



vFoglight™ 5.2.4

Web Component Tutorial



© 2008 Quest Software, Inc. ALL RIGHTS RESERVED.

This guide contains proprietary information protected by copyright. The software described in this guide is furnished under a software license or nondisclosure agreement. This software may be used or copied only in accordance with the terms of the applicable agreement. No part of this guide may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording for any purpose other than the purchaser's personal use without the written permission of Quest Software, Inc.

If you have any questions regarding your potential use of this material, contact:

Quest Software World Headquarters

LEGAL Dept

5 Polaris Way

Aliso Viejo, CA 92656

www.quest.com

email: legal@quest.com

Refer to our Web site for regional and international office information.

Trademarks

Quest, Quest Software, the Quest Software logo, Aelita, Akonix, Akonix L7 Enterprise, Akonix L7 Enforcer, AppAssure, Benchmark Factory, Big Brother, DataFactory, DeployDirector, ERDisk, Foglight, Funnel Web, I/Watch, Imceda, InLook, IntelliProfile, InTrust, Invertus, IT Dad, I/Watch, JClass, Jint, JProbe, LeccoTech, LiteSpeed, LiveReorg, MessageStats, NBSpool, NetBase, Npulse, NetPro, PassGo, PerformaSure, Quest Central, SharePlex, Sitraka, SmartAlarm, Spotlight, SQL LiteSpeed, SQL Navigator, SQL Watch, SQLab, Stat, StealthCollect, Tag and Follow, Toad, T.O.A.D., Toad World, vANALYZER, vAUTOMATOR, vCONTROL, vCONVERTER, vEssentials, vFOGLIGHT, vOPTIMIZER, vRanger Pro, vReplicator, Vintela, Virtual DBA, VizionCore, Xaffire, and XRT are trademarks and registered trademarks of Quest Software, Inc in the United States of America and other countries. Other trademarks and registered trademarks used in this guide are property of their respective owners.

Disclaimer

The information in this document is provided in connection with Quest products. No license, express or implied, by estoppel or otherwise, to any intellectual property right is granted by this document or in connection with the sale of Quest products. EXCEPT AS SET FORTH IN QUEST'S TERMS AND CONDITIONS AS SPECIFIED IN THE LICENSE AGREEMENT FOR THIS PRODUCT, QUEST ASSUMES NO LIABILITY WHATSOEVER AND DISCLAIMS ANY EXPRESS, IMPLIED OR STATUTORY WARRANTY RELATING TO ITS PRODUCTS INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT. IN NO EVENT SHALL QUEST BE LIABLE FOR ANY DIRECT, INDIRECT, CONSEQUENTIAL, PUNITIVE, SPECIAL OR INCIDENTAL DAMAGES (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF PROFITS, BUSINESS INTERRUPTION OR LOSS OF INFORMATION) ARISING OUT OF THE USE OR INABILITY TO USE THIS DOCUMENT, EVEN IF QUEST HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Quest makes no representations or warranties with respect to the accuracy or completeness of the contents of this document and reserves the right to make changes to specifications and product descriptions at any time without notice. Quest does not make any commitment to update the information contained in this document.

License Credits and Third Party Information

To view license credit information, click the License Credits link on the Welcome to vFoglight online help page.

Web Component Tutorial
March 2009
Version 5.2.4

Table of Contents

Introduction to this Guide	7
About vFoglight	8
About this Guide.....	8
vFoglight Documentation Suite	9
Core Documentation Set	9
Cartridge Documentation Sets	10
Feedback on the Documentation.....	10
Text Conventions	11
About Vizioncore Inc.	11
Contacting Dell	14
Using the Web Component Tutorial	27
Introduction.....	28
vFoglight Browser Interface Views	28
Why Configure the Default Views?.....	29
What is the Web Component Framework?.....	30
How to Use this Tutorial	33
Printing the Tutorial	33
Getting More Help	33
Tutorial 1: Creating a Dashboard	35
Before You Start.....	36
Anatomy of a Typical Dashboard	36
UI Walkthrough.....	37
Configuring a Query	37
Configuring a Row-Oriented Table.....	40
Building the Dashboard	44

Summary	47
Additional Activities	47
Saving the Tutorial1 Module	48
Tutorial 2: Adding a Drilldown Page.....	49
Objectives of Tutorial 2	50
Adding an Alarm Icon to the Table	50
Adding a Dependent Page.....	52
Overview	52
Adding a Context-Sensitive Dependent Page for the Table of Hosts	52
Summary	57
Additional Activities	57
Tutorial 3: Adding Views	59
Objectives of Tutorial 3	60
Designing the Page	61
Defining the Alarms Query.....	61
Configuring a Table of Alarms	64
Configuring a Key-Value Listing Component.....	68
Configuring a Chart Component	71
Configuring a Label with an Action	73
Configuring the Drilldown Page	75
Configuring a Drop-Down List.....	78
Flowing Monitored Hosts to Host Details T3.....	80
Adding a Customizer	81
Summary	82
Additional Activities	82
Tutorial 4: Using a Grid.....	83
Before Building the Dashboard:	84
Using a List as a Chooser.....	86
Choosing the Views	86
Building the Dashboard	86
Summary	93
Additional Activities	94

Tutorial 5: Reports	95
Objectives of Tutorial 5	96
Designing the Page.....	96
Configuring a Query	97
Creating a Basic Report Page.....	98
Creating a More Elaborate Hosts Table.....	102
Adding a Header	106
Adding a Footer.....	109
Adding an Iterator for a Multi-Page Report	111
Choosing the Iterated View	113
Summary.....	114
Additional Activities	114
Tutorial 6: Creating a Form	119
Objectives of Tutorial 6	120
Configuring the Query.....	120
Overview	121
Components in the Application.....	121
Order of Construction	122
Notes on the Context Flow	122
Creating the Tasks and Forms	123
Create the groovy Tasks	123
Configure the Views	128
Testing the Application.....	137
Summary.....	137
Additional Activities	137
Index	139

Introduction to this Guide

This chapter provides information about what is contained in the *vFoglight Web Component Tutorial*. It also provides information about the vFoglight documentation suite and Vizioncore.

This chapter contains the following sections:

About vFoglight	8
About this Guide	8
vFoglight Documentation Suite	9
Text Conventions	11
About Vizioncore Inc	11

About vFoglight

vFoglight helps IT organizations understand the virtual infrastructure by managing the relationships and interaction between all the components in the environment, including data centers, data stores, clusters, resource pools, hosts and virtual machines. With vFoglight, administrators can quickly determine the root-cause of an incident or problem, track virtual machine (VM) movements and understand their impact, and identify contention for resources between virtual machines.

About this Guide

vFoglight is an application and services management solution that allows you to monitor your distributed system. It has three levels of usability:

- Default settings for views and rules that are suitable for most situations
- Easily configurable views that allow you to modify or add pages to suit your preferences
- Access to the Web Component library, where you can build your own pages to organize the collected data the way you want to see it

You need to use vFoglight's Web Component library to build your own custom user interface views. The task has been simplified by providing you with a visual dashboard configuration tool, but it presumes a degree of familiarity with the framework. This tutorial can be used as the first step in learning how to construct new pages using the view components in vFoglight.

This guide is intended for any user who wants to custom build vFoglight views for use in the browser interface.

The Web Component Tutorial is organized as follows:

Chapter 1, Using the Web Component Tutorial—An overview on using the tutorials

Chapter 2, Creating a Dashboard—The essentials of creating a basic dashboard

Chapter 3, Adding a Drilldown Page—Using flows to access a dependent page

Chapter 4, Adding Views—An introduction to some useful components

Chapter 5, Using a Grid—Further work on the Grid component

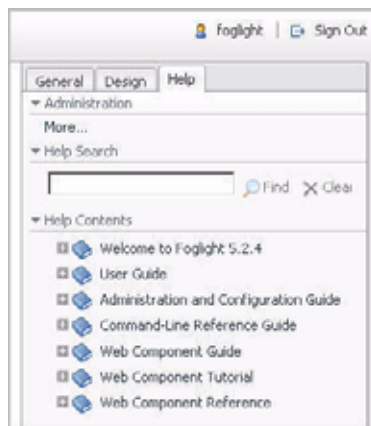
Chapter 6, Reports—Configuring and scheduling custom reports

Chapter 7, Creating a Form—Using submit actions

vFoglight Documentation Suite

The vFoglight documentation suite is made up of the core documentation set, plus the documentation set for each vFoglight cartridge that you deploy. Documentation is provided in a combination of online help, PDF and HTML.

- **Online Help:** You can open the online help by selecting the Help tab from vFoglight's action panel.



- **PDF:** The *Getting Started Guide*, *What's New Guide*, *System Requirements and Platform Support Guide*, *Installation and Setup Guide* set, *Administration and Configuration Guide*, *vFoglight User Guide*, *Command-Line Reference Guide*, *Web Component Guide*, and *Web Component Tutorial*, are provided as PDF files. The PDF guides are included in the zip file downloaded from Vizioncore. Adobe® Reader® is required.
- **HTML:** Release Notes are provided in HTML.

Core Documentation Set

The core documentation set consists of the following files:

- *Release Notes* (HTML)
- *Getting Started Guide* (PDF)

- *What's New Guide* (PDF)
- *System Requirements and Platform Support Guide* (PDF)
- *Installation and Setup Guide* set (all in PDF format):
 - *Installation and Setup Guide—Installing on Windows with an Embedded MySQL Database*
 - *Installation and Setup Guide—Installing on Windows with an External MySQL Database*
 - *Installation and Setup Guide—Installing on Windows with an External Oracle Database*
- *Administration and Configuration Guide* (PDF and online help)
- *vFoglight User Guide* (PDF and online help)
- *Advanced Configuration Guide* set
 - *Command-Line Reference Guide* (PDF and online help)
 - *Web Component Guide* (PDF and online help)
 - *Web Component Tutorial* (PDF and online help)
 - *Web Component Reference* (online help)

Cartridge Documentation Sets

When you deploy a cartridge, the documentation set for the cartridge is installed. The online help for the cartridge is integrated automatically with the core vFoglight help. When you open the help, the name of the cartridge is displayed in a top level entry within the table of contents.

Some cartridges include additional PDF guides, which may be one or more of the following: a *Getting Started Guide*, an *Installation Guide*, a *User Guide*, and a *Reference Guide*.

Feedback on the Documentation

We are interested in receiving feedback from you about our documentation. For example, did you notice any errors in the documentation? Were any features undocumented? Do you have any suggestions on how we can improve the documentation? All comments are welcome. Please submit your feedback to the following email address:

info@vizioncore.com

Please do not submit Technical Support related issues to this email address.

Text Conventions

The following table summarizes how text styles are used in this guide:

Convention	Description
Code	Monospace text represents code, code objects, and command-line input. This includes: <ul style="list-style-type: none">• Java language source code and examples of file contents• Classes, objects, methods, properties, constants, and events• HTML documents, tags, and attributes
<i>Variables</i>	Monospace-plus-italic text represents variable code or command-line objects that are replaced by an actual value or parameter.
Interface	Bold text is used for interface options that you select (such as menu items) as well as keyboard commands.
<i>Files, components, and documents</i>	Italic text is used to highlight the following items: <ul style="list-style-type: none">• Pathnames, file names, and programs• The names of other documents referenced in this guide

About Vizioncore Inc.

Vizioncore was formed in July 2002 as a consulting and software-development company with the mission to create easy-to-use software solutions that performed reliable and repeatable automation of datacenter functions specifically for the Citrix platform. A main corporate goal was to enable business partners to offer solutions that targeted real-world IT issues and provided the best possible installation and automation for their clients' systems.

Vizioncore's solutions have proved successful in organizations from small to mid-sized businesses to large enterprises, in a wide variety of vertical industries, including

Financial Services, Government, Healthcare, Manufacturing, and High Tech.
Vizioncore, Inc. can be found in offices around the globe and at www.vizioncore.com.

Contacting Dell

Note: If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

- 1 Visit <http://support.dell.com>.
- 2 Verify your country or region in the Choose A Country/Region drop-down menu at the bottom of the page.
- 3 Click Contact Us on the left side of the page. Note: Toll-free numbers are for use within the country for which they are listed.
- 4 Select the appropriate service or support link based on your need.
- 5 Choose the method of contacting Dell that is convenient for you.

Country (City)	Service Type	Area Codes, Local Numbers, and Toll-Free Numbers Web and E-Mail Addresses
International Access Code Country Code City Code		
Anguilla	Web Address E-Mail Address Technical Support., Customer Service, Sales	www.Dell.com/ai la-techsupport@dell.com toll-free: 800-335-0031
Antigua and Barbuda	Web Address E-Mail Address Technical Support., Customer Service, Sales	www.Dell.com.ag la-techsupport@dell.com 1-800-805-5924
Aomen	Technical Support Dell™ Dimension™, Dell Inspiron™, Dell Optiplex™, Dell Latitude™, and Dell Precision™ Servers and Storage	0800-105 0800-105
Argentina (Buenos Aires) International Access Code: 00 Country Code: 54 City Code: 11	Web Address E-Mail Address for Desktop/ Portable Computers E-Mail Address for Servers and EMC® Storage Products Customer Service Technical Support Technical Support Services Sales	www.dell.com.ar la-techsupport@dell.com la_enterprise@dell.com toll-free: 0-800-444-0730 toll-free: 0-800-444-0733 toll-free: 0-800-444-0724 0-800-444-3355
Aruba	Web Address E-Mail Address Technical Support., Customer Service, Sales	www.Dell.com/aw la-techsupport@dell.com toll-free: 800-1578
Australia (Sydney) International Access Code: 0011 Country Code: 61 City Code: 2	Web Address Contact Dell Web Address Technical Support., Customer Service, Sales	support.ap.dell.com support.ap.dell.com/contactus 13DELL-133355

Austria (Vienna)	Web Address	Support.euro.dell.com
International Access Code: 900	E-Mail Address	Tech_support_central_europe@dell.com
Country Code: 43	Home/Small Business Sales	0820 240 530 00
City Code: 1	Home/Small Business Fax	0820 240 530 49
	Home/Small Business Customer Service	0820 240 530 14
	Home/Small Business Support	0820 240 530 17
	Preferred Accounts/Corporate Customer	0820 240 530 16
	Service Preferred Accounts/Corporate Customer	0820 240 530 17
	Switchboard	0820 240 530 00
Bahamas	Web Address	www.dell.com/bs
	E-Mail Address	la-techsupport@dell.com
	Technical Support., Customer Service, Sales	toll-free: 1-866-874-3038
Barbados	Web Address	www.dell.com/bb
	E-Mail Address	la-techsupport@dell.com
	Technical Support., Customer Service, Sales	1-800-534-3142
Belgium (Brussels)	Web Address	Support.euro.dell.com
	General Support	02 481 92 88
	General Support Fax	02 481 92 95
	Customer Service	02 713 15 65
	Corporate Sales	02 481 91 00
	Fax	02 481 91 99
	Switchboard	02 481 91 00
Bolivia	Web Address	www.dell.com/bo
	E-Mail Address	la_techsupport@dell.com
	Technical Support., Customer Service, Sales	toll-free: 800-10-0238
Brazil	Web Address	www.dell.com/br
International Access Code: 00	E-Mail Address	BR_TechSupport@dell.com
Country Code: 55	Customer Service and Tech Support	0800 970 3355
City Code: 51	Technical Support Fax	51 2104 5470
	Customer Service Fax	51 2104 5480
	Sales	0800 722 3498
British Virgin Islands	Technical Support, Customer Service, Sales	toll-free: 1-866-278-6820
Brunei	Technical Support (Penang, Malaysia)	604 633 4966
Country Code: 673	Customer Service (Penang, Malaysia)	604 633 4888
	Transaction Sales (Penang, Malaysia)	604 633 4955
Canada (North York, Ontario)	Online Order Status Web Address	www.dell.ca/ostatus
International Access Code: 011	AutoTech (automated Hardware and Warranty Support)	support.ca.dell.com
	Customer Service	toll-free:1-800-247-9362
	Home/Home Office	toll-free:1-800-847-4096
	Small Business	toll-free:1-800-906-3355
	Medium/Large Business, Government, Education	toll-free:1-800-387-5757
	Hardware Warranty Phone Support	
	Computers for Home/Home Office	toll-free:1-800-847-4096
	Computers for Small/Medium/Large Business	toll-free:1-800-387-5757
	Government	
	Printers, Projectors, Televisions, Handheld, Digital	1-877-335-5767
	Jukebox, and Wireless Sales	toll-free:1-800-999-3355
	Home and Home Office Sales	toll-free:1-800-387-5752
	Small Business	toll-free:1-800-387-5755
	Medium/Large Business, Government	1 866 440 3355
	Spare Parts and Extended Service	
Cayman Islands	E-Mail Address	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	1-877-262-5415

Chile (Santiago)	Web Address	www.dell.com/cl
Country Code: 56	E-Mail Address	la-techsupport@dell.com
City Code: 2	Sales and Customer Support	toll-free: 1230-020-4823
China (Xiamen)	Technical Support Web Address	support.dell.com.cn
Country Code: 86	Technical Support E-Mail Address	support.dell.com.cn/email
City Code: 592	Customer Service E-Mail Address	customer_cn@dell.com
	Technical Support Fax	592 818 14350
	Technical Support – Dimension and Inspiron	toll-free: 800 858 2969
	Technical Support – OptiPlex, Latitude and Dell Precision	toll-free: 800 858 0950
	Technical Support – Servers and Storage	toll-free: 800 858 0960
	Technical Support – Projectors, PDAs, Switches, Routers, etc	toll-free: 800 858 2920
	Technical Support – Printers	toll-free: 800 858 2311
	Customer Service	toll-free: 800 858 2060
	Customer Service Fax	592 818 1308
	Home and Small Business	toll-free: 800 858 2222
	Preferred Accounts Division	toll-free: 800 858 2557
	Large Corporate Accounts GCP	toll-free: 800 858 2055
	Large Corporate Accounts Key Accounts	toll-free: 800 858 2628
	Large Corporate Accounts North	toll-free: 800 858 2999
	Large Corporate Accounts North Government and Education	toll-free: 800 858 2955
	Large Corporate Accounts East	toll-free: 800 858 2020
	Large Corporate Accounts East Government and Education	toll-free: 800 858 2669
	Large Corporate Accounts Queue Team	toll-free: 800 858 2572
	Large Corporate Accounts South	toll-free: 800 858 2355
	Large Corporate Accounts West	toll-free: 800 858 2811
	Large Corporate Accounts Spare Parts	toll-free: 800 858 2621
Columbia	Web Address	www.dell.com/co
	E-Mail Address	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	01-800-915-4755
Costa Rica	Web Address	www.dell.com/cr
	E-Mail Address	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	0800-012-0231
Czech Republic (Prague)	Web Address	support.euro.dell.com
International Access	E-Mail Address	czech_dell@dell.com
Code: 00	Technical Support	22537 2727
Country Code: 420	Customer Service	22537 2707
	Fax	22537 2714
	Technical Fax	22537 2728
	Switchboard	22537 2711
Denmark (Copenhagen)	Web Address	Support.euro.dell.com
International Access	Technical Support	7023 0182
Code: 00	Customer Service – Relational	7023 0184
Country Code: 45	Home/Small Business Customer Service	3287 5505
	Switchboard – Relational	3287 1200
	Switchboard Fax – Relational	3287 1201
	Switchboard – Home/Small Business	3287 5000
	Switchboard Fax – Home/Small Business	3287 5001
Dominica	Web Address	www.dell.com/dm
	E-Mail Address	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	toll-free: 1-866-278-6821

Dominican Republic	Web Address	www.dell.com/do
	E-Mail Address	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	1-800-156-1588
Ecuador	Web Address	www.dell.com/ec
	E-Mail Address	la-techsupport@dell.com
	Technical Support, Customer Service, Sales (Calling from Quito)	toll-free: 999-119-877-655-3355
	Technical Support, Customer Service, Sales (Calling from Guayaquil)	toll-free: 1800-999-119-877-655-3355
El Salvador	Web Address	www.dell.com/sv
	E-Mail Address	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	800-6132
Finland (Helsinki)	Web Address	support@euro.dell.com
International Access Code: 990 Country Code: 358 City Code: 9	E-Mail Address	fi_support@dell.com
	Technical Support	0207 533 555
	Customer Service	0207 533 538
	Switchboard	0207 533 533
	Sales under 500 employees	0207 533 540
	Fax	0207 533 530
	Sales over 500 employees	0207 533 533
	Fax	0207 533 530
France (Paris) (Montpellier) International Access Code: 00 Country Code: 33 City Codes: (1) (4)	Web Address	Support.euro.dell.com
	Home and Small Business	
	Technical Support	0825 387 270
	Customer Service	0825 832 833
	Switchboard	0825 004 700
	Switchboard (calls from outside of France)	04 99 75 40 00
	Sales	0825 004 700
	Fax	0825 004 701
	Fax (calls from outside of France)	04 99 75 40 01
	Corporate	
	Technical Support	0825 004 719
	Customer Service	0825 338 339
	Switchboard	55 94 71 00
	Sales	01 55 94 71 00
Germany (Frankfurt)	Web Address	support.euro.dell.com
	E-mail Address	tech_support_central_europe@dell.com
	Technical Support	069 9792-7200
	Home/Small Business Customer Service	0180-5-224400
	Global Segment Customer Service	069 9792-7320
	Preferred Accounts Customer Service	069 9792-7320
	Large Accounts Customer Service	069 9792-7320
	Public Accounts Customer Service	069 9792-7320
Greece	Switchboard	069 9792-7000
	Web Address	Support.euro.dell.com
	Technical Support	00800-44 14 95 18
	Gold Service Technical Support	00800-44 14 00 83
	Switchboard	2108129810
	Gold Service Switchboard	2108129811
	Sales	2108129800
	Fax	2108129812
Grenada	Web Address	www.dell.com/gd
	E-Mail Address	la-techsuppo@dell.com
	Technical Support, Customer Service, Sales	toll-free: 1-866-540-3355

Guatemala	Web Address	www.dell.com/gt
	E-Mail Address	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	1-800-999-0136
Guyana	E-Mail Address	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	toll-free: 1-877-270-4609
Hong Kong	Web Address	support.ap.dell.com
International Access Code: 001 Country Code: 852	Technical Support E-mail Address	support.dell.com.cn/email
	Technical Support - Dimension and Inspiron	00852-2969 3188
	Technical Support - OptiPlex, Latitude, and Dell Precision	00852-2969 3191
	Technical Support - Servers and Storage	00852-2969 3196
	Technical Support - Projectors, PDAs, Switches, Routers, etc .	00852-3416 0906
	Customer Service	00852-3416 0910
	Large Corporate Accounts	00852-3416 0907
	Global Customer Programs	00852-3416 0908
	Medium Business Division	00852-3416 0912
	Home and Small Business Division	00852-2969 3105
India	Dell Support Website	support.ap.dell.com
Portable and Desktop Support		
	Desktop Support E-mail Address	india_support_desktop@dell.com
	Portable Support E-mail Address	india_support_notebook@dell.com
	Phone Numbers	080-25068032 or 080-25068034 or your city STD code + 60003355 or toll-free: 1-800-425-8045
Server Support		
	E-mail Address	india_support_Server@dell.com
	Phone Numbers	080-25068032 or 080-25068034 or your city STD code + 60003355 or toll-free: 1-800-425-8045
Gold Support Only		
	E-mail Address	eec_ap@dell.com
	Phone Numbers	080-25068033 or your city STD code + 60003355 or toll-free: 1-800-425-9045
Customer Service		
	Home and Small Business	India_care_HSB@dell.com toll-free : 1800-4254051
	Large Corporate Accounts	India_care_REL@dell.com toll free : 1800-4252067
Sales		
	Large Corporate Accounts	1600 33 8044
	Home and Small Business	1600 33 8046

Ireland (Cherrywood)	Web Address	Support.euro.dell.com
International Access Code: 00	Technical Support	
Country Code: 353	E-mail Address	dell_direct_support@dell.com
City Code: 1	Business computers	1850 543 543
	Home computers	1850 543 543
	At Home Support	1850 200 889
	Sales	
	Home	1850 333 200
	Small Business	1850 664 656
	Medium Business	1850 200 646
	Large Business	1850 200 646
	E-mail Address	Dell_IRL_Outlet@dell.com
	Customer Service	
	Home and Small Business	204 4014
	Business (greater than 200 employees)	1850 200 982
	General	
	Fax/Sales fax	204 0103
	Switchboard	204 4444
	U.K. Customer Service (dealing with U.K. only)	0870 906 0010
	Corporate Customer Service (dial within U.K. only)	0870 907 4499
	U.K. Sales (dial within U.K. only)	0870 907 4000
Italy (Milan)	Web Address	Support.euro.dell.com
International Access Code: 00	Home and Small Business	
Country Code: 39	Technical Support	02 577 826 90
City Code: 02	Customer Service	02 696 821 14
	Fax	02 696 821 13
	Switchboard	02 696 821 12
	Corporate	
	Technical Support	02 577 826 90
	Customer Service	02 577 825 55
	Fax	02 575 035 30
	Switchboard	02 577 821
Jamaica	E-mail Address	ja-techsupport@dell.com
	Technical Support, Customer Service, Sales (dial from within Jamaica only)	1-800-440-920

