6:	253		
Number used as ROM:	0		
Number used as Memory:	1	out of 3,664	1%

Text view of a report section contains hyperlinked elements, and can be searched using simple string or regular expressions



Search results in a text view of a report.



Search keywords list contains a list of report-specific predefined keywords that help identify design problems.

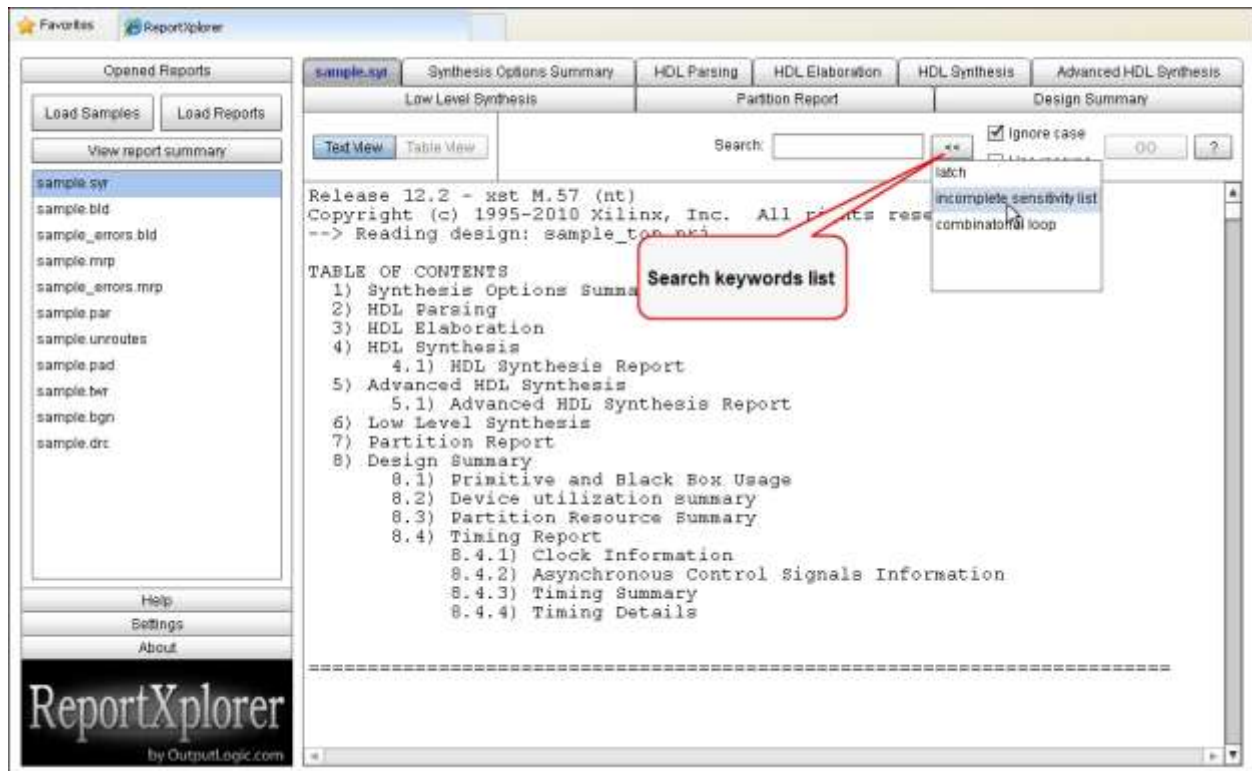


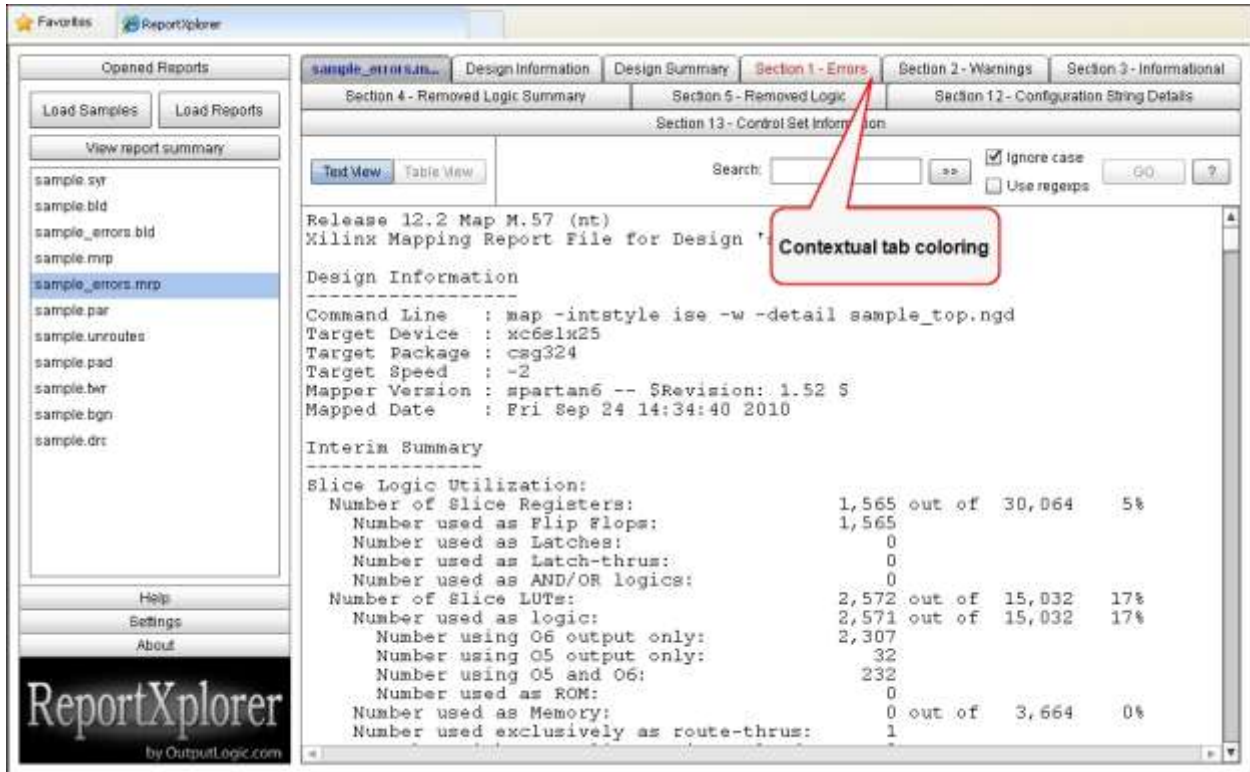
Table view of a report section contains columns that can be sorted.

The screenshot shows the ReportXplorer interface. On the left, a sidebar titled 'Opened Reports' contains 'Load Samples' and 'Load Reports' buttons, and a list with 'sample.mrp'. Below this are 'Help', 'Settings', and 'About' links. The main area displays a table view of report sections. At the top, a navigation bar lists sections 1 through 13. Below this, 'Text View' and 'Table View' buttons are visible. The table has the following columns: name, Regs, Regs utiliz, LUTs, LUT utiliza, Slices, Slice utiliz, BRAM, BRAM utili, DSP4, and DSP48 utilization. The 'Slice utiliz' column for the 'aes' section is highlighted in red, indicating high utilization. Annotations with red boxes and arrows point to the 'Text View' and 'Table View' buttons, the 'Regs' column header, and the red-highlighted 'Slice utiliz' cell.

name	Regs	Regs utiliz	LUTs	LUT utiliza	Slices	Slice utiliz	BRAM	BRAM utili	DSP4	DSP48 utilization
aes	182	2%	463	12%	148	15%	0	0%	0	0%
secret_sbox1	28	1%	119	6%	35	7%	0	0%	0	0%
	671	18%	1,107	60%	385	83%	0	0%	0	0%
	90	11%	93	24%	37	39%	0	0%	0	0%
crc	32	13%	23	19%	7	23%	0	0%	0	0%
fifo	73	13%	99	36%	40	58%	0	0%	0	0%
i2c_master_bit_ctrl	64	11%	98	34%	34	47%	0	0%	0	0%
i2c_master_byte_ctrl	23	1%	39	5%	15	8%	0	0%	0	0%
i2c_master_top	54	2%	45	4%	21	7%	0	0%	0	0%
ifsr	12	9%	8	12%	3	18%	0	0%	0	0%
multiplier	10	4%	0	0%	3	11%	0	0%	1	50%



Contextual tab coloring helps identify design problems.



