Quick Reference

Guide

IxNetwork WebUI



Notices

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# Overview

This reference guide describes the IxNetwork Web application and its usage. It helps IxNetwork test Engineers to configure Ixia test equipment with minimal efforts.

## Introduction to IxNetwork

* + - IxNetwork is a comprehensive network infrastructure performance testing solution. It scales to handle powerful devices and very large networks, from routing and switching to data center ethernet and software defined networking.
    - IxNetwork is specifically targeted for the performance and functionality testing of high- speed, high-capacity routers, switches and other network infrastructure elements.
    - Provides a powerful, yet easy-to-use, graphical user interface (GUI) that you can use to configure and run complex tests. The user interface comes in two varieties; a windows based application and a web based application. It is the web app that is the focus of this document.
    - Offers the flexibility to customize the configuration settings to meet a wide range of requirements for testing complex network topologies, consisting of thousands of routing or switching devices.
    - IxNetwork is capable of emulating millions of routes and addressable hosts within a single topology. It provides the ability to customize millions of traffic flows using the emulated hosts to stress the data plane performance.
    - Creates sophisticated configurations using powerful wizards and grid controls in the UI.
    - Capable of reporting comprehensive protocol status and detailed per-flow traffic performance metrics based on a wide array of tracking options.

## What is IxNetwork Web App

* + - IxNetwork Web App is a web-based client UI for Ixia’s layer 2-3 traffic generation test application, and is most commonly used for testing routing and switching networks.
    - IxNetwork Web App supports multiple concurrent users and sessions, and allows multiple users to access a session, or a user to access multiple sessions simultaneously.
    - IxNetwork Web App has built-in REST API browser that helps users configure the test tool through a UI and then correlate the change directly to REST commands.

## Prerequisites

* + - IxNetwork Version should be 9.00 and above.

# Configure BGP from the sample scenarios

This section demonstrates creating a BGP test scenario from sample scenarios.

## IxNetwork Web App login

* + - Provide IP address of the VM or Chassis in the URL.
    - Enter login credentials and click LOGIN .

A screenshot of a video game

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Fig 2.1-Login page

## Create Session

* + - Web App allows user to work with multiple sessions by creating a new session or selecting from the existing sessions.Graphical user interface, website

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Fig 2.2 Create session window

## Select sample scenario

* + - User can choose the test scenarios from the sample or recent scenarios.

Graphical user interface, text, application, email

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Fig 2.3 Select sample scenario

## Assign Ports

* + - **Select Ports** window allows user to assign port to the topology, Enter chassis IP and choose the available port from the list of ports, different port states are explained in Fig 2.4.2.
    - User can perform **Select/Unselect**, **Unassign selected ports** and **Remove selected ports** as shown in Fig 2.4.3.
    - User can edit **L1 Settings** as shown in Fig 2.4.4.

Graphical user interface, application, table, Excel

Description automatically generated Fig 2.4.1 Assigning and connecting Port



Fig 2.4.2 Different port states

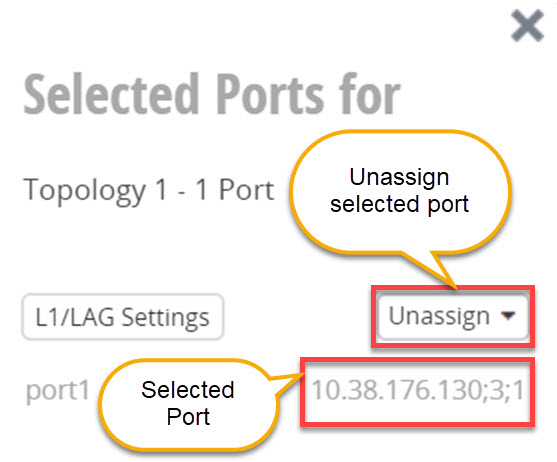


Fig 2.4.3 Port unassign options

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Fig 2.4.4.1 L1 Settings

Graphical user interface, text, application

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Fig. 2.4.4.2 L1 settings

## License Settings:

* + - User can edit License settings from **Settings** page.

Graphical user interface, text, application, email

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Fig 2.5 License Settings

## Edit Protocol grid

* + - Edit the required fields from the BGP protocol grid and save the configuration
    - For example, change the BGP Type as shown in Fig 2.6

Graphical user interface, application

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Fig 2.6 Edit BGP Protocol grid

## Run Test/Protocol

* + - Run the Test scenario by clicking on **Test** or **Protocol**.
    - As shown in Fig 2.7.2, observe the ports getting connected and all the protocols getting started, followed by Traffic.