Japan (Kawasaki)	Web Address	support.jp.dell.com
International Access Code: 001 Country Code: 81 City Code: 44	Technical Support - Dimension and Inspiron	toll-free: 0120-198-26
	Technical Support outside of Japan - Dimension and Inspiron	81-44-520-1435
	Technical Support - Dell Precision, OptiPlex, and Latitude	toll-free: 0120-198-433
	Technical Support outside of Japan - Dell Precision, OptiPlex, and Latitude	81-44-556-3894
	Technical Support - Dell PowerApp™, Dell PowerEdge™, Dell PowerConnect™, and Dell PowerVault™,	toll-free: 0120-198-498
	Technical Support outside of Japan - PowerApp, PowerEdge, PowerConnect, and PowerVault	81-44-556-4162
	Technical Support - Projectors, PDAs, Printers, Routers	toll-free: 0120-981-690
	Technical Support outside of Japan - Projectors, PDAs, Printers, Routers	81-44-556-3468
	Faxbox Service	044-556-3490
	24-Hour Automated Order Status Service	044-556-3801
	Customer Service	044-556-4240
	Business Sales Division - up to 400 employees	044-556-1465
	Preferred Accounts Division Sales - over 400 employees	044-556-3433
	Public Sales - government agencies, educational institutions, and medical institutions	044-556-5963
Global Segment Japan	044-556-3469	
Individual User	044-556-1657	
Individual User Online Sales	044-556-2203	
Individual User Real Site Sales	044-556-4649	
Switchboard	044-556-4300	
Korea (Seoul)	Web Address	Support.ap.dell.com
International Access Code: 001 Country Code: 82 City Code: 2	Technical Support, Customer Service	toll-free: 080-200-3800
	Technical Support - Dimension, PDA, Electronics, and Accessories	toll-free: 080-200-3801
	Sales	toll-free: 080-200-3600
	Fax	2194-6202
	Switchboard	2194-6000
Latin America	Customer Technical Support (Austin, Texas, U.S.A.)	512 728-4093
	Customer Service (Austin, Texas, U.S.A.)	512 728-3619
	Fax (Technical Support and Customer Service) (Austin, Texas, U.S.A.)	512 728-3883
	Sales (Austin, Texas, U.S.A.)	512 728-4397
	SalesFax (Austin, Texas, U.S.A.)	512 728-4600 or 512 728-3772
Luxemborg	Web Address	Support.euro.dell.com
International Access Code: 00 Country Code: 352	Support	3420808075
	Home/Small Business Sales	+32 (0)2 713 15 96
	Corporate Sales	26 25 77 81
	Customer Service	+32 (0)2 481 91 19
	Fax	26 25 77 82
Macao	Technical Support	toll-free: 0800 105
Country Code: 83	Customer Service (Xiamen, China)	34 160 910
	Transaction Sales (Xiamen, China)	29 693 115

Malaysia (Penang)	Web Address	Support.ap.dell.com
International Access Code: 00	Technical Support - Dell Precision, OptiPlex, and Latitude	toll-free: 1800 880 193
Country Code: 60	Technical Support - Dimension, Inspiron, and Electronics and Accessories	toll-free: 1800 881 306
City Code: 4	Technical Support - PowerApp, PowerEdge, PowerConnect, and PowerVault	toll-free: 1800 881 386
	Customer Service	toll-free: 1800 881 306 (option 6)
	Transaction Sales	toll-free: 1800 888 202
	Corporate Sales	toll-free: 1800 888 213
Mexico	Web Address	www.dell.com/mx
International Access Code: 00	E-mail Address	la-techsupport@dell.com
Country Code: 52	Customer Technical Support	001-877-384-8979 or 001-877-269-3383
	Sales	50-81-8800 or 01-800-888-3355
	Customer Service	001-877-384-8979 or 001-877-269-3383
	Main	50-81-8800 or 01-800-888-3355
Montserrat	E-mail Address	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	Toll-free: 1-866-278-6822
Netherlands	E-mail Address	la-techsupport@dell.com
Antilles	Web Address	support.euro.dell.com
Netherlands (Amsterdam)	Technical Support	020 674 45 00
International Access Code: 00	Technical Support Fax	020 674 47 66
Country Code: 31	Home/Small Business Customer Service	020 674 42 00
City Code: 20	Relational Customer Service	020 674 43 25
	Home/Small Business Sales	020 674 55 00
	Relational Sales	020 674 50 00
	Home/Small Business Sales Fax	020 674 47 75
	Relational Sales Fax	020 674 47 50
	Switchboard	020 674 50 00
	Switchboard Fax	020 674 47 50
New Zealand	Web Address	Support.ap.dell.com
International Access Code: 00	E-mail Address	Support.ap.dell.com/contactus
Country Code: 64	Technical Support, Customer Service, Sales	0800 441 567
Nicaragua	Web Address	www.dell.com/ni
	E-mail Address	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	001-800-220-1377
Norway (Lysaker)	Web Address	Support.euro.dell.com
International Access Code: 00	Technical Support	671 16882
Country Code: 47	Relational Customer Service	671 17575
	Home/Small Business Customer Service	231 62298
	Switchboard	671 16800
	Fax Switchboard	671 16865
Panama	Web Address	www.dell.com/pa
	E-mail Address	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	011-800-507-1264
Peru	Web Address	www.dell.com/pe
	E-mail Address	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	0800-50-669

Poland (Warsaw)	Web Address	support.euro.dell.com
International Access Code: 011	E-mail Address	pl_support_tech@dell.com
Country Code: 48	Customer Service Phone	57 95 700
City Code: 22	Customer Service	57 95 999
	Sales	57 95 999
	Customer Service Fax	57 95 806
	Reception Desk Fax	57 95 998
	Switchboard	57 95 999
Portugal	Web Address	Support.euro.dell.com
International Access Code: 00	Technical Support	707200149
Country Code: 351	Customer Service	800 300 413
	Sales	800-300-410 or 800-300 -411 or 800-300-412 or 21-422-07-10
	Fax	21-424-01-12
Puerto Rico	Web Address	www.dell.com/pr
	E-mail Address	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	1-877-537-3355
St. Kitts and Nevis	Web Address	www.dell.com/kn
	E-mail Address	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	toll-free: 1-866-540-3355
St. Lucia	Web Address	www.dell.com/lc
	E-mail Address	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	toll-free: 1-866-464-4352
St. Vincent and the Grenadines	Web Address	www.dell.com/vc
	E-mail Address	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	toll-free: 1-866-464-4353
Singapore	NOTE: The phone numbers in this section should be called from within Singapore or Malaysia only.	
International Access Code: 005	Web Address	support.ap.dell.com
Country Code: 65	Technical Support - Dimension, Inspiron, and Electronics and Accessories	toll-free: 1 800 394 7430
	Technical Support - OptiPlex, Latitude, and Dell Precision	toll-free: 1 800 394 7488
	Technical Support - PowerApp, PowerEdge, PowerConnect, and PowerVault	toll-free: 1 800 394 7478
	Customer Service	toll-free: 1 800 394 7430 (option 6)
	Transaction Sales	toll-free: 1 800 394 7412
	Corporate Sales	toll-free: 1 800 394 7419
Slovakia (Prague)	Web Address	support.euro.dell.com
International Access Code: 00	E-mail Address	czech_dell@dell.com
Country Code: 421	Technical Support	02 5441 5727
	Customer Service	420 22537 2707
	Fax	02 5441 8328
	Tech Fax	02 5441 8328
	Switchboard (Sales)	02 5441 8328 02 5441 7585
South Africa (Johannesburg)	Web Address	support.euro.dell.com
International Access Code: 09/091	E-mail Address	dell_za_suppor@dell.com
Country Code: 27	Gold Queue	011 709 7713
City Code: 11	Technical Support	011 709 7710
	Customer Service	011 709 7707
	Sales	011 709 7700

Spain (Madrid)	Web Address	Support.euro.com
International Access Code: 00 Country Code: 34 City Code: 91	Home and Small Business	
	Technical Support	902 100 130
	Customer Service	902 118 540
	Sales	902 118 541
	Switchboard	902 118 541
	Fax	902 118 539
	Corporate	
	Technical Support	902 100 130
	Customer Service	902 115 236
	Switchboard	91 722 92 00
Fax	91 722 95 83	
Sweden (Upplands Vasby)	Web Address	support.euro.dell.com
International Access Code: 00 Country Code: 46 City Code: 8	Technical Support	08 590 05 199
	Relational Customer Service	08 590 05 642
	Home/Small Business Customer Service	08 587 70 527
	Employee Purchase Program (EPP) Support	020 140 14 44
	Technical Support Fax	08 590 05 594
Switzerland (Geneva)	Web Address	Support.euro.dell.com
International Access Code: 00 Country Code: 41 City Code: 22	E-mail Address	Tech_support_central_Europe@dell.com
	Technical Support – Home and Small Business	0844 811 411
	Technical Support – Corporate	0844 822 844
	Customer Service – Home and Small Business	0848 802 202
	Customer Service – Corporate	0848 821 721
	Fax	022 799 01 90
	Switchboard	022 799 01 01
Taiwan	Web Address	support.ap.dell.com
International Access Code: 002 Country Code: 886	E-mail Address	support.dell.com.cn/email
	Technical Support - OptiPlex, Latitude, Inspiron, Dimension, and Electronics and Accessories	toll-free: 0080 186 1011
	Technical Support - Servers and Storage	toll-free: 0080 160 1256
	Customer Service	toll-free: 0080 160 1250 (option 5)
	Transaction Sales	toll-free: 0080 165 1228
	Corporate Sales	toll-free: 0080 165 1227
Thailand	Web Address	Support.ap.dell.com
International Access Code: 001 Country Code: 66	Technical Support (OptiPlex, Latitude, and Dell Precision)	toll-free: 1800 0060 07
	Technical Support (PowerApp, PowerEdge, PowerConnect, and PowerVault)	toll-free: 1800 0600 09
	Customer Service	toll-free: 1800 006 007 (option 7)
	Corporate Sales	toll-free: 1800 006 009
	Transaction Sales	toll-free: 1800 006 006
Trinidad/Tobago	Web Address	www.dell.com/ff
	E-mail Address	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	toll-free: 1-888-799-5908
Turks and Caicos Islands	Web Address	www.dell.com/tc
	E-mail Address	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	toll-free: 1-877-441-4735

U.K.(Bracknell)	Web Address	upport.euro.dell.com
International Access Code: 00	E-mail Address	dell_direct_support@dell.com
Country Code: 44	Customer Service Website	support.euro.dell.com/uk/en/ECare/form/home.asp
City Code: 1344	Sales	
	Home and Small Business Sales	0870 907 4000
	Corporate/Public Sector Sales	01344 860 456
	Customer Service	
	Home and Small Business	0870 906 0010
	Corporate	01344 373 185
	Preferred Accounts (500-5000 employees)	0870 906 0010
	Global Accounts	01344 373 186
	Central Government	01344 373 196
	Local Government & Education	01344 373 199
	Health	01344 373 194
	Technical Support	
	Corporate/Preferred Accounts/PCA (1000+ employees)	0870 908 0500
	Other Dell Products	0870 353 0800
	General	
	Home and Small Business Fax	0870 907 4006
Uruguay	Web Address	www.dell.com/uy
	E-mail Address	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	toll-free: 000-413-598-2521
U.S.A. (Austin, Texas)	Automated Order-Status Service	toll-free: 1-800-433-9014
International Access Code: 011	AutoTech (portable and desktop computers)	toll-free: 1-800-247-9362
Country Code: 1	Hardware and Warranty Support (Dell TV, Printers, and Projectors) for Relationship customers	toll-free: 1-877-459-7298
	Consumer (Home and Home Office) Support for Dell products	toll-free: 1-800-624-9896
	Customer Service	toll-free: 1-800-624-9897
	Employee Purchase Program (EPP) Customers	toll-free: 1-800-695-8133
	Financial Services Web Address	www.dellfinancialservices.com
	Financial Services (lease/loans)	toll-free: 1-877-577-3355
	Financial Services (Dell Preferred Accounts [DPA])	toll-free: 1-800-283-2210
	Business	
	Customer Service	toll-free: 1-800-624-9897
	Employee Purchase Program (EPP)	toll-free: 1-800-695-8133
	Customer s Support for printers, projectors, PDAs, and MP3 players	toll-free: 1-877-459-7298
	Public (government, education, and healthcare)	
	Customer Service and Support	toll-free: 1-800-456-3355
	Employee Purchase Program (EPP) Customers	toll-free: 1-800-695-8133
	Dell Sales	toll-free: 1-800-289-3355 or toll-free: 1-800-879-3355
	Dell Outlet Store (Dell refurbished computers)	toll-free: 1-888-798-7561
	Software and Peripherals Sales	toll-free: 1-800-671-3355
	Spare Parts Sales	toll-free: 1-800-357-3355
	Extended Service and Warranty Sales	toll-free: 1-800-247-4618
	Fax	toll-free: 1-800-727-8320
	Dell Services for the Deaf, Hard-of-Hearing, or Speech-Impaired	toll-free: 1-877-DELLTTY (1-877-335-5889)

U.S. Virgin Islands	Web Address	www.dell.com/vi
	E-mail Address	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	toll-free: 1-877-702-4360
Venezuela	Web Address	www.dell.com/ve
	E-mail Address	la-techsupport@dell.com
	Technical Support, Customer Service, Sales	0800-100-4752

Using the Web Component Tutorial

This chapter contains the following sections:

Introduction	28
How to Use this Tutorial	33
Printing the Tutorial	33
Getting More Help	33

Introduction

You may already know how to view the performance of your servers and applications with vFoglight and use it to monitor each component of the technology stack to detect and alert application owners of problems before they affect performance.

With vFoglight, application and IT managers can understand end-user service levels for their critical business applications, notify stakeholders when those service levels are violated, and assign problem resolution tasks to the appropriate domain expert.

In addition to vFoglight's core performance management capabilities, vFoglight offers specialized monitoring for all application tiers including: End-User Response, Application, Web Servers, Application Servers, Databases, and Operating Systems.

That is a lot of capability, and the volume of data being collected can be overwhelming. The views in the browser interface attempt to organize the data into meaningful summaries, with drilldowns to increasingly specific information about a chosen component, such as a single host or a particular database instance.

It is likely that you have organized the top-level screens around the concept of services, you have chosen them to show a view that should be useful to a broad range of users—those with typical environments. In all likelihood your environment is not quite typical, and as you gain familiarity with the browser interface's views you will imagine ways that they could be improved to reflect the way that you would like to organize and visualize your data.

Note You must have a vFoglight Dashboard Developer role to develop new dashboards.

vFoglight Browser Interface Views

Vizioncore's designers anticipated your need to customize the vFoglight browser interface, so they included the means to allow you to access the product's component framework and create your own custom views. You can populate these views with other display components, such as charts and tables, and connect them to data sources. It is the same data that the vFoglight agents have been configured to collect, but now it is organized in a way that best fits your business model and its information needs.

The end result is a monitoring system that organizes data in a way that mirrors your business model. Real-time monitoring data is presented the way you want to see it, and you better control your application's availability. This also helps you with service level management: because your custom views show services in a cleaner way, you can

inform application and IT managers about end-user service levels, notify stakeholders when those service levels are violated, and assign problem resolution tasks to the appropriate domain experts. Custom views that focus on known trouble spots can help establish processes for quick recovery from system failure.

Why Configure the Default Views?

Suppose your company's rapid expansion has led to the addition of many different application systems and groups, with each support team comfortable with their own legacy systems. In total, your IT department is responsible for managing an ERP system consisting of many servers and Oracle databases distributed across a number of major locations.

Before the acquisition of vFoglight, homegrown scripts and applications were used to monitor these distributed systems, which made it difficult for the support organization to manage the information and care for the entire distributed environment.

Now you have vFoglight, a standardized monitoring system that provides centralized management and allows people to attack problems from the same perspective, proactively monitor a large heterogeneous environment, and offers access to this distributed monitoring system via a Web browser. You and your team can see the big picture and correlate events between systems for the entire application. With vFoglight, the situation can be improved even further.

vFoglight uses a configurable Web-based interface. By doing your own custom configurations, you can apply your detailed knowledge of your system to augment or replace the out-of-the-box views vFoglight shows by default.

This helps vFoglight to notify you directly when something is broken, rather than relying on a user notifying a help desk, getting a trouble ticket, and only then having the support group notified. If a custom configuration presents a clearer view or better correlation of events between all systems, and leads to pinpointing a problem that might otherwise take longer to notice and to diagnose, then the time spent in crafting the custom view is well spent.

The aim of this tutorial is to make the learning curve less steep. In it, you'll see how to create additional views, populate them with GUI components, and connect these components to data sources.

What is the Web Component Framework?

The Web Component Framework is a superset of the View Component collection that contains other control components, such as renderers. It is used to build thin client interfaces for products that are primarily (but not necessarily) in the systems management domain. This is the framework you will use in this tutorial.

The Web Component Framework is written in Java and is capable of running in a web container such as Tomcat. It can be used on contemporary web browsers without requiring the use of a plug-in. It is portal-like, but is not a JSR-168 standard portal.

The top level of the Web Component Framework is comprised of panels. The items in the left- and right panels can provide access to several different display types:

- A context-free view, which can be a dashboard or portal
- A specialized browser, which is a two-pane display—navigator and page
- A page, which is a special high-level construct that contains one or more views for which a context is required, and is normally used for a drilldown view
- A custom display in which the application supplies an HTML fragment

View Components

View components are the visible components in the user interface. Multiple components can be arranged on a page and some components can be nested within others. A view contains both view components and configuration information.

Types of view components:

- Containers, such as various layouts, splitters, report generator
- Data visualization components, such as charts, tables, gauges, labels, trees
- Specialized components, such as RSS feeds

The configuration information includes flow control, contextual inputs, data binding, and query specification.

There are two styles to choose from, a browser, which contains a navigator, or the plain view that presents a simple page without a navigation component.

Pages can be decorated with headers, which may contain:

- Breadcrumbs: A Page Name preceded by other page names
- Time Region, which may contain
 - Timestamp: if no time range is applied to the page

- Time Range: if available, applies to all views
- Nothing: if multiple time ranges are represented
- Page Scope Actions, such as
 - View menu: actions you can perform on the view
 - Help menu: help for all components on the current page
- Optional Page Scope Actions, such as:
 - Time Range: change the time range of the page
 - View menu: in a browser, causes a switch to a different page

View Layouts

These layouts are available:

Grid

- Views can size themselves appropriately or be hard-coded to a fixed size.
- Views with title bars can be collapsed and expanded.
- Fixed size views grow their own scroll bars as necessary while variable sized components cause the browser to grow scroll bars as necessary.

Fixed

- All views are exactly placed and sized. This layout is useful for monitoring views with fixed real estate when you want to make sure that all the important information is always on the screen.

Portal

- Allows the page to be dynamically configured by a user. The major drawback of this layout is that the components cannot interact in any complex way.

Data Sources

Data sources encapsulate all that the system knows about the data and yet cleanly separates knowledge of the data from how it is presented.

The data source is organized as a dynamic graph of objects, starting from a root that represents the entire data model.

“Objects” are defined in the API and are not tied to the creation of any particular Java Object.

The implementation of the data source must provide a schema for the objects. The schema can be changed dynamically.

Schema must provide:

- Object types
- Object properties
- Property units and bounds
- Localizations for property names, object types, unit labels

Data Source Queries

- Syntax resembles SQL, but queries return objects
- Strongly typed
- Not free-form

How to Use this Tutorial

This tutorial will help you to learn how to use the vFoglight Configuration area to create custom views that present collected data in a way that makes the most sense to you. It is aimed at users who want to provide their clients with a specially-tailored set of views to augment the default views.

The vFoglight default views are organized around the concept of services and can be modified easily to suit any organization's perception of its data interrelationships. There may be situations that require special views—ones that demand more than the types of reorganization afforded by vFoglight's top-level edit mechanism. In this case, it becomes necessary to work with the Web Component Framework, which was used to build the UI for vFoglight. This tutorial serves as a starting place for learning how to use the Web Component Reference, which describes all the components, renderers, and other elements in the Web Component Framework.

You begin by creating a very simple view, called a dashboard, that contains a table whose rows are all the hosts in your monitored space. From there, other examples illustrate how most common services in your monitored space can be reconfigured to suit your special circumstances.

The first part of the tutorial contains a discussion of the basic operations, such as creating a view that presents some static data. Further examples illustrate more complex objectives, such as creating a page that updates itself on the basis of a selection made in a drop-down list on the page itself.

New users—those unfamiliar with vFoglight—should complete the first exercise to familiarize themselves with the vFoglight user interface. Once you are familiar with the various editing pages and dialogs, you can tackle the more complex examples.

Printing the Tutorial

To print topics in this tutorial, click the print icon on the browser's menu bar.

Getting More Help

While this tutorial shows you how to use some of vFoglight's Web Component features, you may have questions about additional components and features. You will find information about using all of the components in the Vizioncore Web Component

Reference. To access the Web Component Reference, open **Web Component Reference > View Components** in online help. Use the table of contents in the left pane to navigate to the information you need.

Tutorial 1: Creating a Dashboard

The term dashboard is used in vFoglight to denote a container that presents a pre-set collection of visual data, but does not necessarily require any user interaction to complete the picture. Technically, a dashboard cannot have any required context inputs, although it can define additional context entries. A dashboard can be used to present an overall view of the health of a monitored system through the use of colored buttons, tabular data, various icons representing system alerts, and other graphical components. It supports a drilldown mechanism to show web pages containing more detailed information about the selected item.

This tutorial shows you how to create a dashboard that shows a table of all the hosts in the monitored system.

User actions that cause the view to update will be covered in a subsequent tutorial.

This chapter contains the following topics:

Before You Start	36
Configuring a Query	37
Configuring a Row-Oriented Table	40
Building the Dashboard	44
Summary	47

Before You Start

The first thing you have to decide is whether you want to take the top-down or the bottom-up approach. In the top-down approach, you create the dashboard first, then you populate it with components. In the bottom-up approach, you focus on the information you want to display, which forces you to think about which query or queries you want to build and how you want to present the results, such as in a table, or a chart, or some other component. The dashboard is a container that holds the components, so you define it after knowing what it will contain.

Since this is a tutorial, we will do a bit of both approaches. Our stated goal is to display a hosts table in the dashboard. That is our design for the moment. It is not really a design, just a bit of an outline, but it will serve to guide us as we build the view.

With that much of a goal in mind, we will start the bottom-up approach with a query. Next, we will use the query to populate the rows of a table and then add the table to an empty dashboard.

Anatomy of a Typical Dashboard

- A dashboard usually consists of a container, which in turn contains views.
- Views are assembled from Vizioncore View Components.
- View components are often required to display specific data, which may be set at design time or may be based on dynamically-generated runtime values. It is possible to configure a dashboard to respond to user interaction, which demands, in addition to input components and query-based data retrieval, a mechanism for passing information in the form of parameters.
- In the Web Component Framework, the query mechanism allows you to retrieve data from a data source, for example, vFoglight data from a vFoglight data source.
- Queries can be parameterized, allowing them to be modified at run time.
- A flow mechanism permits pages to be updated or linked to other pages.
- A context mechanism allows values, which may be objects, to be passed to dependent pages. Thus, dynamically-retrieved data on a parent page can be passed to a dependent page.

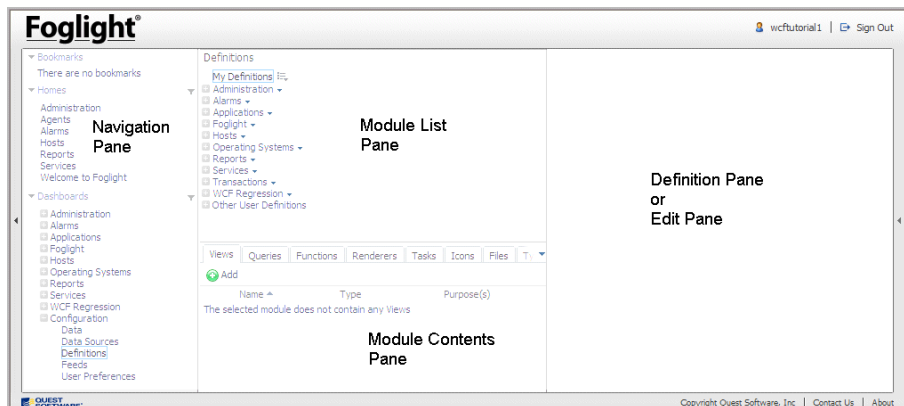
The starting place for working with View Components is to choose, from the left panel, in the Dashboards group, **Configuration > Definitions**. Make this selection to follow along with the tutorial. (Your user module is labeled My Definitions.)