Help tab on the left application panel contains links to useful resources, and user forum and blog section.

Opened Reports

Help

View slideshow

User Guide

Read comments

Request a new feature

Report a bug

Take a survey

Xilinx

Xilinx ISE Tutorial

Settings

About

ReportXplorer  
by OutputLogic.com

sample.mrp

Design Information

Design Summary

Section 1 - Errors

Section 2 - Warnings

Section 3 - Informational

Section 4 - Removed Logic Summary

Section 5 - Removed Logic

Section 6 - IOB Properties

Section 7 - RPMs

Section 8 - Guide Report

Section 9 - Area Group and Partition Summary

Section 10 - Timing Report

Section 11 - Configuration String Details

Section 12 - Control Set Information

Section 13 - Utilization by Hierarchy

New Table View

Module	Slices*	Regs	LUTs	BRAMS	DSP48A1
sample_top	111/1301	65/1796	236/3032	0/8	0/1
aes_decrypt	158/545	151/702	407/1326	0/0	0/0
aes_encrypt	225/469	142/671	504/1107	0/0	0/0
cordic	0/37	0/90	0/78	0/0	0/0
bik00000003	37/37	90/90	78/78	0/0	0/0
crc	7/7	32/32	23/23	0/0	0/0
ffo	0/56	0/73	0/74	0/8	0/0
i2c_master	21/70	54/141	45/180	0/0	0/0
byte_decoder	15/48	23/87	39/135	0/0	0/0
bit_controller	34/34	64/64	96/96	0/0	0/0
ffsr_counter	3/3	12/12	8/8	0/0	0/0
multiplier	0/3	0/10	0/0	0/0	0/1
bik00000003	3/3	10/10	0/0	0/0	1/1

Help tab contains information on ReportXplorer

There is a list of links to useful resources

“View report summary” button enables users to quickly see a summary of all open reports on a single screen. There are table and matrix view tabs.

The screenshot shows the ReportXplorer application window. On the left, there is a sidebar with a list of reports and a 'View report summary' button. The main area displays a table titled 'Opened Reports Summary' with columns for Report, Slices, BRAM, DSP, Runtime, and Memory Usage. A red callout box points to the 'View report summary' button, stating: "View Report Summary" button opens a summary of all opened reports. Another red callout box points to the table, stating: There are two summary tabs: table and matrix view.

Report	Slices	BRAM	DSP	Runtime	Memory Usage
sample.syr				53.00 secs	
sample.blb				13 sec	97604 kilobytes
sample_errors.blb				15 sec	93208 kilobytes
sample.mrp	992 out of 3,758 26%	8	1	1 mins 35 secs	262 MB
sample_errors.mrp		0	0		
sample.pad				1 mins 5 secs	259 MB
sample.twr					
sample.bgn					
sample.drc					

## Sample Reports

ReportXplorer contains link to a set of sample reports that illustrate the application capabilities. Sample project takes advantage of several open source cores available on [OpenCores.org](http://OpenCores.org).

Report	Name	Comments
Synthesis XST	sample.syr	
NGDBUILD	sample.bld	
NGDBUILD - errors	sample_errors.bld	This report contains several errors.
MAP - errors	sample_errors.mrp	This report contains several errors: some of the floorplanned regions are overmapped.  Error section is non-empty
MAP – no errors	sample.mrp	Table view of the area group section contains one region with high logic utilization.
PAR	sample.par	
Timing Report	sample.twr	In the timing report look for the timing score and timing errors
BITGEN report	sample.bgn	
PAD report	sample.pad	In the table view look for IO pins that are not locked.
DRC report	sample.drc	In the DRC report look for errors and unexpected warnings.
Unroutes report	sample.unroutes	Look for unrouted signals