Diagram

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Fig 2.7.1 Run Test/Protocol

Diagram

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Fig 2.7.2 Protocol Status after run Test

## Protocol View

* + - User can view the details of the protocol in **Protocols** page.
    - User can choose different view options from the drop down list.

Graphical user interface, application, table

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Fig 2.8 Protocol View

## Traffic Grid

* + - **Traffic item** and **flow groups** grids are interactive, user can edit the fields and save the configuration which is shown in detail in section 3.10.
    - Create the flow groups based on the selectable packet fields, osne flow group/high-level stream is created for each selected field.

\*Editing the traffic item and setting up the flow group is optional

Graphical user interface, application

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Fig 2.9 Traffic Grid

## Statistics View

* + - User can view the traffic statistics from the **Statistics** page.
    - User can view different statistics like **Port Statistics**, traffic **Flow Statistics** and traffic dashboard as shown in the Figures 2.10.1, 2.10.2 and 2.10.3.

Graphical user interface, application, table, Excel

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Fig 2.10.1 Port Statistics View

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Fig 2.10.2 Traffic Flow Statistics View

Graphical user interface

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Fig 2.10.3 L2/L3 Traffic Dashboard

# Configure OSPF from scratch

This section walks through a scenario which configures OSPF emulation manually to get the user introduced to most of the basic features of Web App.

## Add Test Scenario

* + - User can add a new test scenario by clicking **Add** from the Overview page.
    - User can also choose an existing scenario from samples or recent list of scenarios.

Graphical user interface

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Fig 3.1 Overview page-Create Test scenario

## Select Protocol

* + - The **Select Protocols** window allows user to select protocol from the list of supported protocols, for example IPv4.
    - Scroll down to view all the available protocols.

Graphical user interface, application

Description automatically generated Fig 3.2 Select Protocol

## Add Chassis and Port

* + - The Port selection window allows user to manage ports.
    - After choosing a protocol from the list, **Add Chassis** window pops up to the user, select chassis by entering chassis IP or select chassis from the list of recently used chassis and click **Connect all checked**.
    - Select the available port under the chassis in **Select Ports** window and click **New Topology.**
    - User can add multiple topologies before closing the topology window.

Graphical user interface, application, Teams

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Fig 3.3 Add Chassis and Assign ports

## Add OSPF on IPv4 Protocol

* + - User can add additional topologies, device groups and protocols by clicking **Add** tab.
    - **Select Protocols** window allows user to choose the protocols as shown in Fig 3.4.2.
    - Select OSPF protocol from **ROUTING/SWITCHING** section of **Select Protocols** window.

Graphical user interface, application

Description automatically generated Fig 3.4.1 Add OSPF on IPv4 Protocol

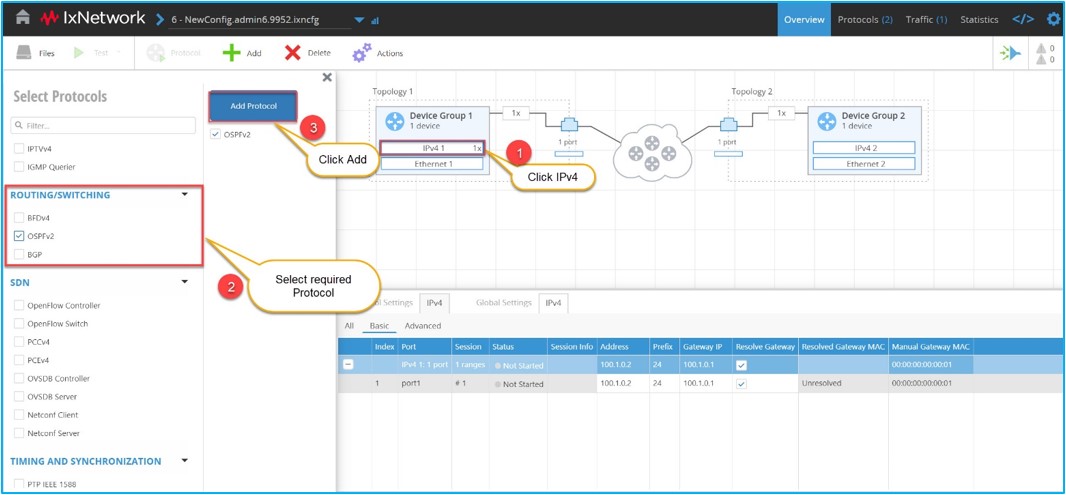


Fig 3.4.2 Select OSPF to add on IPv4

## Edit protocol grid

* + - The interactive protocol grid appears at the bottom of the overview page when particular protocol is selected.
    - Edit the required fields and save the configuration.
    - For example change the address and gateway for IPv4 protocol as shown below.