UI Walkthrough

We will be using the **Configuration > Definitions** page as shown in the figure. It contains all the functionality needed to create new customized views as well as allowing someone with proper permissions to edit existing modules. The Module List pane at the upper left side of the window lists all the modules for which definitions exist.

We are going to be configuring a user query in your user area, so select **My Definitions**. Now focus your attention on the Module Contents pane in the lower left of the figure. At the top of the pane on the left there is an Add button. You will use this button to add your new query. Above the Add button there is a row of tabs. The first two on the left are Views and Queries. We will be working with just these in this part of the tutorial.

We are going to start by defining a query, so ensure that the Queries tab is selected. When it is, the *Module Definition* pane on the right side of the window will be used to configure the query.



Configuring a Query

Web Component Reference queries are similar to SQL queries and perform a similar function. They are used to select a subset of the information in a data source. vFoglight agents collect a vast amount of data, so Web Component Reference queries are used to access specific items. The Web Component Reference building blocks are used to present this information in a readily understandable way.

Recall that these queries return objects. In most cases you will want to use only a portion of the data returned by the query. The query we want to define will extract from

the data source information about all the hosts in our monitored system. To accomplish this task, it is helpful to understand something about Data Source Types, Data Source IDs, Object Types, and paths in the data object graph.

Note There are other parameters that may be used with a query, such as Aggregations, filtering the top N results, order by, and the familiar *where* clause. These parameters aren't needed for the simple query we are constructing as our first example, so we will not discuss them here.

Before you start the tutorial, choose the appropriate user name in the *User Views* section of the Module List Pane. You will probably choose the node that corresponds to your login name, but this tutorial assumes that you are signed in as the generic vFoglight user. You should make adjustments to the instructions to correspond to the node you are using.

To build a query:

- 1 Select the **Queries** tab in the Module Contents pane and then click **Add** ( Add).

The *New Query* dialog appears.

- 2 Ensure that **Blank Query** is chosen and set the *Data Source Type* to **vFoglight**. Click **OK**.

The *Definitions* pane displays the query editor, which contains all the fields used to construct a query. You don't have to fill in every field, but those you do are marked by an exclamation point icon on the right side of the field.

- 3 Type **Active Hosts** in the *Name* field.

You will use this name later on to refer to the query.

- 4 Leave **Root Query** unchecked.

Labeling a query as a root query causes the query to appear as a choice both in the Data tab of the Action Panel when one of your user dashboards is selected and in the Data menu choice under **Dashboards > Configuration > Data** in the Navigation Panel. You can browse the data structure returned by the query if you label it as a root query.

- 5 Leave **Public** unchecked.

Labeling a query as public allows it to be used in other modules. Since the tutorial is not meant to extend vFoglight's functionality, your queries and views do not need to be used in other modules.

- 6 Ensure that *Deprecated* is unchecked.

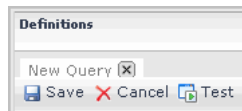
Checking this box indicates that the view is likely to be deleted or replaced by something else in the future. In addition, if selected, this property prevents the component from being used as a child component in new views.

- 7 The **Comments** and **Context Help** text fields are for describing the purpose of the query to developers and end users. You can supply descriptive text in these fields if you wish, but they are not needed for the tutorial.
- 8 Leave **Relevant Role(s)** and **Allowed Role(s)** not set. This makes the query available to everyone without restriction. See the section on Roles in the *Web Component Framework User Guide* for more information about setting roles.
- 9 Observe that the *Data Source Type* is **vFoglight**.
- 10 Ensure that the *Data Source ID* field's value is **(Default)**.
- 11 Choose **Host** from the *Object Type* drop-down list.

The list contains the names of all the object types known to this running instance of vFoglight. You' will be able to browse this object as soon as we set the path in the next step.

Note This list box responds to keystrokes, so you can type **H** to go to the Host option.

- 12 Searches normally start from the root (/), so ensure that *Root Path*, *Root* contains a slash (/).
- 13 Objects are grouped at some level down from the root. In this example, the object we want is in **ModelInstances**, so click the browse button (⋮) and choose it from the drop-down list in the *with Path* field.
- 14 At this point we have constructed a valid query. Test it by clicking the **Test** button, which is just below the bar containing the *New Query* tab.



The *Query Results* dialog appears, showing the name or names of the servers returned by the query and, in this case, the *Data Type* of the object, which is Host. The *Value* field is empty because there is no numerical value associated with objects. Simple types have values, objects do not.

Note You can see that the query did return a list of objects by clicking the expand icon (+) at the left of any host name in the *Query Results* dialog. When you do, you will see that some properties of the host have numerical values, others, which are themselves objects, show their object data type.

The *Query Results* dialog allows you to see all the properties of the object, which is useful if you want to determine their names for use later on.

15 Click **Close**.

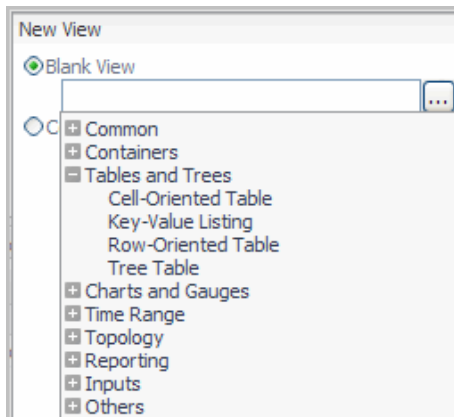
16 Click **Save** on the New Query's menu to save the query. The tab is renamed to *Active Hosts*.

Configuring a Row-Oriented Table

After completing the task in [Configuring a Query](#) you have a query that returns a list of hosts. The next step is to use the query to populate the rows of a table.

To construct a Row-Oriented table:

- 1 Select the **Views** tab in the Module Contents pane.
- 2 Click the **Add** button in the Module Contents pane.
The *New View* dialog appears.
- 3 Select **Blank View**.
- 4 Click the browse button (...) to display a list of view components.
- 5 Expand the **Tables and Trees** node.



- 6 Choose **Row-Oriented Table** from the drop-down list, and click **OK**.

The *Definitions* pane displays the views editor, which contains all the fields that can be used to construct a view. The required fields are marked by an exclamation

point icon at the right side of the field. In this case, only the **Name** field is required.

- 7 Type **Monitored Hosts** in the *Name* field.

You will use this name to refer to the Row-Oriented Table component later.

- 8 Leave *Public* unchecked.
- 9 Ensure that *Deprecated* is unchecked.
- 10 Set *Preferred Width* and *Preferred Height*. You can edit these values later when you have seen the table displayed, so you can choose any values you want. For now, set *Preferred Width* to **300** and *Preferred Height* to **150**.
- 11 Leave *Refresh Interval* blank.

To learn about the uses of refresh interval settings, see the *Web Component Framework User Guide*.

- 12 Leave *Priority* at None.

To learn about the uses of priority settings, see the *Web Component Framework User Guide*.

- 13 Set the *Purpose(s)* check boxes by clicking the **Edit** icon (≡). Since the table will be placed in a dashboard, we will check the **Pagelet** check box and leave all the other boxes unchecked. Click **Apply** to save the setting and close the popup.

- 14 Leave *Custom Purpose(s)*, *Relevant Role(s)* and *Allowed Role(s)* untouched.

See the *Administration and Configuration Guide* for a discussion of these items.

The table isn't fully configured yet, so if you try and save it now you will get an error that informs you that column values have not been set. The next procedure shows you how to choose columns for the table. The data in the columns' cells will be dynamically generated and will depend on the host.

- 15 Fill in the *Comments* and *Context Help* fields with any descriptive text that you feel is warranted. In a production environment, comments should contain information for other developers and context help should contain information for end users. It becomes part of the context sensitive help for the component.

Configuring the Table's Columns

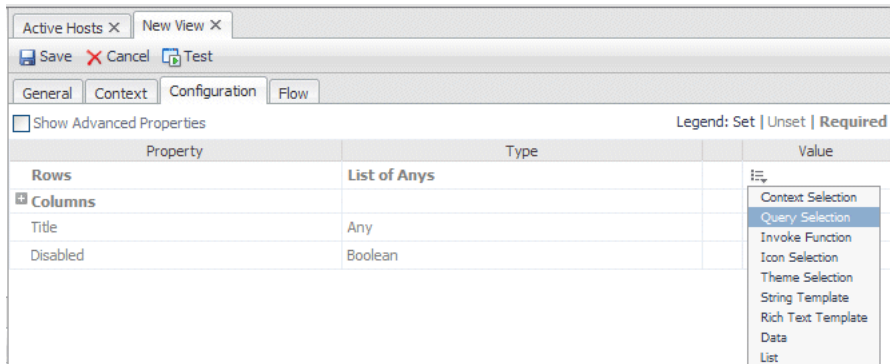
In the preceding steps you have given the table a name and you have set its size, but you have not said what the table will contain. In other words, you need to define the columns for the table. You do that in the *Configuration* tab.

To define the columns for the table:

- 1 Select the *Configuration* tab.

The table designer page appears in the right Definitions pane.

Leave *Show Advanced Properties* unchecked.



- 2 We need to tell the table that its rows will be populated from a query. Locate the row called *Rows*. Click the edit icon (⌘) and choose **Query Selection** from the popup.

The *Edit - Rows* dialog appears.

- 3 Click the **Query** browse button (⋮), locate the **Active Hosts** query and select it. (It is in *My Queries > Active Hosts*).
- 4 Click **Save**, leaving all the other fields untouched.

The table has been configured to get its information from a query that returns a list of hosts, but we still have to define which property of a host will appear in a column. For that, we will have to add a new column and define its content.

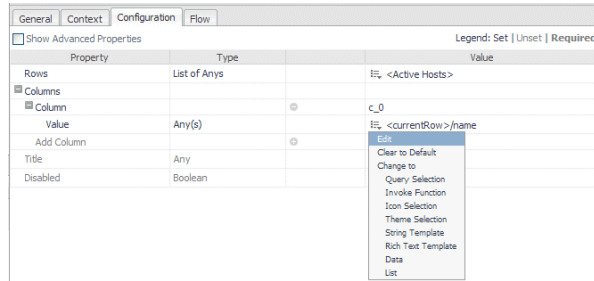
- 5 Expand the *Columns* node.

You will see a node called *Column* as well as a row called *Add Column*.

- 6 Expand the *Column* node.

The *Value* row becomes visible.

- 7 Click the **Edit** icon (⌘) on the *Value* row.



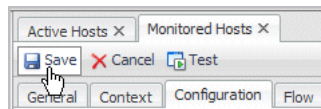
- 8 Choose *Context Selection* from the popup list.

The *Edit - Value* dialog opens.

- 9 Click the button at the right of the *Input Key* field and choose **currentRow** from the popup.
- 10 Click the browse button at the right of the *Path* field and choose **name** from the popup.

We want the name of a host to appear in this column of the table, so you might think you should choose `<host>/name` instead of `<currentRow>/name`. That won't work. The reason is that as it is being rendered the row has already been passed one of the *host* objects via the row query, and thus the current row has access to that host's name parameter via the generated context whose key is *currentRow*.

- 11 Click the **Save** button on the dialog.
- 12 Click **Save**, which is just below the bar containing the tabs, to save Monitored Hosts.



- 13 You have satisfied the minimum requirements to allow the table to be displayed.

At this point you could continue to add columns, thus building a table that presents the data you want to see presented for each host. We will leave the table for now and add more columns later.

Building the Dashboard

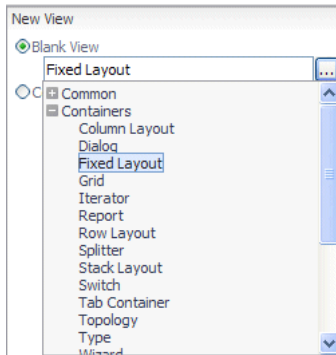
So far we have a query and we have a table to present some of the data that will be returned by the query. Now we need to configure a dashboard and place the table in it.

To configure a dashboard and add the table:

- 1 Select the **Views** tab in the *Module Contents* pane and then click the **Add** button (➕ Add).

The *New View* dialog appears.

- 2 Ensure that **Blank view** is selected and click the browse button (...). Expand the *Containers* group and choose **Fixed Layout** from the drop-down list. Click **OK**.



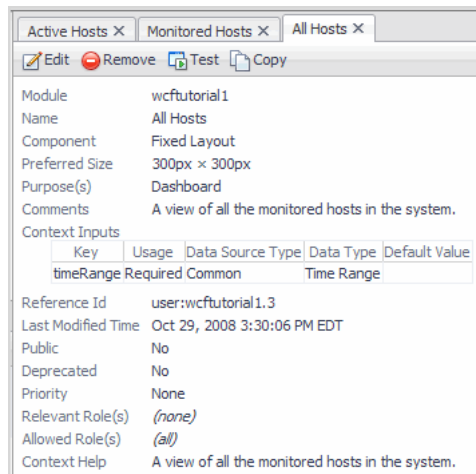
The views editor in the *Definitions* pane displays. The required fields are marked by an exclamation point icon (!). For this view component, the required fields are **Name**, and the **Preferred Width** and **Preferred Height** fields, as well as the **Dashboard** check box in **Purpose(s)**.

- 3 Type **All Hosts** in the *Name* field.
- 4 Leave *Public* unchecked.
- 5 Ensure that *Deprecated* is unchecked.
- 6 Set *Preferred Width* and *Preferred Height*. Since you can edit these values later when you have seen the table displayed, you can choose any values you want. For now, set *Preferred Width* to **300** and *Preferred Height* to **300**. These settings, as their name implies, do not ensure that the table will fit in the component. In a fixed layout container the actual table size can be set in the *Layout* tab.
- 7 Leave *Refresh Interval* blank.

- 8 Leave *Priority* at None.
- 9 Set the *Purpose(s)* check boxes by clicking the **Edit** icon (⚙️). Since the component is a dashboard, check the **Dashboard** box and leave all the other boxes unchecked. Click **Apply** to save the setting and close the popup.
- 10 Leave *Custom Purpose(s)*, *Relevant Role(s)*, and *Allowed Role(s)* untouched.
- 11 Fill in the *Comments* and *Context Help* fields with any descriptive text that you feel is appropriate.
- 12 Click **Save** to save your work so far.

The Definitions pane switches from edit mode to view mode and it presents the work you have done so far, as shown in the following figure.

Note Become familiar with the correspondence between the changes you made while in edit mode and the way those changes are presented in the view mode. Subsequent procedures in this tutorial will show the contents of the view mode, which you will use to make the required changes in edit mode.




- 13 Click **Edit** to continue modifying the dashboard.

Adding the Table to the Dashboard

By performing the steps in the preceding section you have created a dashboard and you have set its size, but as yet you haven't added any components to it. It is just an empty container. First we will give the dashboard a title.


To do that you use the *Configuration* tab.

To define the dashboard's title:

- 1 Select the *Configuration* tab.
- 2 Click the **Edit** icon () in the *Value* column of the *Title* row and choose **String Template** from the drop-down list.
The **Edit - Title** dialog opens.
- 3 Type **All Monitored Hosts** in the *Value* field and click **Save**.

Next we will add our table, *Monitored Hosts*, to the dashboard.

To add the table to the dashboard:

- 1 Select the *Layout* tab.
The layout editor appears in the *Definitions* pane.
- 2 Click **Add** ( Add) in the Layout menu bar.
The *Add View* dialog appears. Choose **Select existing view** and click **Next**.
- 3 The second page of the *Add View* dialog appears. In the *View* area, navigate to **Monitored Hosts** and select it. (**My Views > Monitored Hosts**)
Click **Next**.
- 4 The third page of the *Add View* dialog appears. In it you set the position and size of the table, whether you want scroll bars, and whether to show a title and a border. Check **Show Title** and **Show Border** and leave the other settings at their default values.
- 5 Click **Finish**. The dialog closes.
- 6 The dashboard has been configured and the table has been added. Click **Save**.

To see the dashboard, select the **My Dashboards** node in the navigation panel. Expand it if necessary and select **All Hosts** to view your new dashboard. You see that *All Monitored Hosts* appears in the breadcrumb trail at the upper left of the view and the Dashboard contains a table titled *All Monitored Hosts*.



The screenshot shows a dashboard window titled "All Monitored Hosts". Inside the window, there is a section labeled "Monitored Hosts" containing a table. The table has a header row with the column name "name" and a small icon on the right. Below the header, there are five rows of data, each containing a host name: "jafari-w3k3.prod.quest.corp", "jafari-w3k3.prod.quest.corp", "huti-w3k3.prod.quest.corp", "huti-w3k3.prod.quest.corp", and "huti-w3k3.prod.quest.corp".

name
jafari-w3k3.prod.quest.corp
jafari-w3k3.prod.quest.corp
huti-w3k3.prod.quest.corp
huti-w3k3.prod.quest.corp
huti-w3k3.prod.quest.corp

Summary

In this tutorial you have constructed a query, used it to populate the rows of a table, and presented that table in a fixed-layout view component that we are calling a dashboard.

You have viewed the component by navigating to **All Hosts** in the *Dashboards* area under *My Dashboards*.

When you build a dashboard page with a real purpose in mind you will want to present some useful information about each host, such as the state of applications running on it, and to see if there are any alarms. You will want to add your newly-constructed page to a place that already exists in the UI. Also, you may want to furnish a drilldown page that contains extra information about a particular host that you select from the table. To accomplish that, you will need to understand how to use context inputs and flows. Those topics are covered in the next tutorial.

Additional Activities

Because you gave the dashboard a title, it appeared at the top of the component. Experiment with giving the table another title.

To give the table another name:

- 1 Go back to the table's configuration tab and edit its title.
- 2 Choose **String Template** and in the *Edit - Title* dialog type **Hosts Being Monitored by vFoglight** in the *Value* field.
- 3 Save your changes, both in the dialog and in the component.

To add a title to the table:

- 1 Whether the table's title shows or not is a property that is set in *All Hosts*. Open it for editing and select the **Layout** tab.

- 2 Click anywhere in the rectangle allocated to *Monitored Hosts*. Its border becomes highlighted.
- 3 Click the **Properties** tab.
- 4 In the Properties dialog, clear the boxes for **Show Title** and **Show Border**.

Note You can change the width of the table here too. The value you enter here overrides the preferred width in the General tab, so setting a width there doesn't actually have an effect.
- 5 Save the changes and view the result. Observe that there is no title and no border around the table.
- 6 Return to the Properties dialog, check the boxes for **Show Title** and **Show Border**, save your changes and view the result.

Observe that the title of the table is *Hosts Being Monitored by vFoglight*, which is the title that we gave to the component.

Note You may have noticed that the column containing the host names has a heading whose value is "name," which is derived from the property chosen for this column in the context selection (`<currentRow>/name`). The header can be changed by editing the column's Header property. You will need to check Show Advanced Properties in Monitored Hosts and navigate to **Columns > Column > Header**.

Saving the Tutorial1 Module

This procedure assumes that your vFoglight installation is in the default location on a Windows machine. Make the appropriate changes for other platforms. It also assumes that you have created a special user account for working with the tutorial called WCFTutorial1. Note that all objects in the module are saved.

To save your module using *fglcmd*:

- In a command window on the server machine, type:

```
cd C:\Vizioncore\vFoglight\bin
```

```
fglcmd -usr wcftutorial1 -pwd tutorial1 -cmd util:uiexport -
m user:wcftutorial1 -f \C:\pub\Tutorial\Tutorial1.zip.
```

If you were acting as the default *foglight* user, type:

- cd C:\Vizioncore\vFoglight\bin
- ```
fglcmd -usr foglight -pwd foglight -cmd util:uiexport -m
system:tutorial1 -f \C:\pub\Tutorial\Tutorial1.zip
```



## Tutorial 2: Adding a Drilldown Page

In Tutorial 1 you created a top level dashboard that contains a table of host names. Now, in Tutorial 2, it is time to show you how to add more columns to the table and how to create a dependent page that supplies information about any host selected from the table. This is often called a drilldown page because the information it presents depends on which host is selected in the parent page.

User actions that cause the view to update in some way will be covered in a subsequent tutorial.

This chapter contains the following topics:

|                                                         |    |
|---------------------------------------------------------|----|
| <a href="#">Objectives of Tutorial 2</a> .....          | 50 |
| <a href="#">Adding an Alarm Icon to the Table</a> ..... | 50 |
| <a href="#">Adding a Dependent Page</a> .....           | 52 |
| <a href="#">Summary</a> .....                           | 57 |

## Objectives of Tutorial 2

There are two main ways of presenting visual information about a group of objects. One is to list the objects on a page and to organize it so that the information about each object appears with it on the same page. We chose a table layout in Tutorial 1 with this objective in mind. We can add other bits of information to the same row as the host and keep things together that way.

The other way of presenting information is as separate pages, one for each item in the original list. This way is appropriate when the visual component presenting the information is too large to fit on the parent page.

The objectives of Tutorial 2 are:

- Add columns to the table of hosts to show the aggregate alarm state. This places visual information about the host on the row adjacent to its name.
- Add a drilldown page that presents information about the chosen host. This permits you to show much more information about each individual host.

The primary objective of this tutorial is to demonstrate the addition of a drilldown page whose content depends on the particular choice made in the parent page, and in so doing, demonstrate the use of a context and a flow. The terms context and flow are described in detail in the *Web Component Framework User Guide*.

## Adding an Alarm Icon to the Table

*To add a column of aggregate alarms to the table of hosts:*

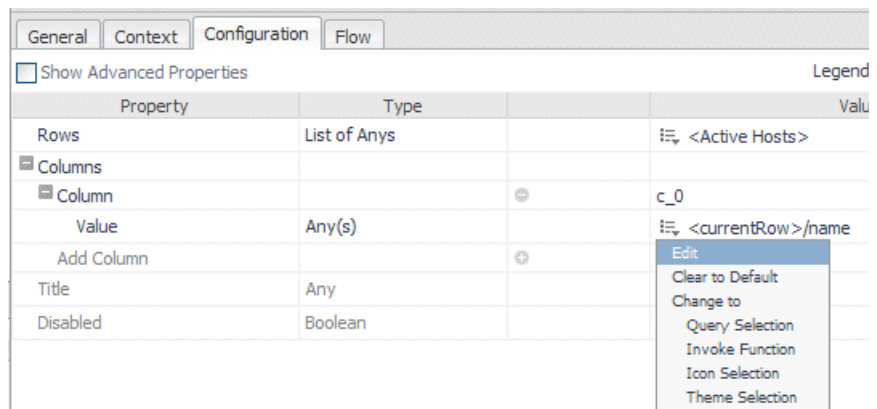
- 1 Choose **Configuration > Definitions**.
- 2 Choose **My Definitions** in the list of modules and click the **Views** tab in the *Module Contents* pane.  
The group of views available for this module appears.
- 3 Choose **Monitored Hosts**.  
The *Definitions* view pane fills with the parameters that currently define the table.
- 4 Click **Edit**.  
The *General* tab of Monitored Hosts appears in the pane.
- 5 Since our purpose is to add a column to the table, select the *Configuration* tab.

The pane shows the configuration property editor for Monitored Hosts. Since all the properties we want to modify are not advanced ones, leave **Show Advanced Properties** unchecked. This makes for easier viewing.

- 6 Expand **Columns**.
- 7 Click the **Add Column** (+) button.

A *Value* row appears that contains an **Edit** icon (≡).

- 8 Click the **Edit** icon on the *Value* row.



- 9 Choose **Context Selection** from the drop-down list.

You are choosing **Context Selection** because you want the value that appears to depend on the selected row in the table. Recall from Tutorial 1 that the row supplies a context that identifies a particular host: the one whose name appears in the selected row.

The *Edit - Value* dialog opens.

- 10 Click the button at the right of the *Input Key* field and choose **Current Row** from the list.
- 11 Click the button at the right of the *Path* field and choose **aggregateState** from the list.

By choosing **aggregateState** we are asking for a value that represents the highest level alarm that has been raised for this host.

- 12 Click **Save** both in the dialog and in the edit pane to save the new configuration for the table.

When you view the All Hosts dashboard, you may notice that the area assigned to the table may not be wide enough to show all of its columns without clipping the rightmost column. If this happens, edit All Hosts by choosing the Layout tab, selecting the rectangle for Monitored Hosts, and dragging its right edge.

## Adding a Dependent Page

This task introduces the notion of Context. A *required* context input, which declares it as essential for the operation of the drilldown page, is the kind we will use in this example. Contexts are entities that have a data type, so a context must first be declared, much like a variable in a programming language, by giving it a key, which is the name by which it can be referenced, and a type, which is chosen from a list of available types. You'll see in this example how a value is assigned to a named context so that it can be passed to the drilldown page via a flow.

### Overview

Adding a dependent page that relies on a context supplied by the parent page involves these steps:

- Create a dependent page.
- Define a Context Input.
- Define a flow from the parent page to the dependent page.
- Set a Flow Context Mapping on the table row that will supply the context to the dependent page.
- Insert the desired component on the dependent page and specify the same context in the component that needs it.

## Adding a Context-Sensitive Dependent Page for the Table of Hosts

In the first tutorial we chose a fixed layout container because it has simple properties that are easy to adjust. When, in this tutorial, we needed to widen the table it contains, it was a simple matter of dragging the table's right edge in the *Layout* tab.

In this example we'll use a *Grid* to hold the component we plan to embed. This choice has been made simply to introduce the *Grid* container, which permits the placement of

designated, already-existing views in cells. A later tutorial will illustrate more of the Grid's properties.

When adding a view, you can specify the row and column in which it is to be placed. The row and column indices are zero-based, so the top-left cell is in column 0 of row 0. We will place a single component, a host monitor page, in this cell.

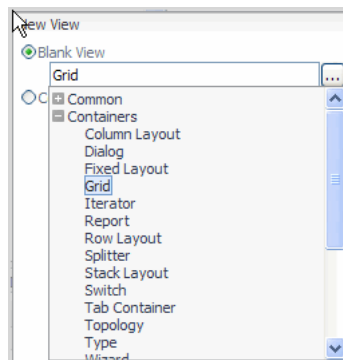
The host monitor page is quite complex, but it has the advantage of being one that already exists. You can find it in the *Hosts* module.

## Create a Dependent Page

To create a dependent page called 'Host Monitor':

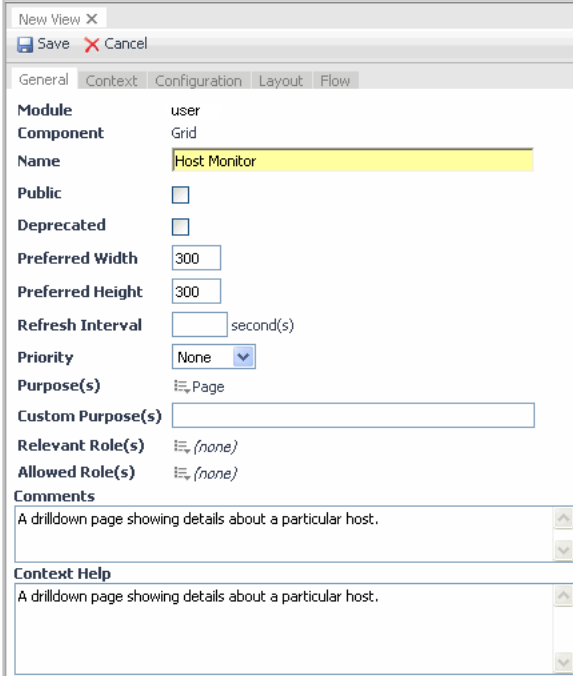
- 1 In the **Dashboards** section under **Configuration > Definitions**, ensure that the **Views** tab in the *Module Contents* tab is selected.
- 2 Click the **Add** button in the Module Definitions pane.

The *New View* dialog appears.



- 3 Ensure that **Blank view** is selected, click (⋮) and expand the *Containers* group in the drop-down list.
- 4 Choose **Grid** from the drop-down list. Click **OK**.

Fill in the fields in the General tab using the values shown in the figure below.



The screenshot shows a 'New View' dialog box with the following fields and values:

- Module:** user
- Component:** Grid
- Name:** Host Monitor
- Public:**
- Deprecated:**
- Preferred Width:** 300
- Preferred Height:** 300
- Refresh Interval:**  second(s)
- Priority:** None
- Purpose(s):** Page
- Custom Purpose(s):**
- Relevant Role(s):** none
- Allowed Role(s):** none
- Comments:** A drilldown page showing details about a particular host.
- Context Help:** A drilldown page showing details about a particular host.

## Define a Context Input

- 1 Still in *Host Monitor*, choose the **Context** tab.
- 2 Click the *Add Context Input* (+) button under *Inputs*. A new row appears.
- 3 Click on it to launch the *Edit* dialog.
- 4 In the *Edit* dialog, type **host** in the *Key* field.
- 5 Set *Usage* to **Required**.
- 6 Set *Data Source Type* to **Foglight**.
- 7 Set *Data Type* to **Host**.



The screenshot shows a dialog box titled "Edit -" with the following fields and values:

- Key:** host
- Usage:** Required
- Data Source Type:** Foglight
- Data Type:** Host
- List:** False

Buttons for "Save" and "Cancel" are located at the bottom right of the dialog.

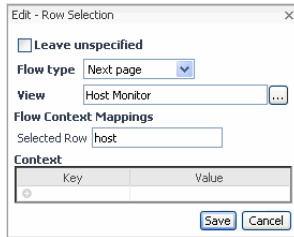
- 8 Ensure *List* is **False**. This key is being used to pass a single host to drilldown pages.
- 9 Click **Save** on the dialog and on the tab on Host Monitor's toolbar to save your work so far.

## Define a Flow

The following steps direct the rows of the table to a view called Host Monitor and pass the required context.

*To configure the flow:*

- 1 Return to editing **Monitored Hosts**.
- 2 Select the **Flow** tab.
- 3 Choose **Row Selection**.  
This establishes a flow action for every row of the table.  
The *Edit - Row Selection* dialog opens.
- 4 Clear the **Leave Unspecified** check box.
- 5 Set the *Flow Type* to **Next Page**.  
This sets the flow type to launch a new page when a row of the table is selected.
- 6 In the *Selected Row* text field under *Flow Context Mappings*, type **host**.  
This ensures that the named context will be passed to the target page.
- 7 Click the button at the right of the *View* field. Under *My Views*, choose **Host Monitor**.  
This component is your container for Host Monitor in Hosts > Host Monitor. You will add components to your version of Host Monitor later.
- 8 Click **Save**.



9 Choose the **Context** tab and observe that an entry called *host* has been added to the Inputs section.

10 Click **Save** on the toolbar to save the changes you made to Monitored Hosts.

If you test the page at this point, you'll see that by clicking on a row of Monitored Hosts you do go to a new, blank page. The breadcrumb history trail at the top right side of the page displays "All Monitored Hosts > Host Monitor."

## Populate the Dependent Page

*To add a view to Host Monitor:*

- 1 Edit Host Monitor and choose the **Layout** tab.
- 2 Click the **Add** button.
- 3 In the *Add View* dialog, choose **Select existing view** and click **Next**.
- 4 Ensure the **purpose** and **validity** boxes are checked.
- 5 Expand **Hosts > Common** and choose **Host Detail**, then click **Next**.

We chose an existing page that displays useful data about a host rather than attempting to build such a complex page from scratch. A later tutorial will demonstrate how such a page can be constructed.

- 6 The next page of the *Add View* dialog allows you to change existing or define new context entries. This is not needed for this tutorial, so click **Next**.
- 7 The *Add View* dialog appears. It allows you to set properties for the view. Since we do not know the size of the embedded component, select **Automatic** for the *Width* and *Height* properties.
- 8 Click **Finish** to close the *Add View* dialog.
- 9 Click **Save** on the toolbar to save the changes you made to Host Monitor.
- 10 View the result by going to the **Dashboards** tab and choosing **My Dashboards, All Hosts**.



11 Click a row of the table to drill down to Host Monitor.

The figure shows a sample result. In the top-left component in the figure there is a host name, which is the one that was selected from Monitored Hosts. Each different row selection in the table launches a view that presents data coming from the selected host. The overall construction of the view is always the same, but the data presented in the view comes from the chosen host.



## Summary

In this tutorial you have been shown how to use a context input and a flow to present a drilldown page in which the data depends on the context that was passed to the dependent page.


## Additional Activities


*To move the alarm to the left side of the table:*

- Go to the Configuration tab for Monitored Hosts and locate the button (⚙️) in the second row labeled Column under the Columns node. Click it to move the column up in the list of columns, which will have the effect of shifting the column to the left when the page is viewed.

*To add one more column to the table between the alarm and the host name:*

- 1 Go to the Configuration tab for Monitored Hosts and expand the **Columns** node.
- 2 After the last column node is a row called *Add Column*. Click the **Add Column** button.

A new group is created. Its expanded view appears. Click the *Edit* icon (  ) in the new column's *Value* row.

- 3 Choose **Context Selection** in the popup that appears.
- 4 In the *Edit - Value* dialog, choose **currentRow** as the *Input Key*, and **alarmTotalCount** as the *Path*.
- 5 Click **Save** in the *Edit - Value* dialog.
- 6 Click the button (  ) to move the column up so that it appears between *aggregateState* and *name*.
- 7 Save your changes and view the result.

After you have added a new column to the table while keeping your previous settings unchanged, and you test the result, you may notice that the table is too narrow to fit the name column in the space that has been allotted to it. In fact, since the column has been placed to the right of the host name, you may not even see it. This exposes a problem with a fixed-layout container. The table's allotted size can be inappropriate if columns are added or if the text in a cell needs extra space.

You can widen the table by editing *All Hosts*. In the *Configuration* tab, click inside the rectangle representing the *Monitored Hosts* table, and then click **Properties** on the Layout tab's toolbar. Change the *Width* to **400**. Click **Save** in the Properties dialog and then click **Save** on the All Hosts tab's toolbar.

To change the name of the hosts column.

- 1 Open Monitored Hosts for editing.
- 2 In the **Configuration** tab, click the **Show Advanced Properties** box, expand the `<currentRow>/name` column, and then click the **Edit** icon on the *Header* row, which is the last row under the third Column node.
- 3 Choose **String Template** in the popup, and enter **Host Name** in the *Value* field.
- 4 Click **Save** in the dialog.
- 5 Save the component.

## Tutorial 3: Adding Views

In Tutorial 1 you created a top level dashboard that contained a table of host names. In Tutorial 2, you created a dependent page that contained a pre-built view. In Tutorial 3, you will add views that you yourself create.

You will learn about five additional components: key-value listing, chart, button, drop-down list, and customizer.

This chapter contains the following topics:

|                                                 |    |
|-------------------------------------------------|----|
| Objectives of Tutorial 3 .....                  | 60 |
| Designing the Page .....                        | 61 |
| Defining the Alarms Query .....                 | 61 |
| Configuring a Table of Alarms .....             | 64 |
| Configuring a Key-Value Listing Component ..... | 68 |
| Configuring a Chart Component .....             | 71 |
| Configuring a Label with an Action .....        | 73 |
| Configuring a Drop-Down List .....              | 78 |
| Configuring the Drilldown Page .....            | 75 |
| Adding a Customizer .....                       | 81 |
| Summary .....                                   | 82 |

## Objectives of Tutorial 3

The objectives of this tutorial are to place components on a drilldown page whose content depends on the particular choice made in the parent page, and also to introduce three new components for you to work with.

The tasks you will complete are:

- Add a drilldown Grid page that presents information about the chosen host.

This first exercise is similar to Tutorial 2, but in this case you will populate the drilldown page with components that you configure rather than simply choosing a pre-built view.

- Add a Row-Oriented Table of alarms for the chosen host.

The first column of the Row-Oriented Table will show the severity of the alarm and the second column will present an informative message about the alarm.

- Add a Key-Value Listing component that presents selected information about the host.

- Add a chart component that shows CPU utilization.

This exercise introduces you to using a chart as a visualization component.

Charts that display information that depends on the context in which they are launched are an essential UI component.

- Add a Drop-Down List.

Frequently, a user may be looking at a page that displays information about one host and then decides to look at another host. This exercise shows you how to place a chooser on the page that allows viewing a different host.

- Add a Label that provides an active link back to the parent page.

That is what the history trail (breadcrumbs) at the top of the page is for, but since this is a tutorial, you will see how to define a flow on a label.

- Add a Customizer to the page.

This exercise introduces you to another linking mechanism, the Customizer.

---

**Note** While investigating Time Range settings is not an objective of this tutorial, ensure that the default timeRange context key is set to its default value for all the components in this exercise:

Key: timeRange, Usage: Required, Data Type: Time Range.

---

## Designing the Page

The objectives for Tutorial 3 have listed the components we are going to use, so all that needs to be done to design the page is to specify its layout. The table below shows how the components will be arranged.

*My Hosts dependent page for Tutorial 3: a Grid layout with two columns*

|                                                                                                                                                                                                            |                                                                                                                                                                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                            | Above the grid<br>A Customizer that places itself above and to the left of the View and Help buttons on the title bar.                                                                                                  |
| Row 0, Column 0:<br>Host State: A Key-Value Listing component.                                                                                                                                             | Row 0, Column 1:<br>Memory - Utilization History:<br>A chart component.                                                                                                                                                 |
| Row 1, Columns 1 and 0 spanned:<br>Alarms table for <host>:<br>A Row-Oriented Table listing alarms for the chosen host.<br>The component will span two columns of the Grid container, similar to this row. |                                                                                                                                                                                                                         |
| Row 2, Column 0:<br>Return to Hosts Page T3:<br>A Label component (with a flow action that returns to the parent page).                                                                                    | Row 2, Column 1:<br>Host Chooser DDL T3:<br>A Drop-Down List component (whose flow action is Update, which permits choosing a new host. The current page updates itself with new information based on the chosen host.) |

## Defining the Alarms Query

The drilldown page is going to display information about the alarms on a chosen host, so a query is an obvious choice for getting the required data. However, the data retrieved by the query should be for a specific host, but the host is only chosen at run time as a result of user interaction. The solution is to use a parameterized query. The parameter's value will be assigned at run time by selecting a row in the My Hosts table.

*To configure a query returning Alarms that is passed a Host as a parameter:*

- 1 Choose **Configuration > Definitions** in the module you are using for this tutorial.
- 2 Select the **Queries** tab in the Module Definitions pane.
- 3 Click the **Add** button in the Module Definitions pane.

The *New Query* dialog appears.

- 4 Ensure that Blank Query is chosen, select **Foglight** as the *Data Source Type*, and click **OK**.

The *Definitions* pane displays the query editor, which contains all the fields that can be used to construct a query. The required fields are marked by an exclamation point icon on the right side of the field.

Configure the query using the information in the following screen:

The screenshot shows a configuration window for a query named "Alarms for a given host". The interface includes the following fields and options:

- Module:** wcf tutorial3
- Name:** Alarms for a given host
- Root Query:**  **Hide Root:**
- Public:**  **Deprecated:**
- Relevant Role(s):** none
- Allowed Role(s):** all
- Data Source Type:** Foglight
- Data Source ID:** (Default)
- Required Parameters:**

| Name | Object Type | List  |
|------|-------------|-------|
| host | Host        | False |
- Object Type:** Alarm
- Root Path:** Root {host} with Path aggregateAlarms
- Max Search Depth:** 0  Ignore Reference Objects
- Aggregations:**
  - Filter results based on top N?
 

| Value of N                                                                     | Results to Include                                                                                   |
|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| <input type="radio"/> Specific Value 0<br><input type="radio"/> From Parameter | <input checked="" type="radio"/> Only the Top N<br><input type="radio"/> Everything except the Top N |
- Order By:**
- Where:**
- Comments:** Returns alarms based on the selected host.
- Context Help:** Returns alarms based on the selected host.

Note that a Root Path of *{host}* was chosen. The query requires that a host be passed to it and then only alarms for that host will be returned.

- At this point we have constructed a valid query. Test it by clicking the **Test** button, which is just below the bar containing the tabs.

No results can appear until you specify a host, which is the required input to the query. Use the *Input Values* dialog to choose a host.

**Note** You can see that the query did return a list of objects by clicking the expand icon (+) at the left any alarm name in the *Query Results* dialog. When you do, you will see that some properties of the host have numerical values, while others, which are themselves objects, do not.

- Click **Set**, then **Results** to see what the query returns.

The *Query Results* dialog appears, showing a list of alarms.

- 7 Close the *Query Results* dialog.
- 8 Click **Save** to save the query.

## Configuring a Table of Alarms

In this exercise you are going to build a generic table that lists alarms. When the table is actualized, the data in the table will depend on which host was chosen from the parent dashboard. Choosing a particular host in the parent dashboard is the action that triggers the display of the alarm table.

*To add a column of aggregate alarms to a table of hosts:*

- 1 Choose **Configuration > Definitions** under Dashboards in the Navigation pane and ensure that your tutorial module (My Definitions) is selected. Also ensure that the *Views* tab is selected in the Module List pane. Add a Row-Oriented Table. For more information, see “[Configuring a Row-Oriented Table](#)” on page 40. Fill in the properties in the General tab.
- 2 In the *Name* field, type **Alarm Table for Host T3**.
- 3 Leave *Custom Purpose(s)*, *Relevant Role(s)* and *Allowed Role(s)* untouched. See the Administration Guide for a discussion of these items.
- 4 Enter “**A table of alarms for a selected host.**” in both the *Comments* and the *Context Help* text fields.
- 5 In the *Purpose* field click the **Edit** button, select **Pagelet**, and then click **Apply**.

The table isn't fully configured yet, so if you try and save it now you will get an error that informs you that column values have not been set. The next procedure shows you how to choose columns for the table. The data in the columns' cells will be dynamically generated and will depend on the host.



**Component** Row-Oriented Table

**Name** Alarm Table for Host T3

**Public**

**Deprecated**

**Preferred Width** 300

**Preferred Height** 150

**Refresh Interval**  second(s)

**Priority** None

**Purpose(s)** Pagelet

**Custom Purpose(s)**

**Relevant Role(s)** none

**Allowed Role(s)** none

**Comments**  
 A table of alarms for a selected host.

**Context Help**  
 A table of alarms for a selected host.

## Adding Columns to the Table

To add columns you use the *Configuration* tab, but before you do, define a Context to tell the component that it will require an object of type Host for its operation.

To set the context:

- 1 Select the **Context** tab.
- 2 Click the **Add Context Input** button (+) and click on the new row to launch the *Edit* dialog.

Declare a context using the information in the figure:

**Edit -**

**Key** host

**Usage** Required

**Data Source Type** Foglight

**Data Type** Host

**List** False

Save Cancel

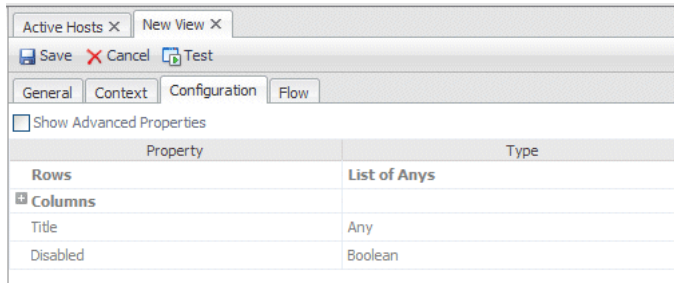
- 3 Click **Save**.

These steps cause the context key *host* to be made available to the table. As you did in Tutorial 2, you will configure My Hosts page to pass Host values to the table.

To add a severity column to the table:

- 1 Select the **Configuration** tab.

The table designer page appears in the right pane.



- 2 We need to tell the table that its rows will be populated from a query. Locate the row called *Rows*. Click the edit icon (ⓘ) and choose **Query Selection** from the popup.

The *Edit - Rows* dialog appears.

- 3 Click the **Query** drop-down button and navigate to **Alarms for a given host** and select it. (*My Queries > Alarms for a given host*).
- 4 Click the Edit (ⓘ) icon for *Parameter {host} of type vFoglight: Host*.
- 5 Choose *Context Selection* from the drop-down list.
- 6 Click the (⋮) button for the *Input Key* field and choose **host**.
- 7 Click **Save**, leaving all the other fields untouched.

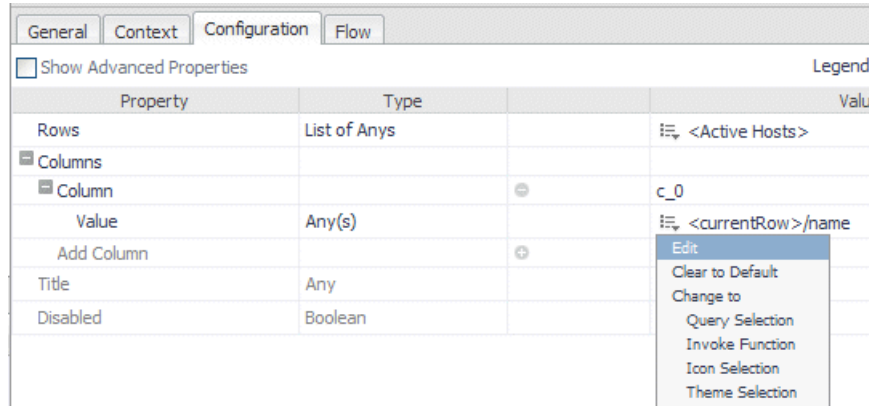
The table has been configured to get its information from a query that returns a list of hosts, but we still have to define which property of a host will appear in a column. For that, we will have to add a new column and define its content.

- 8 Expand the *Columns* node.

A row called *Column* appears. Expand the *Column* node.

The *Value* row becomes visible.

- 9 Click the **Edit** icon (ⓘ) on the *Value* row.



10 Choose *Context Selection* from the drop-down list.

The *Edit - Value* dialog opens.

11 Click the button at the right of the *Input Key* field and choose **Current Row** from the list.

12 Click the button at the right of the *Path* field and choose **severity** from the list.  
 This choice will place a severity icon in column one.

13 Click **Save** in the *Edit - Value* dialog.

Next, we will add a column to display alarm messages.

*To add a message column:*

1 Find the *Add Column* row and click the **Add (+)** button.

The *Value* row becomes visible.

2 Click the **Edit** icon (≡) on the *Value* row.

3 Choose *Context Selection* from the drop-down list.

The *Edit - Value* dialog opens.



4 Click the button at the right of the *Input Key* field and choose **currentRow** from the list.

5 Click the button at the right of the *Path* field and choose **message** from the list.  
 This choice will place an alarm message in column two.

6 Click the **Save** button on the dialog.

We will illustrate another use of parameters by giving the table a title that contains the name of the host.



*To add a parameterized title to the table:*

- 1 Click the **Edit** icon () on the *Title* row.
- 2 Choose **String Template**.  
The *Edit - Title* dialog appears.
- 3 Type **Alarms Table for {0}** in the *Value* field.  
The construct *{0}* designates a positional parameter. After you have entered this in the *Value* field a row appears in the dialog that allows you to set the parameter with a runtime value.
- 4 Click the **Edit** icon () on the *Parameter {0}* row.
- 5 Choose **Context Selection** from the drop-down.  
The *Edit - Parameter {0}* dialog appears.
- 6 Choose **host** for the *Input Key*.
- 7 Choose **name** for the *Path*.
- 8 Click **Save** on the *Edit - Parameter {0}* dialog.
- 9 Click **Save** on the *Edit - Title* dialog.
- 10 Click **Save** on the bar containing the tabs to save *Alarm Table for Host T3*.

## Configuring a Key-Value Listing Component

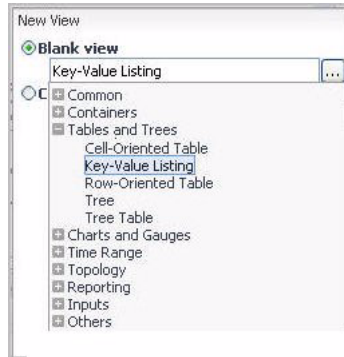
This section introduces the Key-Value component. You will use it to show more host properties, this time pertaining to the CPU.