Graphical user interface, application

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Fig 3.5 Edit Protocol grid

## Configure OSPF

* + - Edit OSPF protocol grid.
    - Change the Network Type to Broadcast/Point to Point.

Graphical user interface, application

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Fig 3.6 Configure OSPF

## Run Test/Protocol

* + - User is provided with two options to run the protocols.
      * **Test** is a new utility which initiates complete test scenario in one shot. It includes connecting to ports and starting protocols followed by starting Traffic.
      * Start **Protocol,** starts all protocols configured in the test session.

Diagram

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Fig 3.7 Run Test/Protocol

## Protocol Actions

* + - Web App has provision to view details of all the protocols in **Protocols** page.
    - User can choose the required protocol and the category from the drop down.
    - Different protocol actions can be performed by selecting from the list of actions.

Graphical user interface, application

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Fig 3.8 Protocol Actions

* + - Select “Learned info Basic” from protocol options to see the OSPF learned informationGraphical user interface, text, application

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Fig 3.9 OSPF learned info

## Add Traffic item

* + - Configures the traffic streams on the specified ports.
    - Select Traffic type from the dropdown list Ex : IPv4.
    - Choose Source and Destination from **Add Traffic** window.

\*Changing Mesh settings is optional

Text

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Fig 3.9 Add Traffic item

* + - Add ‘Endpoint Set’ by selecting source and destination by selecting respective topology

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Fig 3.10 Add Endpoint Set

## Edit packet and setup flow groups

* + - Click on **Traffic item** to view flow groups grid.
    - **Traffic Item** and **Flow Groups** grids are interactive, user can edit the fields and save the configuration.
    - Create the flow groups based on the selectable packet fields, One flow group/high-level stream is created for each selected field.

\*Editing the traffic item and setting up the flow group is optional

Graphical user interface

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Fig 3.11 Edit Packet and setup flow groups

## Start Traffic

* + - Start the traffic from **Traffic** page.

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Fig 3.12 Start Traffic

## Traffic actions

* + - Similar to protocol actions, **Traffic Actions** allows user to perform different actions related to traffic.
    - User can perform different traffic actions from the list shown in Fig 3.13

A picture containing graphical user interface

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Fig 3.13 Traffic actions

## View Statistics

* User can view traffic statistics from Statistics page.

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Fig 3.14 View Statistics

# Configure a Test scenario using config file

This section walks through a scenario in which user is allowed to configure a test scenario by uploading ixncfg or json configuration files from **Files** tab, and user can also save the current configuration.

## Upload the Config File

* + - Click **Browse to upload file** from **Files** tab to upload ixncfg config file, for example upload ISIS\_L3.ixncfg.
    - After uploading the ISIS\_L3.ixncfg, follow the steps from [**section 2.4**](#_bookmark8) to **2.10** to bring up the test scenario.

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Fig 4.1.1 Upload config file

Graphical user interface

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Fig 4.1.2 After uploading ISIS\_L3.ixncfg

## Save and Clear the configuration

* + - User can save and clear the current configuration from **Files** tab.

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Fig 4.2 Save and Clear Configuration

# Other Utilities

This section covers additional capabilities of Web App.

## IxNetwork API Browser

* + - The main feature of this application is the ability to browse the API data in a hierarchical format. Access each level of the hierarchy with a view of siblings, attributes, execs, errors, and children.

Graphical user interface, diagram, application

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Fig 5.1.1 IxNetwork API documentation link

Graphical user interface, application

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# References

Fig 5.1.2 IxNetwork API Browser

Linux API Server: https://[www.youtube.com/watch?v=qSkgQvhGUeY&t=1s](http://www.youtube.com/watch?v=qSkgQvhGUeY&t=1s)

Ixia Training Tv: <https://www.youtube.com/channel/UCanJDvvWxCFPWmHUOOlUPIQo> Black books:

<https://www.ixiacom.com/resources?field_resource_topic_target_id=271&field_resource_type_> target\_id=180&field\_industries\_target\_id=All&combine=&items\_per\_page=28

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