*To add a Key-Value Listing component:*

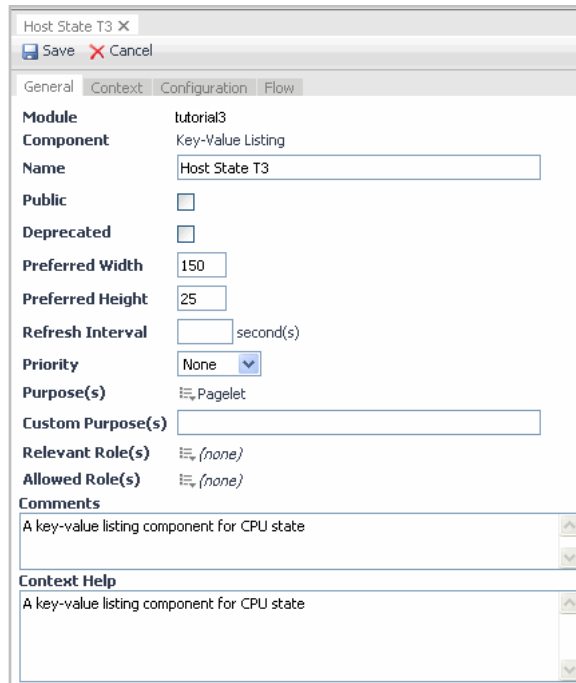
- 1 Choose **Configure > Definitions** and ensure that your tutorial module is selected. Also ensure that the *Views* tab is selected for the Module List pane.
- 2 Click the **Add** () button.  
The *New View* dialog appears.
- 3 Click () to expand the **Tables and Trees** node.

4 Choose **Key-Value Listing**.

Note that this component is also available under the *Common* node.



Fill in the properties on the General tab as shown in the figure:



5 Since you are going to add this component to a page, check the **Pagelet** box in **Purpose(s)**.

- 6 Enter **A key-value listing component for CPU state** in both the *Comments* and the *Context Help* text fields.

## Configuring the Columns in the Key-Value Listing Component

This component needs a host context as well, so you will define it first.

*To set the context:*

- Follow the first procedure in [Adding Columns to the Table](#) to make a single Host object a required input.



Now you can define the columns for the Key-Value Listing table.

*To define the columns for the Key-Value Listing table:*

- 1 Select the *Configuration* tab.  
We need to set each row. In this example, the row will be populated from a context.
- 2 Ensure that the **Show Advanced Properties** check box is selected. You will want to set the *Label* property later on in this procedure.
- 3 Expand **Groups, Group, Items, and Item**.
- 4 Click the **Edit** (≡) icon on the Item's *Value* row and choose **Context Selection** from the popup.  
The *Edit - Value* dialog appears.
- 5 Select **host** for the *Input Key*.
- 6 Choose **aggregateState** for the *Path*.
- 7 Click **Save** in the *Edit - Value* dialog.  
**Note** There are three values in the layout of the Key-Value Listing component, *Label*, *Value*, and *State*. In this tutorial we aren't going to set the *State* property, so we will simply use the *Value* property to display the state.
- 8 Click the **Edit** (≡) icon on the Item's *Label* row.
- 9 Choose **String** from the list.
- 10 Type **Aggregate State** in the *String value* field of the *Edit - Label* dialog.
- 11 Click **Save** in the *Edit - Label* dialog.

We will illustrate another use of parameters by giving the table a title that contains the name of the host.



To add a title to the Key-Value Listing table:

- 1 Click the **Edit** icon () on the *Title* row.
- 2 Choose **String Template**.  
The *Edit - Title* dialog appears.
- 3 Type **Alarms for {0}** in the *Value* field.  
The construct *{0}* designates a positional parameter. After you have entered this in the *Value* field a row appears in the dialog that allows you to set the parameter with a runtime value.
- 4 Click the **Edit** icon () on the *Parameter {0}* row.
- 5 Choose **Context Selection** from the drop-down.  
The *Edit - Parameter {0}* dialog appears.
- 6 Choose **host** for the *Input Key*.
- 7 Choose **name** for the *Path*.
- 8 Click **Save** on the *Edit - Parameter {0}* dialog.
- 9 Click **Save** on the *Edit - Title* dialog.
- 10 Click **Save** on the bar containing the tabs to save *Host State T3*.

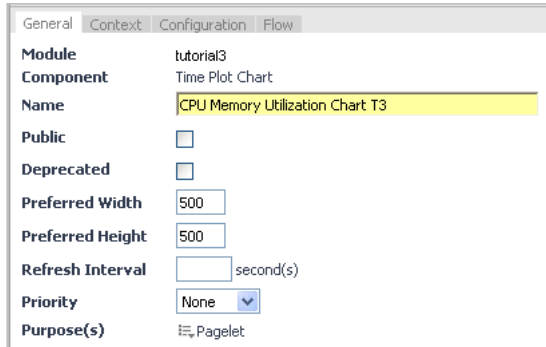
## Configuring a Chart Component

Charts can have a large number of properties, but we will begin by constructing a simple chart and introduce a more complex example in a later tutorial.

To add a chart component:

- 1 Choose **Configuration > Definitions** and ensure that your tutorial module is selected. Also ensure that the *Views* tab is selected for the Module List pane.
- 2 Click the **Add** () button.  
The *New View* dialog appears.
- 3 Ensure that **Blank view** is selected. Click () and expand the **Charts and Gauges** node.
- 4 Choose **Time Plot Chart** from the drop-down list.
- 5 Click **OK**.

Fill in the Time Plot Chart's General properties using the information in the figure:



| Property         | Value                           |
|------------------|---------------------------------|
| Module           | tutorial3                       |
| Component        | Time Plot Chart                 |
| Name             | CPU Memory Utilization Chart T3 |
| Public           | <input type="checkbox"/>        |
| Deprecated       | <input type="checkbox"/>        |
| Preferred Width  | 500                             |
| Preferred Height | 500                             |
| Refresh Interval | second(s)                       |
| Priority         | None                            |
| Purpose(s)       | Pagelet                         |

- 6 Enter **Memory utilization chart for the selected host** in both the *Comments* and the *Context Help* text fields.

To set the context:

- Follow the first procedure in [Adding Columns to the Table](#) to make a Host object a required input.

To set the chart's data source:

- 1 Select the **Configuration** tab.

Observe that this type of chart has as its principal properties a header, footer, time axis and metric data. The time axis by default takes its settings from the current time range, which leaves only the metric data as an essential setting.

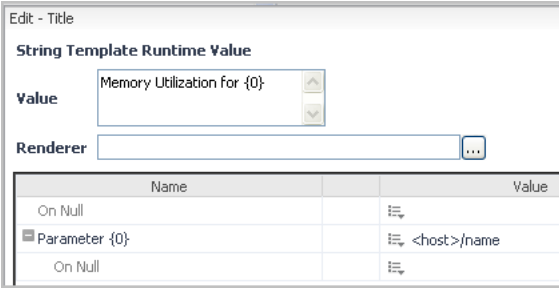
- 2 Expand the **Metric Data - Single Parent** node.
- 3 Click the **Edit** icon on the *Metric Parent* row.
- 4 Select **Context Selection** from the drop-down list.

The *Edit - Metric Parent* dialog appears.

- 5 Choose **host** as the *Input Key*.
- 6 Click **Save** in the *Edit - Metric Parent* dialog.
- 7 Expand *Single Metric Bindings*.
- 8 Click the Add button (+) in the *Add Single Metric Binding* row.
- 9 Click the edit icon on the *Metric* row and choose **Context Selection** from the drop-down.



- 10 Choose **host** in the *Input Key* field.
- 11 In the *Path* field, expand the **memory** node and choose **utilization**.
- 12 Click **Save** in the *Edit - Metric* dialog.
- 13 Click the edit icon on the *Title* row and choose **String Template** from the drop-down.
- 14 In the *Edit - Title* dialog, type **Memory Utilization for {0}** in the *Value* text box.
- 15 Edit the parameter. choose **host** for the *Input Key* and **name** for the *Path*.
- 16 Click **Save**.



| Name          | Value       |
|---------------|-------------|
| On Null       |             |
| Parameter {0} | <host>/name |
| On Null       |             |

- 17 Click **Save** on the bar containing the tabs to save *CPU Memory Utilization Chart T3*.

## Configuring a Label with an Action

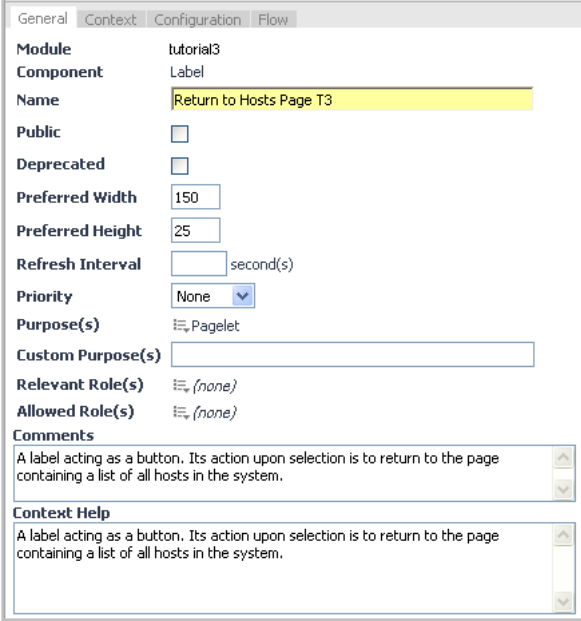
There are times when you may find it useful to add a link back to a previous page even though there are built-in ways, such as the history list (breadcrumbs) at the top of a page, for accomplishing this task.

We will use a label with an action in this tutorial to show another choice for a flow.

*To define a Label component:*

- 1 Choose **Configuration > Definitions** and ensure that your tutorial module is selected. Also ensure that the *Views* tab is selected for the Module List pane.
- 2 Click the **Add** (Add) button.  
The *New View* dialog appears.
- 3 Ensure that **Blank view** is selected.

- 4 Click (...) and expand the **Common** node.
- 5 Choose **Label** from the drop-down list.
- 6 Click **OK**.
- 7 Configure the properties on the General tab as shown in the figure:



The screenshot shows a configuration dialog with the following fields and values:

- Module: tutorial3
- Component: Label
- Name: Return to Hosts Page T3
- Public:
- Deprecated:
- Preferred Width: 150
- Preferred Height: 25
- Refresh Interval:  second(s)
- Priority: None
- Purpose(s): Pagelet
- Custom Purpose(s):
- Relevant Role(s): none
- Allowed Role(s): none
- Comments: A label acting as a button. Its action upon selection is to return to the page containing a list of all hosts in the system.
- Context Help: A label acting as a button. Its action upon selection is to return to the page containing a list of all hosts in the system.

- 8 Enter **A label acting as a button. Its action upon selection is to return to the page containing a list of all hosts in the system** in both the *Comments* and the *Context Help* text fields.

To set the label's text:

- 1 Select the *Configuration* tab.
- 2 Edit the *Label* by choosing **String** from the drop-down and typing **Return to Parent** in the *String value* field.
- 3 Edit the *Title* by choosing **String Template** from the drop-down and typing **Return to Hosts** in the *Value* field.

**Note** The difference between a String and a String Template is that a String Template can accept parameters. There was no need to use a String Template in this example other than to familiarize you with its dialog.

When you add this component to the Grid page you can choose to show the title. If not, only the Label will appear.

*To set a flow action on the label:*

- 1 Select the *Flow* tab.
- 2 Click on the **Selection** row.  
The Edit - Selection dialog appears.
- 3 Ensure that the *Leave unspecified* check box is unchecked.
- 4 In the *Flow type drop-down*, choose **Previous**.
- 5 Click **Save** in the *Edit - Selection* dialog.
- 6 Click **Save** on the toolbar to save the Label component.

Note that by assigning **Previous** to the flow type you have installed a link back to the page that invoked the current page.

## Configuring the Drilldown Page

By now, you have configured some component views, so you need a page to hold them. This section shows you how to create a page and place the required components in it. As we have done before, we will use a Grid container.

*To create a dependent page called 'Host Details T3':*

- Follow the instructions in Tutorial 2, [Create a Dependent Page](#) up to but not including [Define a Flow](#), but in this case choose **Host Details T3** in the *Name* field when defining the flow. Ensure that you have set a *host* context.
- Type “**A details page for the selected host.**” in both *Description* fields.

### Populate the Dependent Page

The first component we will add is the Key-Value Listing.

*To add the Key-Value Listing component to Host Details T3:*

- 1 Edit Host Details T3 and choose the **Layout** tab.
- 2 Click the **Add** button.
- 3 In the *Add View* dialog, choose **Select existing view** and click **Next**.
- 4 Ensure the **purpose** and **validity** boxes are checked.

- 5 Expand **My Views**.
- 6 Choose **Host State T3** then click **Next**.

Now we are adding the chart.

- 7 Set *Width* to **350** pixels.
- 8 Set *Height* to **Automatic**.
- 9 Set *Row* to **0** and *Column* to **0**.

This places the Key-Value Listing component just below the upper-left cell in the table.

- 10 Check both **Show Title** and **Show Border**.
- 11 Leave all other fields with their default settings.
- 12 Click **Finish** on the *Add View* dialog.

*To add the Time Plot Chart component to Host Details T3:*

- 1 Continue editing Host Details T3 in the **Layout** tab.
- 2 Click the **Add** button.
- 3 In the *Add View* dialog, choose **Select existing view** and click **Next**.
- 4 Ensure the **purpose** and **validity** boxes are checked.
- 5 Expand **My Views** if necessary.
- 6 Choose **CPU Memory Utilization Chart T3** and then click **Next**.
- 7 Set *Width* to **400** pixels.
- 8 Set *Height* to **350** pixels.
- 9 Set *Row* to **0** and *Column* to **1**.

This places the Time Plot Chart component in the cell to the right of the Key-Value Listing component.

- 10 Check both **Show Title** and **Show Border**.
- 11 Leave all other fields with their default settings.
- 12 Click **Finish** on the *Add View* dialog.

*To add the Row-Oriented Table component to Host Details T3:*

- 1 Continue editing Host Details T3 in the **Layout** tab.
- 2 Click the **Add** button.

- 3 In the *Add View* dialog, choose **Select existing view** and click **Next**.
- 4 Ensure the **purpose** and **validity** boxes are checked.
- 5 Expand **My Views**.
- 6 Choose **Alarm Table for Host T3** then click **Next**.

Now we are adding the table of alarms.

- 7 Set *Width* to **425** pixels.
- 8 Set *Height* to **400** pixels.
- 9 Set *Row* to **1** and *Column* to **0**.

This places the Row-Oriented Table component in the cell to the right of the Key-Value Listing component.

- 10 Set the row span to **2**.
- 11 Set *Scrollbars* to **Auto**.
- 12 Check both **Show Title** and **Show Border**.
- 13 Leave all other fields with their default settings.
- 14 Click **Finish** on the *Properties* dialog.

*To add the Label component to Host Details T3:*

- 1 Continue editing Host Details T3 in the **Layout** tab.
- 2 Click the **Add** button.
- 3 In the *Add View* dialog, choose **Select existing view** and click **Next**.
- 4 Ensure the **purpose** and **validity** boxes are checked.
- 5 Expand **My Views**.
- 6 Choose **Return to Hosts Page T3** then click **Next**.

Now we are adding the table of alarms.

- 7 Set *Width* to **350** pixels.
- 8 Set *Height* to **Automatic**.
- 9 Set *Row* to **2** and *Column* to **0**.

This places the Label component in the cell to the right of the Label component.

- 10 Check both **Show Title** and **Show Border**.
- 11 Leave all other fields with their default settings.

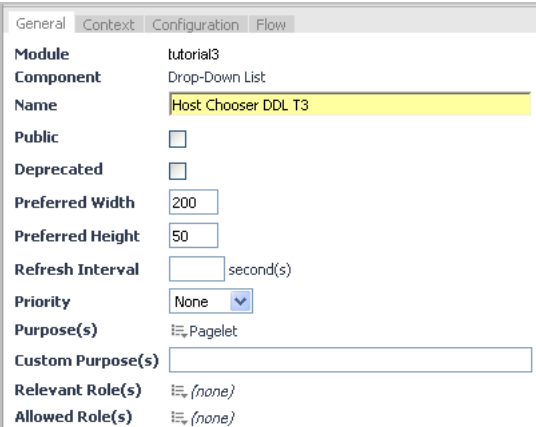
- 12 Click **Finish** on the *Properties* dialog.
- 13 Click **Save** on the toolbar to save the changes you made to Host Details T3.

## Configuring a Drop-Down List

This example illustrates another way of changing the contents of a page. In this case, the page updates with information about another host that you choose from a Drop-Down List component.

To define a Drop-Down List component:

- 1 Choose **Configuration > Definitions** and ensure that your tutorial module is selected. Also ensure that the *Views* tab is selected for the Module List pane.
- 2 Click the **Add** (+ Add) button.  
The *New View* dialog appears.
- 3 Ensure that **Blank view** is selected, click (...), expand the Common node, and choose **Drop-Down List**.
- 4 Click **OK**.
- 5 Configure the properties on the General tab as shown in the figure:



| Property          | Value                    |
|-------------------|--------------------------|
| Module            | tutorial3                |
| Component         | Drop-Down List           |
| Name              | Host Chooser DDL T3      |
| Public            | <input type="checkbox"/> |
| Deprecated        | <input type="checkbox"/> |
| Preferred Width   | 200                      |
| Preferred Height  | 50                       |
| Refresh Interval  | second(s)                |
| Priority          | None                     |
| Purpose(s)        | Pagelet                  |
| Custom Purpose(s) |                          |
| Relevant Role(s)  | none                     |
| Allowed Role(s)   | none                     |

- 6 Enter **An example of a drop-down list for choosing hosts** in both the *Comments* and the *Context Help* text fields.

*To set the context:*

- Follow the procedure (under *To set the context*) in [Adding Columns to the Table](#) to make a Host object a required input.

*To set the items for the drop-down list:*

- 1 Select the **Configuration** tab.
- 2 Click the **Edit** icon on the *Items* row.
- 3 Choose **Query Selection** in the drop-down.  
The *Edit - Items* dialog appears.
- 4 Choose **Active Hosts** in the *Query* field after expanding the *My Queries* node.
- 5 Click **Save** in the *Edit - Items* dialog.
- 6 Ensure that **Show Advanced Properties** is checked.
- 7 Click the **Edit** icon on the *Item Label* row.
- 8 Choose **Context Selection** from the drop-down list.  
The *Edit - Item Label* dialog opens.
- 9 Choose **currentItem** in the Input Key field.
- 10 In the *Path* field, choose **name**.
- 11 Click **Save** in the *Edit - Item Label* dialog.

*To set the flow for the drop-down list:*

- 1 Select the *Flow* tab.
- 2 Click the **Selection** row.
- 3 In the *Edit - Selection* dialog, make sure that *Leave unspecified* is unchecked.
- 4 Select **Update** as the *Flow type*.  
When an item in the list is selected, the view will update based on the chosen host.
- 5 In *Flow Context Mappings, Selected Item*, type **host**.
- 6 Select **Host Details T3** as the *View*.
- 7 Click **Save** on the *Edit - Selection* dialog.
- 8 Click **Save** on the bar containing the tabs to save *Host Chooser DDL T3*.

*To add the drop-down List component to Host Details T3:*

- 1 Go back to editing Host Details T3 in the **Layout** tab.
- 2 Click the **Add** button.
- 3 In the *Add View* dialog, choose **Select existing view** and click **Next**.
- 4 Ensure the **purpose** and **validity** boxes are checked.
- 5 Expand **My Views**.
- 6 Choose **Host Chooser DDL T3** then click **Next**.

Now we are adding the table of alarms.

- 7 Set *Width* to **350** pixels.
- 8 Set *Height* to **Automatic**.
- 9 Set *Row* to **2** and *Column* to **1**.

This places the Label component in the cell to the right of the Key-Value Listing component.

- 10 Check both **Show Title** and **Show Border**.
- 11 Leave all other fields with their default settings.
- 12 Click **Finish** on the *Add View* dialog.
- 13 Click **Save** on the toolbar to save the changes you made to Host Details T3.

## Flowing Monitored Hosts to Host Details T3

All that remains is to edit Monitored Hosts to flow to the newly-created dependent page.

*To edit Monitored Hosts to flow to Host Details T3:*


- 1 Edit Monitored Hosts.
- 2 In the **Flow** tab, edit Row Selection and replace *Host Monitor* with *Host Details T3*.
- 3 Test the new drill down page by going to My Dashboards and selecting All Hosts.
- 4 Click on a row in the table to initiate the flow action.
- 5 The dependent page, *Host Details T3*, appears.




## Adding a Customizer

The last exercise introduced you to the customizer component, which is a handy way to add a link on a parent page to another related view. When you add the customizer to a Portlet, the link appears at the top right of the component's area.

*To add a customizer to a page:*

- 1 Edit *Host Details T3*.
- 2 Select the *Layout* tab.
- 3 Select  **Define Customizer**.

The *Customizer* dialog appears.

- 4 Click  and choose any view you wish in the *View* field as long as it has a *Context Input* key of *host*.

You may want to choose the All Alarms Chart page, which is found under the Alarms node in the Available Views dialog for the customizer.

- 5 Choose **None** from the *Icon* drop-down.
- 6 Check **Show Title**.
- 7 In the *Label* field, enter **Customizer Test**.
- 8 Click **Set** in the *Customizer* dialog.
- 9 Click **Save** on the bar containing the tabs to save *Host Details T3*.

When you view the page, the customizer link appears in the action panel as the first item in the Actions group.

A Customizer has many useful purposes. For instance, it can be used as

- A filter—For example, an Alarm Filter for alarms tables
- A selector—For example, a Category Selector for Services pages or a Host Selector in Hosts Table

It is not as useful for top level views with a Page designation, where it shows up in the action panel. If you add a customizer to a Page that is not a top level view, it is visible only if the view's title bar is being shown by the container.

For views purposed as Dashboard or Page, alternatives to the Customizer are the two choices in Configuration tab, Page Options: Navigation Panel Views and Page Panel Views, by which you can add views directly to the left and right panels. These choices appear only when the parent page is being viewed.

## Summary

In this tutorial you have been shown how to use parameters in queries and some new components have been introduced.

At this point you can begin building more complex designs by consulting the Web Component Framework pages, which are also available in the vFoglight online help.

## Additional Activities

- Investigate what effect changing the time range has on CPU Memory Utilization Chart: T3 and possibly on Host State T3.
- Make a change to the height of Host State T3 by choosing by choosing Layout, Properties in Host Details T3 and editing the Height property. Change it from Automatic to some pixel value. When you chose Automatic, you relied on the layout algorithm to adjust the height to a reasonable size, but you can override that by forcing the component to have a specified height.
- You constructed a Customizer for Host Details T3. When you are viewing that page, select the Active Hosts Summary Iterator from the General tab in the Action panel. It presents summary information for all monitored hosts. Look for other vFoglight components that take host as a context input and replace Active Hosts Summary Iterator with your chosen view.
- Alarm Table for Host T3 may have more entries than the height of the component allows. Add scrollbars to the to the view and observe the change.

## Tutorial 4: Using a Grid

This tutorial illustrates some of the more advanced properties of the Grid component. As well, the tutorial outlines how to perform a deep copy of an existing view and how to place a component in the navigation panel.

This chapter contains the following topics:

|                                                      |    |
|------------------------------------------------------|----|
| <a href="#">Before Building the Dashboard:</a> ..... | 84 |
| <a href="#">Using a List as a Chooser</a> .....      | 86 |
| <a href="#">Choosing the Views</a> .....             | 86 |
| <a href="#">Building the Dashboard</a> .....         | 86 |
| <a href="#">Summary</a> .....                        | 93 |

## Before Building the Dashboard:

Perform a deep copy of **[chart] Disk I/O Utilization** from the module *Hosts > Host*. This gives you your own copy of the component, which you can edit any way you want.




Do this by navigating to **Hosts > Host** in the Module List pane and selecting the view in the Module Contents Pane. When the component's definition appears in the Definitions pane, click **Copy > Deep** and select **My Definitions** in *Select Target Module*.

You will need to add this view to the grid, and by copying it now you will be able to make changes to the copy without affecting the installed component.

### Modify the Chart Properties


We'll give the chart a title and ensure that the legend is enabled.

*To edit the chart's Header property:*

- 1 Open your copy of [chart] Disk I/O Utilization for editing.
- 2 Select the **General** tab, remove the check mark from **Public** and set **Priority** to **None**.
- 3 Select the **Context** tab and verify that *host* is an optional context input. You will be passing a host object to the component in this tutorial.
- 4 Select the **Configuration** tab and ensure that **Show Advanced Properties** is enabled.
- 5 Expand the **Header** node and click the Edit (  ) button for *Text*.
- 6 Choose **String Template** and type **Disk I/O Utilization for {0}** in the *Value* field. The Parameter {0} row appears in the lower part of the dialog.
- 7 Select the Edit (  ) button on the Parameter {0} row and choose **Context Selection**.  
The *Edit - Parameter {0}* dialog appears.
- 8 Click the browse button (  ) in the *Input Key* field and choose **host**.
- 9 Click **Save** in the *Edit - Parameter {0}* dialog.
- 10 Click **Save** in the *Edit - Text* dialog.

*To edit the chart's Legend property:*

- 1 Expand the **Legend** node.

- 2 Click the Edit (  ) button on the row for the property called *Visible*.

The *Edit - Visible* dialog opens.

- 3 Check the box labeled *Boolean Value* and click **Save**.

Save the changes you have made to the chart component.

These are the only changes you need to make to the chart after you have copied it from the *Hosts > Host* system module.

## Using a List as a Chooser

One purpose of this tutorial is to help you investigate the layout properties of the Grid component. Once more, we'll choose the familiar example of a host. Rather than limiting you to a single host, we'll use a Drop-Down List to let you pick any host in your monitored system. We could have built a top-level dashboard that listed all hosts, as we did in Tutorial 1, and then configured a drill down page as a grid displaying host information. This tutorial shows you how to update a top-level page by making a choice within the page and then having all the other views update themselves.

When a host is selected in the drop-down list, the page is reloaded and the context is now that of the chosen host. This is a simple but effective way to use one page to look at the properties of a number of different hosts.

## Choosing the Views

Because we are interested in Grid properties, we do not need to take the time to build all the views that will be placed in the cells of the Grid. Instead, we will choose pre-built views and investigate what shape they take when they are added to the cells in the Grid.

The views we'll choose are:


- *A Row-Oriented Table* for choosing hosts. We will build this one.
- *Agents Running On A Given Host* from the System module *Hosts > Host Analysis*.
- *CPU Memory Utilization Chart T3* from the module containing the tutorial views.
- *Alarm List with Filter* from the System module *Alarms*.
- *[chart] Disk I/O Utilization* from the System module *Host > Host*.

For the Customizer, we'll choose **Host Browser** from the System module *Hosts > Host* and insert it as the Customizer for this page.

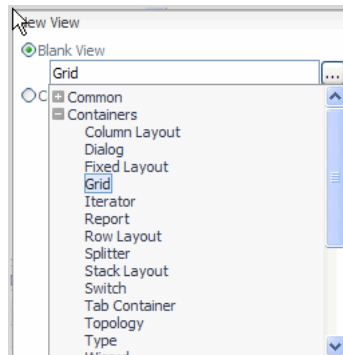
## Building the Dashboard


We begin by constructing the Grid component's shell and then we will lay out the contained views. After all the views have been added, you can experiment with various layout settings to see how they affect the grid's appearance.

To configure the General page of the dashboard:

- 1 Ensure that the **Views** tab in the *Module Contents* pane is selected.
- 2 Click the **Add** button (  Add ) in the Module Contents pane.

The *New View* dialog appears.



- 3 Ensure that **Blank view** is selected.
- 4 Click the browse button (  ), expand the *Containers* group and choose **Grid** from the drop-down list.
- 5 Click **OK**.
- 6 Fill in the General tab as shown in the figure:

|                   |                                |
|-------------------|--------------------------------|
| Component         | Grid                           |
| Name              | Hosts T4                       |
| Public            | <input type="checkbox"/>       |
| Deprecated        | <input type="checkbox"/>       |
| Preferred Width   | 300                            |
| Preferred Height  | 300                            |
| Refresh Interval  | <input type="text"/> second(s) |
| Priority          | None                           |
| Purpose(s)        | Dashboard                      |
| Custom Purpose(s) | <input type="text"/>           |
| Relevant Role(s)  | (none)                         |
| Allowed Role(s)   | (none)                         |

- 7 Fill in the *Comments* and *Context Help* fields with any descriptive text that you feel is warranted, such as “**A grid for investigating its layout properties.**”

- 8 Click **Save** to save your work so far, and then click **Edit** to continue modifying the dashboard.

## Set a Context

Define a Context to tell the component that it may accept an object of type Host for its operation and supply the component with an initial value for the Host object. You will configure this dashboard to permit the choice of a different host and then update itself.

*To set the context:*

- 1 Select the **Context** tab.
- 2 Click the **Add Context Input** button (⊕) in the *Inputs* section and click on the new row to launch the *Edit* dialog.

Declare a context using the information in the figure:

Note that a dashboard must not have any required inputs, so choose *Optional* for Usage, and you will set an initial value in the context in a following step.

- 3 Click **Save**.

This *host* context setting is necessary because you will use it to supply the host name and state to the dashboard's title. By setting a default value, you supply the dashboard with an initial host value. Without it, the view might show errors until a host is chosen and an update action is triggered.

*To supply an initial host value:*

- 1 Select the *Context* tab.
- 2 Click the **Edit** (≡) button for the key *host* row in the *Inputs* section.
- 3 Choose **Query Selection** from the drop-down.
- 4 Click the *Query Selection Runtime Value* browse button (⋮) to display a list of queries.



- 5 Select **Active Hosts** in *My Queries*. Copy it from WCFTutorial3 if necessary.
- 6 Check **Return First Object in List**.
- 7 As an example of setting an On Null value, complete this step. Null values occur when a query fails to return any objects at all. In this case, you are setting a null value in case the query fails to return any objects of type Host. Click the edit icon for *On Null* and choose **String Template**. Type **No Hosts!** and click **Save**. Follow a similar procedure to set On Null values for other objects.

Verify your settings using the information in the figure:

The screenshot shows a dialog box titled "Edit - Context Input Entry 'host'". It contains several configuration options:

- Query Selection Runtime Value**
  - Query**: Active Hosts
  - Path**: (empty)
  - Iterate Over 1st Parameter**:
  - Time Range To Use**: (Default)
  - Return First Object in List**:
  - Renderer**: (empty)
- On Null** table:

| Name    | Value         |
|---------|---------------|
| On Null | ≡ "No Hosts!" |

At the bottom of the dialog are "Save" and "Cancel" buttons.

## Adding the Views to the Dashboard

As in Tutorial 1, the first step here is to give the dashboard a title.

To define the dashboard's title:

- 1 Select the **Configuration** tab.
- 2 Click the **Edit** icon (≡) on the *Title* row and choose **String Template** from the drop-down list.  
The **Edit - Title** dialog opens.
- 3 Type **Host: {0} -- State {1}** in the *Value* field.
- 4 Set *parameter 0* to context selection `<host>/name` and *parameter 1* to `<host>/aggregateState`.
- 5 Click **Save**.

## Adding the Views

You will populate the grid with some existing views. First, we'll add a host chooser by placing a Drop-Down List in the dashboard.

*To modify the Drop-Down List for this tutorial:*

- 1 Open *Host Chooser DDL T3* for editing.
- 2 Select the **Flow** tab.
- 3 Switch *Selection* to **Update**, keeping **host** as the *Selected Item*.

This flow action updates the page and passes the selected host as a context input, so that data for that host is displayed.

*To add the Drop-Down List to the dashboard:*

- 1 Select the *Layout* tab.
- 2 Click the **Add** button on the menu bar.
- 3 In the *Add View* dialog, choose **Select existing view**, and on the next screen choose **Host Chooser DDL T3** from the module *My Views*. If you do not have this component in your current module, deep copy it from WCFTutorial3.
- 4 After ensuring that **purpose** and **validity** are checked, click **Next**.
- 5 Set both **Width** and **Height** to **Automatic**.
- 6 Set both **Row** and **Column** to **0**.
- 7 Check **Show Title** and **Show Border**.
- 8 Click **Finish** to complete the layout of the Drop-Down List.

*To add the CPU memory utilization chart*

- 9 In a similar fashion, add CPU Memory Utilization Chart T3 from the *My Views* module using the information in the following figure.

Add View

Width  Automatic 300 px

Height  Automatic 300 px

Row 1 Column 0

Row Span 1

Column Span 1

Horizontal Alignment Left

Vertical Alignment Top

Horizontal Weight

Vertical Weight

Minimum Width

Minimum Height

Scrollbars Auto

Show title

Show border

Collapsed

To add an Alarm List with Filter:

- 1 Add **Alarm Table for Host T3** from the module *My Definitions* using the information in the following figure.

Width  Automatic 300 px

Height  Automatic 300 px

Row 2 Column 0

Row Span 1

Column Span 2

Horizontal Alignment Left

Vertical Alignment Top

Horizontal Weight

Vertical Weight

Minimum Width

Minimum Height

Scrollbars Never

Show title

Show border

Collapsed

The last component to be added is another chart. Rather than building the chart from scratch, copy an existing chart and place the copy in *My Definitions*.

To add a disk I/O utilization chart:

- 1 By now, you should have performed a deep copy of [chart] **Disk I/O Utilization** from the module *Hosts > Host*. If you have not, save the grid, make a copy of the

chart, and then resume editing the grid. The instructions for deep copying the chart are given at the beginning of this chapter.

- 2 Add [chart] **Disk I/O Utilization** from the module *My Definitions* using the information in the following figure.

Add View

Width  Automatic 300 px

Height  Automatic 225 px

Row 1 Column 1

Row Span 1

Column Span 1

Horizontal Alignment Left

Vertical Alignment Top

Horizontal Weight

Vertical Weight

Minimum Width

Minimum Height

Scrollbars Never

Show title

Show border

Collapsed

- 3 Save the Grid.

The Grid is ready for testing. As you have done before, in Dashboards select the module containing your work and choose **Hosts T4**.

You should see something similar to what is shown in the figure.




Note that there is a possible problem associated with the first component, the drop-down list. If there are many hosts in the monitored system, the list will fill the available space when it is opened and you might not be able to scroll down to the lower items.


Also note the difference between the layout of the two chart components. The chart showing disk utilization has a header but no border or title, while the memory utilization chart has no header, but shows a border and a title. As a general rule, views in the same grid should have consistent settings. You can experiment by changing the settings on one or both components to achieve consistency.

## Adding a Customizer

To add a customizer to the page:

- 1 Edit *Host T4*.
- 2 Select the *Layout* tab.
- 3 Select  **Define Customizer**.

The *Customizer* dialog appears.

- 4 Click  and choose **Hosts, Common, Host Browser** in the *View* field.
- 5 Choose **None** from the *Icon* drop-down.
- 6 Check **Show Title**.
- 7 In the *Label* field, enter **Customizer Test**.
- 8 Click **Set** in the *Customizer* dialog.
- 9 Click **Save** on the bar containing the tabs to save *Host Details T3*.

When you view the page, the customizer link appears in the action panel as the first item in the Actions group.

## Summary

As shown in the preceding figure, there is quite a bit of unused space above the table. One way of addressing this vertical height problem is to rearrange the order of the components by placing both charts together on the same row because they are of fixed size,

Another solution is possible. A Column layout can be chosen instead of a Grid. In a Column layout, a cell's dimension is independent of its neighbor on either side. Thus, each cell in a column can have the vertical height that it needs without causing spacing problems in adjacent columns.

In other cases, a Row layout may be appropriate. In this component, the width of a cell is not tied to the one above or below

## Additional Activities

- Reposition the components to achieve a better layout. You might want to concentrate on the layout of the alarms table.
- Experiment with weights.
- Experiment with Row and Column Layout components.

## Tutorial 5: Reports

By now you should be comfortable with creating and using some of the commonly-used components in the Web Component Framework. We'll put them to work in this tutorial to show you how to create a report.

There are a number of report examples that are included in the vFoglight user interface, but it is likely that as you become more experienced you will want to create your own reports that match your exact needs. This tutorial will get you started.

Along the way you'll learn about these additional components: Report, Page Decoration, and Iterator.

This chapter contains the following topics:

|                                                                  |     |
|------------------------------------------------------------------|-----|
| <a href="#">Objectives of Tutorial 5</a> .....                   | 96  |
| <a href="#">Designing the Page</a> .....                         | 96  |
| <a href="#">Configuring a Query</a> .....                        | 97  |
| <a href="#">Creating a Basic Report Page</a> .....               | 98  |
| <a href="#">Creating a More Elaborate Hosts Table</a> .....      | 102 |
| <a href="#">Adding a Header</a> .....                            | 106 |
| <a href="#">Adding a Footer</a> .....                            | 109 |
| <a href="#">Adding an Iterator for a Multi-Page Report</a> ..... | 111 |
| <a href="#">Summary</a> .....                                    | 114 |

## Objectives of Tutorial 5

PDF reports are useful for archiving the status of your systems as well as for communicating its recent operational level to interested parties. Whatever your needs, the ability to create informative reports is important. The information needed in a report and the way it should be displayed vary from one enterprise to another, so typically reports are designed on site to meet local needs. This tutorial outlines the way that you can create vFoglight reports using the Web Component Framework.

The objectives of Tutorial 5 are:

- Create a report. This task will require the creation of some context entries to set the title of the report and to retrieve a list of hosts.

At first you'll be asked to create a very simple report and then you'll add to it.

- Add headers and footers to the report pages.

Headers and footers are required elements in most reports. You'll see how to add a company logo to the header of a report, and you'll see how to add page numbers to the footer.

- Design the content of the report body and choose the proper view components based on that design.
- Embed a pair of body components in an Iterator so that similar body pages are created simply by iterating a list of hosts.

The number of active hosts monitored by vFoglight is a variable. Using an Iterator permits you to pass a list of hosts resulting from a runtime query and generate a page for each host. Thus, the example serves as a paradigm for any task that performs the same set of actions on objects in a dynamically-generated list.

## Designing the Page

You'll begin by constructing the required query. Next, you'll create a simple report page that contains an existing view. Finally, you'll create a more complete report that contains a header, a footer, and an iterated view of host data. The design schematic is shown in the table.



*Report layout for Tutorial 5:*

---

|                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Header                                                                                                                                                                              |
| Single page: Utilization Summary for All Hosts                                                                                                                                      |
| Iterated page: System Load Summary. Each page presents a time plot of host statistics and a table of high, low, and average values for selected metrics for the chosen time period. |
| Footer                                                                                                                                                                              |

---

## Configuring a Query

This tutorial requires a list of hosts, just as in Tutorial 1, but this time we'll demonstrate a way of accomplishing the objective by using both a query and a context setting. First, you will build a query that returns a `HostModel`, and then you will define a context setting to select hosts from the host model object returned by the query.

*To build the Host Model T5 query:*

- 1 Ensure that the **Queries** tab in the Module Contents pane is selected.
- 2 Click the **Add** button in the Module Contents pane.

The *New Query* dialog appears.

- 3 Ensure that **Blank Query** is chosen with *Data Source Type* **Foglight** and click **OK**.

The *Definitions* pane changes to an *Edit* pane. It fills with the query editor, which contains all the fields that can be used to construct a query. You don't have to fill in every field, but those you do are marked by an exclamation point icon on the right side of the field.

- 4 Type **Host Model T5** in the *Name* field.

Now that the query has been named it can be referenced by that name when you want to use it.

- 5 Leave **Root Query** and **Public** unchecked **Comments** and **Context Help** empty, and **Relevant** and **Allowed Role(s)** untouched.
- 6 Ensure that the *Data Source ID* field's value is `<default>`.

- 7 Select the *Object Type* by clicking the drop-down arrow at the right of this field. Choose **HostModel** from the drop-down list.

HostModel is the name of the object that contains a list of all the host model objects known to vFoglight. You'll be able to browse this object as soon as we set the path in the next step.

**Note** This list box responds to keystrokes, so you can type **H** and be taken close to the desired entry. Type **H** repeatedly to advance to the entry you require.

- 8 Most objects are grouped at some level down from the root. In this example, the object we want is in **ModelRoots**, so choose it from the drop-down list in the *with Path* field.
- 9 Click **Save** to save the query.

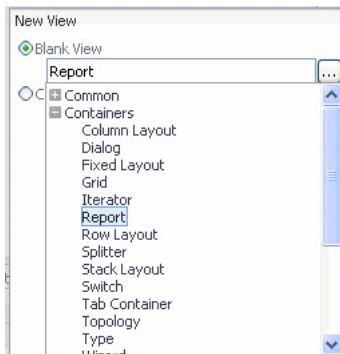
## Creating a Basic Report Page

Just to show you how it works, we'll create a report page that uses an existing view for its body page. We'll leave the creation of a header and footer for later as well.

*To create a simple report page:*

- 1 Ensure that the **Views** tab in the *Module Contents* tab is selected.
- 2 Click the **Add** button (➕Add) in the Module Definitions pane.

The *New View* dialog appears.





- 3 Ensure that **Blank view** is selected, expand the *Containers* group and choose **Report** from the drop-down list. Click **OK**.
- 4 Type **Hosts Summary Report T5** in the *Name* field.

- 5 Ensure that **Public** and **Deprecated** are unchecked.
- 6 Set *Preferred Width* and *Preferred Height*. Actually, the page size is controlled elsewhere. For now, set *Preferred Width* to **540** and *Preferred Height* to **500**.
- 7 Leave *Refresh Interval* blank.
- 8 Leave *Priority* at None.
- 9 Set the *Purpose(s)* check boxes. Since the component is a report, check the box labeled **Report** and leave all the other boxes unchecked. Click **Apply**.
- 10 Leave *Custom Purpose(s)*, *Relevant Role(s)* and *Allowed Role(s)* untouched.
- 11 Fill in the *Comments* and *Context Help* fields with “**A test that displays a simple report page.**”



Define a value for the context “*title*”:

You’ll find this context useful if you embed the report in a container, such as a Grid, and then choose Show Title in the layout configuration for the report, which in this case must be purposed as a Pagelet as well as a Report.

To set the contexts for the report title and to generate a list of host objects:

- 1 Select the **Context** tab.
- 2 In the *Additional* context section, click the **Add Context Entry** button ().  
A new row appears.
- 3 Click on the **Edit** icon () to launch the *Edit* dialog.
- 4 Choose **String** from the drop-down list.
- 5 Type **title** in the *Key* field.
- 6 Type **Utilization Report - Hosts** in the *String Value* text box.
- 7 In the dialog, click **Save**.

To define a context entry for the Host Model query that returns a single host model:

- 1 In the *Additional* context section, click the **Add Context Entry** button ().  
A new row appears.
- 2 Click on the **Edit** icon () to launch the *Edit* dialog.
- 3 Choose **Query Selection** from the drop-down list.
- 4 Type **hostmodel** in the *Key* field.

- 5 Choose **Host Model T5** (from *My Queries*) in the *Query Selection Runtime Value* text field.
- 6 Check **Return First Object in List**.
- 7 In the dialog, click **Save**.

You'll use this context input to the table of hosts that you will construct shortly.

*To define a context entry "hosts" for a list of hosts contained in the host model:*

- 1 Click the **Add Context Entry** button (⊕) in the *Additional* section of the Context tab.  
A new row appears.
- 2 Click on the edit icon in the new row to show the items in the drop-down list.
- 3 Choose **Context Selection** from the drop-down list.
- 4 Type **hosts** in the *Key* field.
- 5 Choose **hostmodel** in the *Context Selection Runtime Value, Input Key* text box.
- 6 Select **hosts** in the *Path* drop-down list.
- 7 In the dialog, click **Save**.

The **hosts** context key references the list of hosts in the host model.

Note that there are two other internally-generated contexts associated with the component, Page Number and Current Time, which are optionally used in header and footer views. These appear in the *Outputs* section along with *reportTitle*.

## Define a Page Orientation and Title for the Report

*To define the report's page orientation:*

- 1 Select the **Configuration** tab.
- 2 Click the **Edit** icon (≡) from the *Value* column on the *Page Orientation* row.  
The **Edit - Page Orientation** dialog opens.
- 3 Choose **Landscape** from the drop-down list and click **Save**.

*To define the report's title:*

- 1 Select the **Configuration** tab.
- 2 Click the **Edit** icon (≡) from the *Value* column on the *Title* row and choose **Context Selection** from the drop-down list.

The **Edit - Title** dialog opens.

- 3 Choose **title** in the *Input Key* drop-down list and click **Save**.

Since you have previously set this context to *Utilization Report - Hosts*, that is the title that will appear if you embed the report in a container and set its **Show Title** property to true.

- 4 Click the **Edit** icon (≡) from the *Value* column on the *Page Orientation* row and choose *Portrait*.

## Adding a Sample Page to the Report

You will create pages for the report later on in this tutorial, but for now we just want to test basic report construction. There is an existing table in vFoglight that has the same context as you will need later on, so we will use it for now.

Next we'll add this table to the report.

*To add the table to the report:*

- 1 Select the *Views* tab.
- 2 Click **Add** (+Add) on the menu bar.

The *Select a View to add to the Report* dialog appears. Choose **Hosts Table - for Given Hosts** under **Hosts > Host** and click **Save**.

- 3 Choose **Body** from the *Function* drop-down list.

The other possible choices are Header and Footer. You will add a header and a footer to your report later on in this tutorial.

- 4 Choose **None** from the *New Page* drop-down list.

The other possible choices are Before, After, or Both. The settings control the placement of page breaks. You can choose to have a page break before, after or both before and after this view. We have chosen None because this is a single page report. There are no other views.

- 5 The Report has been configured. Click **Save** (Save).

To see the Report, click the **Test PDF** button (Test PDF) on the toolbar. A dialog appears that allows you to set a value for the time range. Choose a range during which you know some activity has occurred and then click the **Results** button. If you have Acrobat Reader installed, you should see a page containing a table with entries similar to that shown in the figure. The number of rows depends on the number of hosts found by the *Host Model T5* query. Set *currentTime*, *pageNumber*, and *reportTitle* with representative values.

The table doesn't have a header or a footer and it contains only one view, but the exercise has shown you the basic steps for creating a report.

## Creating a More Elaborate Hosts Table

A table such as the one you just used serves as a useful introductory item to a report that provides historical data about the hosts monitored by vFoglight. It can be refined to show numerical data supplemented by time plots. This time you will build it yourself.

*To add a Row-Oriented Table component showing load summaries:*

- 1 Choose **Configure** > **Definitions** and ensure that your tutorial module is selected. Also ensure that the *Views* tab is selected for the Module List pane.
- 2 Click the **Add** (+ Add) button.  
The *New View* dialog appears.
- 3 Expand the **Tables and Trees** node.
- 4 Ensure that **Blank view** is selected and choose **Row-Oriented Table** from the drop-down list, which contains all the available view components. Click **OK**.
- 5 Fill in the General tab as shown in the figure:

| Field             | Value                    |
|-------------------|--------------------------|
| Module            | tutorial3                |
| Component         | Row-Oriented Table       |
| Name              | Load Summary Table T5    |
| Public            | <input type="checkbox"/> |
| Deprecated        | <input type="checkbox"/> |
| Preferred Width   | 450                      |
| Preferred Height  | 125                      |
| Refresh Interval  | second(s)                |
| Priority          | None                     |
| Purpose(s)        | Reportlet                |
| Custom Purpose(s) |                          |
| Relevant Role(s)  | none                     |
| Allowed Role(s)   | none                     |

- 6 Enter "A sample table for inclusion in a report" in both the *Comments* and the *Context Help* text fields.

## Configuring the Columns for the Row-Oriented Table

This component needs a host context as well, so you will define it first.

*To set the context:*

- 1 Select the *Context* tab.
- 2 Click the **Add Context Input** button (⊕) in the *Inputs* group.  
A new row appears.
- 3 Click on the new row to launch the *Edit* dialog.
- 4 Type **hosts** in the *Key* field.
- 5 Ensure that *Usage* is **Required**.
- 6 Set *Data Source Type* to **Foglight**.
- 7 In the drop-down, set *Data Type* to **Host**.
- 8 Set *List* to **True**.
- 9 In the dialog, click **Save**.

Now you need to define the columns for the *Load Summary T5* table.

*To define the table's columns:*

- 1 Select the **Configuration** tab.  
We need to set each row. This time the rows will be populated from the *hosts* context.
- 2 To tell the table that its rows will be populated from a context selection, locate the row called *Rows*. Click the edit icon (≡) and choose **Context Selection** from the popup.  
The *Edit - Rows* dialog appears.
- 3 Click the *Input Key* drop-down button and select **hosts**.
- 4 Click **Save**, leaving all the other fields untouched.  
The table has been configured to get its information from the hosts context that is defined in Hosts Summary Report T5, but we still have to define which properties of a host will appear in the columns. For that, we will have to add columns and define their contents.
- 5 Expand **Columns > Column**.

All the table's columns are set in this section. Later, they can be organized in groups.

- 6 Click the **Edit** (≡) icon on the column's *Value* row and choose **Context Selection** from the popup.

The *Edit - Value* dialog appears.

- 7 Select **currentRow** for the *Input Key*.
- 8 Choose **name** for the *Path*.
- 9 Click **Save** in the *Edit - Value* dialog.
- 10 Check **Show Advanced Properties** so that you can set the header for this `<currentRow>/name` column.
- 11 Click the **Edit** (≡) icon on the column's *Header* row and choose **Rich Text Template**. Type **Host Name** in the *Value* field, then click **Save**.

Note that by using a Rich Text Template you can provide localized text for your headers.

- 12 Click the **Edit** (≡) icon on the column's *ID* row, type **Host Name** in the *String value* field, then click **Save**.

**Note** Each entry in the columns that you define must have an ID set so that they can be associated with a group.

### Add 12 more columns in four groups

At this point you are going to add 12 more columns in four groups: CPU, Memory, File System, and Network to complete the definition of the table.

*To create the groups:*

- 1 Expand the **Groups** node and click the **Add Group** (⊕) button to start a new group.
- 2 Set the group header to **CPU Utilization**.
- 3 Add three more groups: **Memory**, **File System** and **Network**.
- 4 Set the group *Header*: **Memory**:
- 5 Set the group *Header*: **File System**:
- 6 Set the group *Header*: **Network**:

*To create the columns:*

- 1 Expand **Columns** and click the **Add Column** (⊕) button.



- 2 Click the **Edit** (≡) icon on the column's *Value* row and choose **Context Selection** from the popup.
- 3 Select **currentRow** for the *Input Key* and **cpus/aggregateState** for the *Path*, and then click **Save**.
- 4 Click the **Edit** (≡) icon on the column's *ID* row and enter **CPU Aggregate State** for the *String value*.
- 5 Repeat the previous steps, but change the *ID* values and *Path* components to:

Note that the two following settings use renderers. Renderers are chosen from the *Renderer* drop-down in the dialog.

- **CPU Average Utilization**  
**cpus/utilization/current/average, Renderer: 'Number: No Decimals, With Unit' from the module vFoglight > System**
- **Memory Aggregate State**  
**memory/aggregateState**
- **Memory Average Utilization**  
**memory/utilization/current/average, Renderer: 'Number: No Decimals, With Unit' from the module vFoglight > System.**
- **Disk Aggregate State**  
**storage/aggregateState**
- **Disk Average Utilization**  
**storage/diskUtilization/current/average, Renderer: 'Number: No Decimals, With Unit' from the module vFoglight > System**
- **Network Aggregate State**  
**network/aggregateState**
- **Network Average Utilization**  
**network/utilization/current/average, Renderer: 'Number: No Decimals, With Unit' from the module vFoglight > System**

To add a column to its target group and set the table's title:


- 1 Expand the **Groups** node, choose the Group to add the column to, and click the Group's **Column Order** node.
- 2 For each column, click the **Edit** (≡) icon on the *Column ID* row and enter the same value that you chose when you set the column's *ID*. For the second column in a group, first click the **Add Column ID** button to create a new row.
- 3 Set the table's title: "**Utilization Summary - Hosts**"
- 4 Click **Save** in the view's menu bar.





- 5 Add the table to the report as you did in [Adding a Sample Page to the Report](#).
- 6 In the report's *Views* tab, select the table and click **Properties** in the tab's toolbar.
- 7 Save the changes to *Hosts Summary Report T5*.

## Generating the Table

Test the work you have done so far by generating a PDF of the table.

*To generate the report:*

- 1 Ensure that *Load Summary Table T5* is available in the *Definitions* pane.
- 2 Click its tab in the *Definitions* pane, and then choose **Test PDF** ( Test PDF).
- 3 Observe the result.

| Host Name                 | CPU Utilization                                                                   |                 | Memory                                                                            |                 | File System                                                                       |                     | Network                                                                           |                 |
|---------------------------|-----------------------------------------------------------------------------------|-----------------|-----------------------------------------------------------------------------------|-----------------|-----------------------------------------------------------------------------------|---------------------|-----------------------------------------------------------------------------------|-----------------|
| Host Name                 | aggregateState                                                                    | utilization (%) | aggregateState                                                                    | utilization (%) | aggregateState                                                                    | diskUtilization (%) | aggregateState                                                                    | utilization (%) |
| tor014004.prod.quest.corp |  | 7 %             |  | 75 %            |  | 0 %                 |  | 3 %             |

The table contains 9 columns. Having that many columns can present a challenge to the layout algorithm, and it is possible you have noticed some issues that need attention. In the [Additional Activities](#) section you'll see how to adjust the width of a column to improve the table's layout.

## Adding a Header

You could attempt to design fixed-layout views to use as the header and footer on a single-page report, but in most cases all you require is a simple one-line header and footer. Multi-page reports would present you with even greater challenges.

The Page Decoration component removes most of the effort in creating headers and footers. It has right, center, and left areas where you can add icons and text. Page numbering is easy because the Report component passes a special context, *pageNumber*, to views if you assign the function *Header* or *Footer* to them.

## Creating the Header Component

*To create the Header component:*

- 1 Choose **Configuration > Definitions** to add, from the **Reporting** node, a **Page Decoration** component.

2 Fill in the General tab as shown in the figure:

The screenshot shows a configuration dialog box with three tabs: 'General', 'Context', and 'Configuration'. The 'General' tab is active. The fields are as follows:

|                   |                                            |
|-------------------|--------------------------------------------|
| Module            | Reporting                                  |
| Component         | Page Decoration                            |
| Name              | Header : Icon, Report Title, Time Range T5 |
| Public            | <input type="checkbox"/>                   |
| Deprecated        | <input type="checkbox"/>                   |
| Preferred Width   | 540                                        |
| Preferred Height  | 40                                         |
| Refresh Interval  | <input type="text"/> second(s)             |
| Priority          | None                                       |
| Purpose(s)        | Reportlet                                  |
| Custom Purpose(s) | <input type="text"/>                       |
| Relevant Role(s)  | (none)                                     |
| Allowed Role(s)   | (none)                                     |

3 Enter **Header for Hosts Summary Report T5** in both the *Comments* and the *Context Help* text fields.

To set the context:

- 1 Select the **Context** tab.
- 2 Click the **Add Context Input** button (⊕) in the *Inputs* group.  
A new row appears.
- 3 Click on the new row to launch the *Edit* dialog.
- 4 Type **title** in the *Key* field.  
This is the context you set in the parent report.
- 5 Ensure that *Usage* is **Required**.
- 6 Set *Data Source Type* to **Common**.
- 7 In the drop-down, set *Data Type* to **String**.
- 8 Set *List* to **False**.
- 9 In the dialog, click **Save**.

To configure the header:

- 1 Select the *Configuration* tab.  
Set the left portion of the header:
- 2 Click the **Edit** icon (≡) on the *Left Image* row.

The *Edit - Left Image* dialog appears.

- 3 Choose **Icon Selection**, **vFoglight > Reporting > Company Logo**.

- 4 In the dialog, click **Save**.

Set the center portion of the header:

- 5 Click the **Edit** icon (≡) on the *Center* row.

The *Edit - Center* dialog appears.

- 6 Choose **Context Selection** from the drop-down list.

- 7 In the *Input Key* drop-down list, choose **title**.

- 8 In the dialog, click **Save**.

Set the right portion of the header:

- 9 Click the **Edit** icon (≡) on the *Right* row.

- 10 Choose **Context Selection** from the drop-down list.

The *Edit - Right* dialog appears.

- 11 In the *Input Key* drop-down list, choose **timeRange**.

- 12 In the *Renderer* drop-down list, choose **vFoglight > Reporting > Absolute Time Range**.

- 13 In the dialog, click **Save**.

- 14 Click **Save** on the bar containing the tabs to save *Header: Icon, Report Title, Time Range T5*.

## Adding the header to the report

To add the Header component to the report:

- 1 Choose **Configuration > Definitions > My Definitions** and ensure that *Hosts Summary Report T5* is selected in the *Views* tab for the Module Contents pane.

- 2 Click the **Edit** (✎ Edit) button.


The *Definitions* pane fills with the views editor.

- 3 Select the *Views* tab.

- 4 Click the **Add** (+ Add) icon on the *Views* menu bar.

The *Select a View to add to the Report* dialog appears.

- 5 Select **User Views > Header: Icon, Report Title, Time Range T5**.

- 6 Click **Save** in the dialog.
- 7 Select **Header** from the *Function* drop-down.
- 8 Select the header and click the Move Up (  Move Up ) button to place the component as the first view.
- 9 Click **Save** on the bar containing the tabs to save *Hosts Summary Report T5*.


## Adding a Footer

You saw how to add items to all three places in the header, and the footer component is simpler. To demonstrate how to use the report's *pageNumber* built-in context, you will place a page number at the bottom-center of the page.

*To create the Footer component:*



- 1 Follow the procedure for adding a header, making these changes:
- 2 Type **Footer: Page Number T5** in the *Name* field.
- 3 Enter **Footer for Hosts Summary Report T5** in both the *Comments* and the *Context Help* text fields.

*To set the context:*

- 1 Select the *Context* tab.
- 2 Click the **Add Context Input** button (  ) in the *Inputs* group.  
A new row appears.
- 3 Click on the new row to launch the *Edit* dialog.
- 4 Type **pageNumber** in the *Key* field.  
This is the context you set in the parent report.
- 5 Ensure that *Usage* is **Required**.
- 6 Set *Data Source Type* to **Common**.
- 7 In the drop-down, set *Data Type* to **Integer**.
- 8 Leave *List* set to **False**.
- 9 In the dialog, click **Save**.



### *Setting the center portion of the footer*


*To add a page number to the footer:*

- 1 Select the **Configuration** tab.
- 2 Click the **Edit** icon (  ) on the *Center* row.  
The *Edit - Center* dialog appears.
- 3 Choose **String template** from the drop-down list.
- 4 In the *Value* drop-down list, type - **{0}** -.  
The dialog now shows a line for *Parameter {0}*. By using a parameterized entry for the page number you can add text decorations around it.
- 5 Click the **Edit** (  Edit ) button on the *Parameter {0}* line.  
The *Edit - Parameter {0}* dialog appears.
- 6 Select **pageNumber** in the *Input Key* drop-down list.
- 7 In the *Edit - Parameter {0}* dialog, click **Save**.
- 8 In the *Edit - Center* dialog, click **Save**.
- 9 Click **Save** on the bar containing the tabs to save *Footer: Page Number T5*.


### **Add the footer to the report**

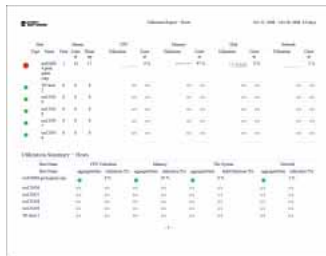
*To add the Footer component to the report:*

- 1 Choose **Configuration > Definitions** and ensure that *Hosts Summary Report T5* is selected in the *Views* tab for the Module Contents pane.
- 2 Click the **Edit** (  Edit ) button.  
The *Definitions* pane fills with the views editor.
- 3 Select the *Views* tab.
- 4 Click the **Add** (  Add ) icon on the *Views* menu bar.  
The *Select a View to add to the Report* dialog appears.
- 5 Select **Footer for Hosts Summary Report T5**.
- 6 Click **Save** in the dialog.
- 7 Select **Footer** from the *Function* drop-down.

- 8 Select the header and click the Move Up (  Move Up ) button to place the component as the second view, in between *Header: Icon, Report Title, Time Range T5* and *Hosts Table - For Given Hosts*.
- 9 Click **Save** on the bar containing the tabs to save *Hosts Summary Report T5*.

### Test the report


Test the report by clicking the **Test PDF** (  Test PDF ) button on *Host Summary Report T5*'s menu bar. You should see a page with a header, a footer, and a table of host statistics. A resized sample is shown in the figure below.



## Adding an Iterator for a Multi-Page Report

The Iterator component was built to address a need for creating similar views, such as a report containing detailed information for each host

*To define an Iterator component:*

- 1 Choose **Configuration**> **Definitions** and ensure that your tutorial module is selected. Also ensure that the *Views* tab is selected for the Module Contents pane.
- 2 Click the **Add** (  Add ) button.  
 The *New View* dialog appears.
- 3 Expand the **Containers** node.
- 4 Ensure that **Blank view** is selected and choose **Iterator** from the drop-down list, which contains all the available view components. Click **OK**.
- 5 Fill in the General tab using the information in the figure:

| Field             | Value                    |
|-------------------|--------------------------|
| Module            | rparker                  |
| Component         | Iterator                 |
| Name              | Host Iterator T5         |
| Public            | <input type="checkbox"/> |
| Deprecated        | <input type="checkbox"/> |
| Preferred Width   | 540                      |
| Preferred Height  | 450                      |
| Refresh Interval  | second(s)                |
| Priority          | None                     |
| Purpose(s)        | Reportlet                |
| Custom Purpose(s) |                          |
| Relevant Role(s)  | none                     |
| Allowed Role(s)   | none                     |

- 6 Enter **Iterator for Hosts Summary Report T5** in both the *Comments* and the *Context Help* text fields.

To set the context:

- 1 Select the **Context** tab.
- 2 Click the **Add Context Input** button (⊕) in the *Inputs* group.  
A new row appears.
- 3 Click on the new row to launch the *Edit* dialog.
- 4 Type **hosts** in the *Key* field.
- 5 Set *Usage* to **Required**.
- 6 Set *Data Source Type* to **vFoglight**.
- 7 In the drop-down, set *Data Type* to **Host**.
- 8 Set *List* to **True**.
- 9 In the dialog, click **Save**.

To set the objects for the iterator:

- 1 Select the *Configuration* tab.
- 2 Click the **Edit** icon on the *Key* row.  
The *Edit - Key* dialog appears.
- 3 Type **host** in the *String value* text box.
- 4 Click **Save** in the *Edit - Key* dialog.



- 5 Click the **Edit** icon on the *Objects* row and choose Context Selection from the drop-down list.  
The *Edit - Objects* dialog appears.
- 6 Choose **hosts** in the *Input Key* drop-down list.
- 7 Click **Save** in the *Edit - Objects* dialog.

## Choosing the Iterated View



You can choose or construct any view whose inputs are host objects, since that is a context that was set in *Hosts Summary Report T5* itself. For this tutorial we will choose *[table] Memory hogs* from the System module Hosts/Host. Any other view whose inputs are acceptable would do as well.

*To set the iterated view:*

- 1 Select the **Iterated View** node.
- 2 Choose **Hosts > Host, [table] Memory hogs**.  
We are adding an already-existing view because it is quicker than building a special view for this tutorial. The objective here is to introduce the *Iterator* component.
- 3 Leave the other fields with their default values.
- 4 Click **Save** in the *Iterator* component's menu bar.

## Adding the Iterator to the report

*To add the Iterator component to the report:*

- 1 Choose **Configuration > Definitions** and ensure that *Hosts Summary Report T5* is selected in the *Views* tab for the Module List pane.
- 2 Click the **Edit** ( Edit) button.  
The *Definitions* pane fills with the views editor.
- 3 Select the **Views** tab.
- 4 Click the **Add** ( Add) icon on the *Views* menu bar.  
The *Select a View to add to the Report* dialog appears.
- 5 Select **Host Iterator T5**.
- 6 Click **Save** in the dialog.

No other changes are needed because the *Body* page is the default.

- 7 Click **Save** on the bar containing the tabs to save *Hosts Summary Report T5*.

## Summary

In this tutorial you have been shown how to prepare a report with a header and a footer. You saw how to use an Iterator component to generate multiple views based on a list, thus creating a multi-page report. You viewed the result by manually choosing the “View as PDF” option, and you may be wondering about alternative methods for creating and viewing reports.

### Additional Activities

In this section you’ll see how to adjust the width of a selected column and how to ensure that the report has a title. Also, you’ll place a report in another component, and in so doing you’ll see how the Report’s *title* property comes into play. You’ll also see what is probably the best method for generating reports automatically by using a schedule.

The final activity provides you with some information on changing the headers and footers in case you want to change them after the first page, or at the beginning of each section of a long report.

#### Adjusting the table

In most cases the report generator does the best job it can in sizing the various components so that they all fit nicely on the page. That having been said, the generator may have difficulty with some combination of fixed- and variable-width components.

To make the table a little wider we will add another column for average utilization of the CPU and we will use a sparkline renderer to show the result.

*To create a sparkline:*

- 1 Choose **Configuration > Definitions** and ensure that the *Renderers* tab is selected in the Module List pane.
- 2 Click the **Add** (➕ Add) icon on the *Renderers* menu bar.  
The *New Renderer* dialog appears.
- 3 Select **Sparkline** from the drop-down list.
- 4 Type **Sparkline for Report** in the *Name* field.

- 5 Click **Save** on the bar containing the tabs to save *Sparkline for Report*.

To add a column containing a sparkline to the table:

- 1 Return to editing *Load Summary Table T5*.
- 2 Add a column. Set its context selection to: `<currentRow>/cpus/percentUserTime`, using the Renderer: *Sparkline for Report* from your User module. Set its *ID* to **CPU User Time**.
- 3 Add the column to the *CPU Utilization* group.
- 4 Save your changes and test the result.

If you continue to add sparklines to the other groups, you may find that there are alignment problems with the table. In this case the problem seems to be that the Sparkline renderer may request too much space, causing problems for some other columns. In most cases you can cure this type of layout issue by setting the width of some variable-width columns.

To set the element width of the *Sparkline For Report*:

- 1 Return to editing *Load Summary Table T5*. Click its **Configuration** tab.
- 2 Ensure that **Show Advanced Properties** is checked.
- 3 Select the column with *ID CPU User Time*.
- 4 Expand the **Width** node.
- 5 Click the **Edit** icon (≡) on the *Sizing* row.  
The *Edit - Sizing* dialog appears.
- 6 Choose **Specified** in the *Width Sizing* field.
- 7 Click the **Edit** icon (≡) on the *Value* row.  
The *Edit - Value* dialog appears.
- 8 Change **Integer Value** to **70**.
- 9 Click **Save** on the bar containing the tabs to save *Load Summary Table T5*.
- 10 Retest by generating a new report.

In other situations you may have to set the element widths of other variable-width components, but making just these changes did produce a properly-formatted table when it was tested during the construction of this tutorial.

### Where did the table's title go?

If you followed exactly the procedures given previously, you may have noticed that even though you set the table's title to *Utilization Report - Hosts*, it didn't appear when you generated the PDF. The situation is quite similar to the point raised in Additional Activities in Tutorial 2. Causing a title to appear is a two-step process, and defining the title's content is only the first step. You also have to configure the parent component to show the title.

*To cause the table's title to appear:*

- 1 Return to editing *Hosts Summary Report T5* and choose the **Views** tab.
- 2 Select **Load Summary Table T5** by clicking anywhere on its row.
- 3 Click the **Properties** button on the menu bar.

The *Properties* dialog appears.

- 4 Check **Show Title** and then click **Save**.
- 5 Click **Save** on *Load Summary Table T5's* menu bar.
- 6 Regenerate the report. The title should be present.

### View the Report in a Dashboard

Edit the Report component by checking its **Pagelet** check box and then add it to row 0 and column 0 of a Grid component purposed as a **Dashboard**.

As you are adding the Report, make sure that **Show Page** is enabled. View the report and note that the title you set in the Report's Additional Context is displayed.

### Schedule a Report in vFoglight

When the construction of the report is finished and it is giving you the result you want, you can schedule a report run whenever you want. Creating a report schedule is a two-step process.

First, create a schedule for performing an action that as yet has not been specified.

*To create a schedule:*

- 1 Switch to *Administration > Schedules > Create Schedule* and fill in the required data. See the Administration Guide if you need further information.

**Note** You can choose **New Schedule** in the Report Manager as an alternate way of creating a schedule for your reports.

- 2 Choose **Reports > Report Manager** under *Dashboards*.

The *Report Manager* page opens in the Definitions pane.

- 3 Click **Schedule Report** (  ).

The *Create Scheduled Report* dialog opens.

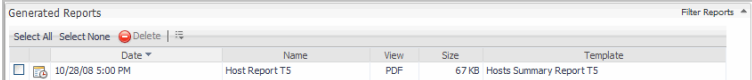
- 4 Type **Host Report T5** in the *Name* text field.
- 5 In the *Report Template* row, click **Please Select Report Template**, expand the **All Report Templates** node, and choose **Host Summary Report T5** in the *Template* column.

The dialog (under *Report Inputs*) asks you to supply values for the context inputs that were defined in the report page itself. Set representative values for these context inputs.

- 6 In the **Schedule** drop-down, choose the name of the schedule you created or choose **Frequent [Test]**.
- 7 Click **Create** in the *Create Scheduled Report* dialog.

*Host Summary Report T5* is added to the *Scheduled Reports* table.

After a lapse of a few minutes, a line similar to the one shown in the figure appears in the *Generated Reports* pane:



|                          | Date             | Name           | View | Size  | Template                |
|--------------------------|------------------|----------------|------|-------|-------------------------|
| <input type="checkbox"/> | 10/28/08 5:00 PM | Host Report T5 | PDF  | 67 KB | Hosts Summary Report T5 |

- 8 Click on **pdf** to view the report.
- 9 If you chose **Frequent [Test]** as the schedule in the *Scheduled Reports with Filter* table, ensure that the check box for the report is selected, click on **manage scheduled reports** and then choose **Disable** from the popup window to stop generating reports.

If the chosen schedule was **Frequent [Test]**, reports will be generated every few minutes for testing purposes until you deactivate the schedule.

See the *vFoglight User Guide* for more information on using the Report Manager.

## Sequential Headers and Footers

The report you created in this tutorial has a host summary page and then a number of pages, one for each host. In a case like this, or if for any other reason you want to have the first page of the report to have a different header than the rest of the pages, there is a solution.

A report can have multiple headers. The reason you placed the header and footer as the first and second component in the report's *View* page was to have them registered by the report generator before any body views. Perhaps the table of hosts in your environment spans more than one page. If the footer was placed after the table component, it wouldn't appear until after the table. In fact this is true even if the table contains only a few rows. The report generator would delay emitting the footer *until the page after the table was drawn*. In the first part of this exercise, there is no page after the first, so the footer wouldn't appear at all.

Therefore, to switch headers or footers, place the new header or footer component *before* the view that should begin the new page. If necessary, emit a page break between the header and the new component. Using this technique, it is possible to have different headers and footers in all sections of a long report.

Normally, you would choose your first body view to fit on page one. But what if you want a new header on the second page and the first page must contain a table or other view that may be several pages long? The first header encountered controls the first page, but if the first body view may be several pages long the header or footer won't change until the whole component is written out. The solution may be to place a thin, empty component after the first page's header and footer, and then place the next header and footer before the multi-page component. The system will place the first header and footer on the first page, emit the empty component, set the header and footer for the next page, and begin emitting the multi-page component. This will cause the second and following pages to have the header and footer you want.

Try adding a header for the individual host pages. Place this header component just before the iterator in the report's *Views* pane.

## Tutorial 6: Creating a Form

The Web Component Framework contains many components that have a *value* property and there are situations in which some other component may be interested in being passed that value. This tutorial begins by investigating how to configure context settings so that the value of one component can be passed to one or more other components. We'll go one step further in this tutorial and pass the values to a Groovy task component.

This tutorial assumes that you have a working knowledge of vFoglight's API and that you are familiar with Groovy. It makes no attempt to be a tutorial for the vFoglight API or for Groovy. This tutorial shows you how to create context entries that can be used as parameters in the scripts. The Groovy scripts and the task component called Execute Groovy Script are used to invoke vFoglight methods and pass the context values as parameters to these methods.

A page that contains many input components can be made to behave like a form. The user fills in various input fields on the form, which in this example is a Grid container, but it is only by pressing the form's Submit button that the context keys are updated and the values are transmitted to the server. The form that we'll use in this tutorial is called *Add a host form* (to distinguish it from the *Add a host* task). It has only two fields and a submit button, but it illustrates the general idea. The form could have any number of input fields.

This tutorial contains:

|                                                    |     |
|----------------------------------------------------|-----|
| <a href="#">Objectives of Tutorial 6</a> .....     | 120 |
| <a href="#">Configuring the Query</a> .....        | 120 |
| <a href="#">Overview</a> .....                     | 121 |
| <a href="#">Creating the Tasks and Forms</a> ..... | 123 |
| <a href="#">Testing the Application</a> .....      | 137 |

## Objectives of Tutorial 6

This tutorial shows how context can be used to pass values among components and even to internal vFoglight data structures by implementing Groovy tasks. The tutorial outlines the way that you can create forms using the Web Component Framework. You will be shown how a single submit action can pass as many context values as you like.

The objectives of Tutorial 6 are:

- Pass input values to interested views. This task will require the creation of some context entries.
- Create a form showing a list of hosts. The form is actually a table with a menu of actions. Choosing one of the menu items causes actions to occur.
- Use a task component called Execute Groovy Script. It will be used to pass context values to internal vFoglight methods that can manipulate the host topology model. As a result, you will be able to create a new host model or delete an existing host model. You'll see how to change an editable host property as well.

## Configuring the Query

This tutorial requires a list of hosts, just as in Tutorial 1.

*To build the All hosts query:*

- 1 Ensure that the **Queries** tab in the Module Contents pane is selected.
- 2 Click the **Add** button in the Module Contents pane.

The *New Query* dialog appears.

- 3 Ensure that **Blank Query** is chosen, select **vFoglight** for the Data Source Type, and click **OK**.

The *Definitions* pane changes to an *Edit* pane. It fills with the query editor, which contains all the fields that can be used to construct a query. You must fill in the fields that are marked by an exclamation point icon on the right side of the field.

- 4 Type **All Hosts** in the *Name* field.

Now that the query has been named, it can be referenced by that name when you want to use it.



- 5 Leave **Public** and **Root Query** unchecked, **Comments** and **Context Help** empty, and **Relevant** and **Allowed Role(s)** untouched.
- 6 Ensure that the *Data Source ID* field's value is `<default>`.
- 7 Select the *Object Type* by clicking the drop-down arrow at the right of this field. Choose **Host** from the drop-down list.  
**Note** This list box responds to keystrokes, so you can type **H** and be taken close to the desired entry.
- 8 Set the *Root Path*. Most objects are grouped at some level down from the root. In this example, the object we want is in **HostModel/hosts**, so choose it from the drop-down list in the *with Path* field.
- 9 Click **Save** to save the query.

## Overview

### Components in the Application

The application consists of the components that are listed below.

#### View Components

- **Host List**—A row-oriented table of hosts. Its rows contain user-assigned host names, the long names of the hosts, and the value in the annotation property. An action menu at the top of the table lets you add or remove a selected host, or change the text in its annotation property. You will add Action tabs to the table for the Add, Delete, and Edit Annotation tasks.
- **Add a host form**—A grid with three nested views that allow you to:
  - Type in the name you are going to assign to the new host
  - A drop-down list of operating system names
  - A button for submitting the host name and operating system to the topology model so that a new host node can be created
- **Add Annotation Input**—A text field for editing the value of a host's annotation property.

## Task Components

There are three tasks, one each for adding a host, removing a host, and editing a host's annotation property.

- Add a host—A groovy script that passes two context values, one for host name and one for operating system name, to the underlying topology service to create a new node. It requires two context entries, *hostName* and *operatingSystem*.
- Remove Host—A groovy script that takes the selected value from the table of hosts and passes it to the delete method of the topology service. It requires a context entry for the currently-selected row called *hostSelected*.
- Add annotation—A groovy script that takes the context value for the annotation text and replaces the selected host's annotation field. It requires two context entries, *hostId*, which is the unique Id for the currently-selected host, and *newAnnotation*, which is the *Value* derived from the contents of the text field used to collect the annotation string.

## Order of Construction

The views listed in “[View Components](#)” on page 121 have been chosen to facilitate the creation of a new host node, which requires manipulating the underlying topology model. One of the ways of accomplishing this kind of low level work is to construct Groovy scripts that can access the objects that can access the model. You have to create the scripts first so that you can attach them to the component's flow action.

You are going to establish a flow from the table of hosts to a Grid component called Add a host form, so you need to construct the grid before you construct the table.

## Notes on the Context Flow

The next few paragraphs contain comments on how context is used to supply information to the Topology Service that manages vFoglight's host model. Please keep these remarks in mind as you construct the tasks and views in this tutorial.

### Add host

Choosing **Add** in the table's menu causes the *Add a host form* Grid to pop up. Typing a name for the new host and choosing its operating system from the drop-down list, sets two context keys, *hostName* and *operatingSystem*. These are passed to the Add a host task, which creates a new host entry in the data model.

## Delete host

Before choosing **Delete** in the All Hosts table, ensure that the selected row is one of the dummy hosts that you have added using the **Add** button. You don't want to delete one of your actual hosts.

The Host List table has a *Row Selection* flow whose action is *Update*. Once a row has been selected, it is highlighted in the UI and this context entry is updated.

Then, when the *remove host* task is invoked, a new context key called *hostSelected*. The Groovy script uses *hostSelected* to decide which host node to delete.

Thus, to remove a host, two different context entries cooperate to accomplish the task. The Row Selection *Update* flow sets *hostSelected* and *hostId*. The latter is set to `<hostSelected>/uniqueId` as an additional context in the *Row Selection* dialog.

## Add annotation

Choosing **Edit Annotation** in the table's menu sets two context keys, *hostId* and *newAnnotation*, both of which are pathed from *hostSelected*. The context key *hostId* contains the *uniqueID* for the selected host and *newAnnotation* contains the first entry in the selected host's property list of annotations.

These context keys are passed to the Add Annotation popup dialog. The user pops up the dialog, selects a new row, and then types some text into the popup's text field and the Update action calls the *Add annotation* task. The context key *newAnnotation* now contains the text that the user typed into the text field.

# Creating the Tasks and Forms

This section presents the information needed to create and configure all the views and tasks required for this tutorial.

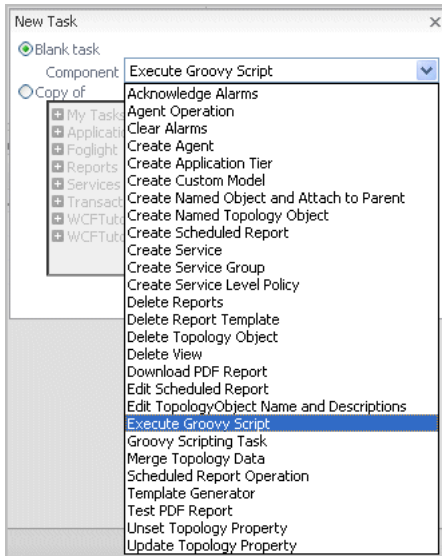
## Create the groovy Tasks

In this tutorial, module definitions are presented, rather than giving step by step instructions of previous chapters. These would be needlessly repetitive. Use these definitions as a guide to constructing the components. After you have constructed the views you can compare your listings to the ones given here to check for agreement.

By this time, you should be quite familiar with the Definitions panes, and in particular the module contents pane with its tabs for Views, Queries, and Tasks. Select the **Tasks**

tab and click the **Add** button. Choose **Execute Groovy Script** in the drop-down list. This will be your choice for all three task components.

Use the listings given here to create and configure the tasks. You'll note that we have suggested that you work as a special user and that you place your views in a system module called TaskTutorial, which has the advantage of keeping the views separate from everything else.



## Add a Host

The mechanism for accessing context values is the construct called *@contextIn*. For example, the code fragment

```
def hostName = @contextIn["hostName"];
```

assigns the context value associated with the context *hostName* to the Groovy variable of the same name. The reverse is also possible using *contextOut*.

**Module** tasktutorial

---

**Note** Names in the Web Component Framework are case insensitive, so *TaskTutorial* is converted to *tasktutorial*.

---

**Name** Add a host

**Component** Execute Groovy Script

**Last Modified Time**

**Public** No

**Deprecated** No

**Comments**

**Context Help**

**Context Inputs**

| Key             | Usage    | Data Source Type | Data Type | Default Value |
|-----------------|----------|------------------|-----------|---------------|
| hostName        | Required | Common           | String    |               |
| operatingSystem | Required | Common           | String    |               |

**Configuration**

**Groovy Script** `def hostName = @contextIn["hostName"]; def operatingSystem = @contextIn["operatingSystem"]; println hostName; println operatingSystem; topSrv = server.get("TopologyService"); hostIns = topSrv.getObjectShell(topSrv.getType(operatingSystem+"_Host")); hostIns.set("name", hostName); objects = topSrv.mergeData(hostIns);`

**Flow**

- **Action** Base exit
- **Flow type** Update
  
- **Action** An Error Occurred
- **Flow type** Update

**Remove Host**

**Module** tasktutorial

**Name** Remove Host

**Component** Execute Groovy Script

**Last Modified Time**

**Public** No

**Deprecated** No**Comments****Context Help****Context Inputs**

| Key          | Usage    | Data Source Type | Data Type | Default Value |
|--------------|----------|------------------|-----------|---------------|
| hostSelected | Required | Foglight         | Host      |               |

**Configuration**

**Groovy Script** def hostToDelete = @contextIn["hostSelected"];topSrv = server.get("TopologyService");tempO = topSrv.getObject(hostToDelete.getUniqueId()); topSrv.deleteObject(tempO);

**Flow**

- **Action** Base exit
- **Flow type** Update
- **Action** An Error Occurred
- **Flow type** Update

**Add Annotation**

**Module** tasktutorial  
**Name** Add Annotation  
**Component** Execute Groovy Script  
**Last Modified Time**  
**Public** No  
**Deprecated** No  
**Comments**  
**Context Help**

## Context Inputs

| Key           | Usage    | Data Source Type | Data Type | Default Value |
|---------------|----------|------------------|-----------|---------------|
| newAnnotation | Optional | Common           | String    |               |
| hostId        | Optional | Common           | String    |               |

## Configuration

**Groovy Script** def hostId = @contextIn["hostId"]; def newAnnotation = @contextIn["newAnnotation"]; topSrv = server.get("TopologyService"); tempO = topSrv.getObject(hostId); tempO = topSrv.beginUpdate(tempO); hostAnnotations = tempO.get("annotations"); hostAnnotations.clear(); hostAnnotations.add(newAnnotation); tempO= topSrv.endUpdate(tempO);


## Flow

- **Action** Base exit
- **Flow type** Previous
  - **Update** True
  - **Additional Context**

| Key           | Value                                                         |
|---------------|---------------------------------------------------------------|
| newAnnotation | Context Selection <newAnnotation> returning “Localized Value” |

- **Action** An Error Occurred
- **Flow type** Update

## The Groovy Scripts

The scripts are repeated here in a more readable format. You can use them to paste into the script configuration field of the Execute Groovy Script task component. These scripts call vFoglight and Java methods to do the work. A handy way to access the API for vFoglight is through the browser interface. Under Dashboards in the navigation panel, choose **Administration > Tooling > Script Editor**. In the Query and Scripting Service Tool, click the icon for **Script Help** (  ), which is at the top right of the *Script* box. Alternatively, you can type **help(server)** and click the **Run** button below the *Script* box. In the *Result* area, click **Topology Service** to see the vFoglight methods used in this tutorial.

### Add a host

```
def hostName = @contextIn["hostName"];
def operatingSystem = @contextIn["operatingSystem"];
println hostName;
println operatingSystem;
topSrv = server.get("TopologyService");
hostIns =
topSrv.getObjectShell(topSrv.getType(operatingSystem+"_Host"));
hostIns.set("name", hostName);
objects = topSrv.mergeData(hostIns);
```

### Remove Host

```
def hostToDelete = @contextIn["hostToDelete"];
topSrv = server.get("TopologyService");
tempO = topSrv.getObject(hostToDelete.getUniqueId());
topSrv.deleteObject(tempO);
```

### Add Annotation

```
def hostId = @contextIn["hostId"];
def newAnnotation = @contextIn["newAnnotation"];
topSrv = server.get("TopologyService");
tempO = topSrv.getObject(hostId);
tempO = topSrv.beginUpdate(tempO);
hostAnnotations = tempO.get("annotations");
hostAnnotations.clear();
hostAnnotations.add(newAnnotation);
tempO= topSrv.endUpdate(tempO);
```

## Configure the Views

Now that the task components are available, you can create the views that will invoke them.

### Configuring Add a Host Form

The Add a host form contains three nested views for collecting the information needed when adding a new host.

|                  |                 |
|------------------|-----------------|
| <b>Module</b>    | tasktutorial    |
| <b>Name</b>      | Add a host form |
| <b>Component</b> | Grid            |



**Public** No  
**Deprecated** No  
**Preferred Size**  
     **Width** 0px  
     **Height** 0px  
**Purpose(s)** Page, Pagelet  
**Priority** None  
**Relevant Role(s)** (none)  
**Allowed Role(s)** (none)  
**Refresh Interval**  
**Comments**  
**Context Help**  
**Context Inputs**

| Key             | Usage    | Data Source Type | Data Type  | Default Value |
|-----------------|----------|------------------|------------|---------------|
| timeRange       | Optional | Common           | Time Range |               |
| hostName        | Optional | Common           | String     |               |
| operatingSystem | Optional | Common           | String     |               |

### Configuration

**Note** Choose a String or String Template runtime value to add a title.

- **Title** Add a Host

### Flow

- **Action** Submit
- **Flow Type** Invoke Task
  - **Task** Add a host
  - **Additional Context**

| Key             | Description                                                     |
|-----------------|-----------------------------------------------------------------|
| hostName        | Context Selection <hostName> returning "Localized Value"        |
| operatingSystem | Context Selection <operatingSystem> returning "Localized Value" |

**Views**

**Name** (Nested View) (*nested*)  
**Component** Text Field  
**Size** Automatic x Automatic  
**Scrollbars** Never

**Name** (Nested View) (*nested*)  
**Component** Drop-Down List  
**Size** Automatic x Automatic  
**Scrollbars** Never

**Configuration**

- Row 1

**Name** (Nested View) (*nested*)  
**Component** Button  
**Size** Automatic x Automatic  
**Configuration**

- Row 2

## Text Field nested view

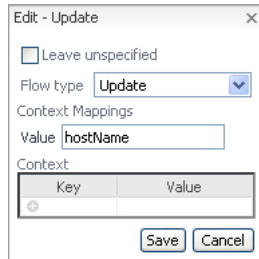
**Module** tasktutorial  
**Component** Text Field  
**Name** (Nested View)  
**Preferred Width** 20px  
**Preferred Height** 20px  
**Context Inputs**

| Key      | Usage    | Data Source Type | Data Type | Default Value |
|----------|----------|------------------|-----------|---------------|
| hostName | Optional | Common           | String    |               |

- **Global Context Mappings**

| Key      | Description |
|----------|-------------|
| hostName | Value       |

**Note** The hostName context key is set in the flow Context Mappings for this component.



**Configuration**

- **Input Field Width** 30

**Flow**

- **Action** Update
- **Flow Type** Update

**Drop-Down List nested view**

**Module** tasktutorial  
**Component** Drop-Down List  
**Name** (Nested View)  
**Preferred Width** 200px  
**Preferred Height** 200px

**Context Inputs**

| Key             | Usage    | Data Source Type | Data Type | Default Value |
|-----------------|----------|------------------|-----------|---------------|
| operatingSystem | Optional | Common           | String    |               |

- **Global Context Mappings**

| Key             | Description   |
|-----------------|---------------|
| operatingSystem | Selected Item |

### Configuration

- **Label** Operating Systems
- Items List
  - {0} String (Windows)
  - {1} String (Linux)
  - {2} String (HPUX)
  - {3} String (Sun)
  - {4} String (AIX)

### Flow

- **Action** Selection
- **Flow Type** Update

### Button nested view

|                         |               |
|-------------------------|---------------|
| <b>Module</b>           | tasktutorial  |
| <b>Component</b>        | Button        |
| <b>Name</b>             | (Nested View) |
| <b>Preferred Width</b>  | 200px         |
| <b>Preferred Height</b> | 20px          |
| <b>Configuration</b>    |               |

- **Label** Add

### Configure Host List

Host List is a row-oriented table. It has an action menu for performing the required tasks of adding and removing hosts, and for editing a host's annotation property.

|                  |                    |
|------------------|--------------------|
| <b>Module</b>    | tasktutorial       |
| <b>Component</b> | Row-Oriented Table |

|                          |                                            |
|--------------------------|--------------------------------------------|
| <b>Name</b>              | Host List                                  |
| <b>Public</b>            | No                                         |
| <b>Deprecated</b>        | No                                         |
| <b>Preferred Width</b>   | 300px                                      |
| <b>Preferred Height</b>  | 300px                                      |
| <b>Refresh Interval</b>  | - second(s)                                |
| <b>Priority</b>          | None                                       |
| <b>Purpose(s)</b>        | Dashboard, Page, Pagelet                   |
| <b>Custom Purpose(s)</b> | -                                          |
| <b>Relevant Role(s)</b>  | (From module: Advanced Operator, Operator) |
| <b>Allowed Role(s)</b>   | (none)                                     |
| <b>Comments</b>          |                                            |
| <b>Context Help</b>      |                                            |
| <b>Context Inputs</b>    |                                            |

| Key             | Usage    | Data Source Type | Data Type  | Default Value |
|-----------------|----------|------------------|------------|---------------|
| timeRange       | Optional | Common           | Time Range |               |
| hostName        | Optional | Common           | String     |               |
| newAnnotation   | Optional | Common           | String     |               |
| hostId          | Optional | Common           | String     |               |
| operatingSystem | Optional | Common           | String     |               |
| hostSelected    | Optional | Foglight         | Host       |               |

\* This context mapping for Selected Row is added in the Row Selection flow editor.

**Configuration**

- **Rows** Query Selection ('All hosts' from the System module WCFTutorial)
- **Columns**
  - Column
  - Value Context Selection <currentRow>/name returning "Localized Value"
  - ID wcf\_column\_0 (**Note:** this line is automatically generated. You do not type this.)
  - Column
  - Value Context Selection <currentRow>/longName returning "Localized Value"

- ID wcf\_column\_1 (**Note:** this line is automatically generated. You do not type this.)
- Column
- Value Context Selection <currentRow>/annotations returning "Localized Value"
- ID wcf\_column\_2 (**Note:** this line is automatically generated. You do not type this.)
- **Action Groups**
  - Note** Click the Add Action Group button to create an Action Group node.
- **Action Group**
- **Actions**
  - Note** Click the Add Action button to create an Actions node.
- **Action**
  - Icon** Icon Selection (Toolbar - Add) — Located in the vFoglight > System group
  - Label** Add
  - Reaction** Popup Add a host form
  - Note** In the *Edit* dialog, set *Type* to **Dialog**. This allows you to add multiple hosts without the need to reopen the popup.
  - Action**
  - Icon** Icon Selection (Toolbar - Remove)
  - Label** Delete
  - Reaction** Invoke task remove host
  - Action**
  - Icon** Icon Selection (Toolbar - Filter)
  - Label** Edit Annotation
  - Reaction** Popup Add Annotation Input
- **Title** All Hosts

**Flow**

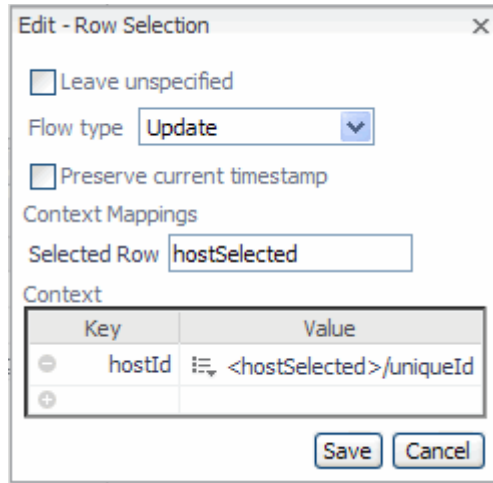
- **ActionRow** Selection

- Context Mappings

| Key          | Description  |
|--------------|--------------|
| hostSelected | Selected Row |

- Flow Type Update
- Context Mappings

| Key    | Value                                                                    |
|--------|--------------------------------------------------------------------------|
| hostId | Context Selection <hostSelected>/uniqueId<br>returning "Localized Value" |



### Configuring Add Annotation Input

|                         |                      |
|-------------------------|----------------------|
| <b>Module</b>           | tasktutorial         |
| <b>Component</b>        | Text Field           |
| <b>Name</b>             | Add Annotation Input |
| <b>Public</b>           | No                   |
| <b>Deprecated</b>       | No                   |
| <b>Preferred Width</b>  | 200px                |
| <b>Preferred Height</b> | 20px                 |

**Refresh Interval** - second(s)  
**Priority** None  
**Purpose(s)** Page, Pagelet  
**Custom Purpose(s)** -  
**Relevant Role(s)** (From module: Advanced Operator, Operator)  
**Allowed Role(s)** (none)

#### Comments

#### Context Help

#### Context Inputs

| Key           | Usage    | Data Source Type | Data Type | Default Value |
|---------------|----------|------------------|-----------|---------------|
| hostId        | Optional | Common           | String    |               |
| newAnnotation | Optional | Common           | String    |               |

- **Global Context Mappings**

| Key           | Description |
|---------------|-------------|
| newAnnotation | Value       |

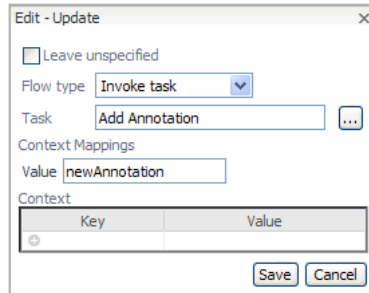
#### Configuration

- **Input Field Width** 30
- **Page Options**
- **Actions**
- **Action**
- **Text** update
- **Flow Type** Update

#### Flow

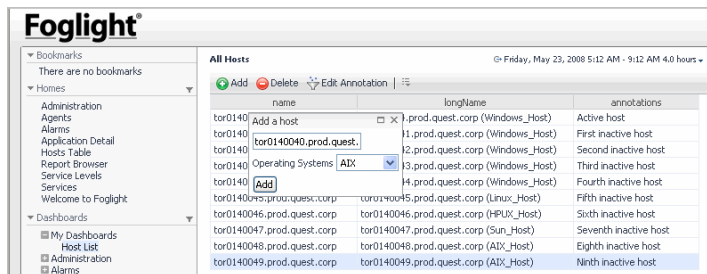
- **Action** Update
- **Flow Type** Invoke Task
  - **Task** Add Annotation





## Testing the Application

If you have built the application by creating a new system module called TaskTutorial, you should see *Host List* under Dashboards > TaskTutorial.



## Summary

This tutorial has introduced you to the simplest way of setting a submit action on a container. More complex actions are possible. The following note on the Form component provides an outline of the possibilities that are available using the new Form component.

## Additional Activities

Add a confirmation dialog that pops up to ask, “Are you sure?” before deleting a host.

## The Form Component

In previous releases of vFoglight, component-specific actions were disabled when a submit action was set on a container. Now, if you set a flow on a component in a form it will be triggered independently. This ability, combined with the new smart update functionality, removes any HTML-induced restrictions on how a particular page and its submissions need to be structured.

The proper way to take advantage of this feature is to not use the existing submit action on the form, but to use the new Form component. Additionally the new Wizard component also supports this dual mode of update.

The Form component allows you to specify multiple actions and draws them in a standard way. If the form is a popup, it will automatically render a cancel button that provides the same functionality as clicking on the close icon (x) in the title bar—it pops down the window.

The input elements of the form are then added to whatever layout you wish, and added to the Form itself.

# Index

## A

about vFoglight 8

aggregateState 51

alarm

adding an alarm icon 50

message 67

severity 67

All Hosts 120

## C

chart

configuration 71

component

Add a Host Form 128

Add Annotation Input 135

Button nested view 132

Chart 71

Customizer 81

Drop-Down 78

Drop-Down List nested view 131

Fixed Layout 44

Grid 53, 75

Host List 132

Iterator 111

Key-Value Listing 68

Label 73

Row-Oriented Table 40, 102

Text Field nested view 130

context

additional 88, 99

host 54

hostId 127, 136

hostmodel 99

hostName 125, 129, 130, 131

hosts 100

hosts in Row-Oriented Table 103

hostSelected 133, 135

hostToDelete 126

newAnnotation 127, 136

operatingSystem 125, 129, 132, 133

pageNumber (in footer) 109

timeRange (in header) 108

title 99

title (in header) 107

Customizer 81

## D

dashboard 44

fixed layout 44

grid 86

documentation

cartridge 10

core 9

feedback 10

suite 9

Drop-Down 78

**F****flow**

- on a label 75
- on a table 55

**footer**

- add to report 110
- create component 109

**footers**

- sequential 117

**G****generate**

- report 106

**grid**

- adding views 89
- choosing views 86
- using a customizer 86

**groovy** 123

- script listings 127

**H****header**

- add to report 108
- adding to a report 106

**headers**

- sequential 117

**Host Monitor** 56**I****iterator**

- adding to a report 111
- adding to report 111

**iterator** 111**L****Label** 73**O****OS**

- Common 56

**P****page orientation** 100**Q****query**

- alarms 61
- configuring 37
- for report 97, 120
- getHosts 38
- HostModel 97, 120

**R****report**

- adding a page to 101
- adjusting table widths in 114
- footer 109
- generate 106
- header 106
- iterator 111
- page orientation 100
- test 111

**Row-Oriented Table**

- in a report 102

**T****table**

- adding to a dashboard 45
- defining columns 41, 65, 70, 103
- row-oriented 40
- showing its title 116

**task**

- Add a host 124
- Add Annotation 126
- Remove Host 125

text conventions 11