# ixnet

**Library scope:** global **Named arguments:** supported

#### Introduction

provides functions for IxNetwork

To use IxNetwork module, a IxNetwork TCL server should be started properly.

RENAT will connect to the App server and control the test ports. Test files and result will be insde the RENAT server.

In order to run RENAT test case with IxLoad, the TCLServer must be activated with Administrator privileges on the Ixia App server.

Notes: Ignore the self parameters when using those keywords.

### **Shortcuts**

Add Port · Add Quicktest · Apply Traffic · Change Frame Rate · Change Frame Rate Dynamic · Change Frame Size · Close · Collect All Data · Collect Data · Csv Logging · Csv Snapshot · Get All Test Result · Get All Views All Csv Logs · Get All Views Csv Log · Get Csv Log · Get Quicktest List · Get Quicktest Result · Get Quicktest Result · Get Test Composer Result · Get Test Result · Get Test Result · Get View All Csv Logs · Get View Csv Log · Link Up Down By Index · Link Up Down By Name · Load And Start Traffic · Load Config · Load Traffic · Loss From File · Ping · Regenerate · Reset Config · Run Quicktest · Set All Traffic Item · Set Bgp Items · Set Bgp Neighbor · Set Capture Port · Set Traffic Item · Should Be Pingable · Start Capture · Start Trest Composer · Start Traffic · Stop All Protocols · Stop And Save Capture · Stop Quicktest · Stop Test Composer · Stop Traffic · Wait Until Connected

## Keywords

Keyword	Arguments	Documentation
Add Port	self, force=True, time_out=2m, learn_time=2m	Add ports using the real-port information from active local config
		<ul> <li>time_out is the wait time until port is connected (default is 2m)</li> <li>learn_time is the time waiting for arp to be learned (default is 2m)</li> </ul>
		Sample of local config  tester:
		tester:     device: ixnet03_8009     config: quicktest.ixncfg     real-port:         - chassis: 10.128.4.41         card: 4         port: 3         ip: 10.100.11.2         mask: 24         gw: 10.100.11.1         - chassis: 10.128.4.41         card: 4
		port: 4
		ip: 10.100.14.2 mask: 24 gw: 10.100.14.1
Add Quicktest	self, name, test_type=rfc2544throughput, tx_mode=interleaved, clear_all=True	Create a new Quicktest with default value
		Type could be one of following: rfc2544throughput, rfc2544frameLoss, rfc2544back2back. Use Tester. <u>Load Config</u> to load a customized quicktest
		When clear_all is True, any existed quicktests will be cleared.
		Transmit mode tx_mode takes following values: interleaved (default) or sequential. The mode should be identical with the transmit mod of the ports.
		<b>Notes</b> : The keyword <b>does not</b> create necessary ports. It should be used with a existed configuration by Tester. <i>Load Config</i> or Tester. <i>Add Port</i> keyword.
Apply Traffic	self, refresh=True	Applies the current traffic configuration
		refresh: Refreshed the learned information before apply the traffic or not Note: This is a blocking command
Change Frame Rate	self, value, pattern=.*, flow_pattern=.*	Changes the frame rate  Parameter:
		<ul> <li>value: value to set. Depends on the current configuration, this could be percent line rate or bit per second etc.</li> <li>pattern: a regular expression to identify `traffic item name, default is everything .*</li> <li>flow_pattern: a regular expression to identify flow group inside the item</li> </ul>
Change Frame	self, value, pattern=.*	Changes the traffic flow rate on-fly
Rate Dynamic		No need to stop the running traffic to change the rate
		Parameter:
		value: value to set. Depend on the current configuration, this could be percent line rate or bit per second etc.
		- wallers a regular everyopian to identify traffic item name default is even thing t

Change Frame Size	self, type, value, pattern=.*, flow pattern=.*	Changes the frame size
O126	now_paucii=.	Parameter:
		type: could be fixed size, increment_from`,`increment_step or increment_to
		<ul> <li>value: value to set</li> <li>pattern: a regular expression to identify traffic item name, default is everything.*</li> </ul>
		flow_pattern: a regular expression to identify flow group inside the item
Close	self	Disconnects the current tester client
Collect All Data	self, prefix=stat_	Deprecated. Use
Collect Data	self, view, prefix=stat_	Depricated. Use <u>Get Test Result</u>
Csv Logging	self, enabled=True, *views	Toggles enable/disable CSV loggin for a view
		Parameters:
		■ <i>views</i> : is a list of views. <i>None</i> means all views.
		Result files will have format <view name="">.index.csv, when index is automatically increased everytime t view is disable and re-enable again in the same test.</view>
		Samples:
		Tester. <u>CSV Logging</u> \${TRUE} Flow Statistics
		Sleep 10s
		Tester. <u>CSV Logging</u> \${FALSE}   Flow Statistics
0	and musting arrange to the transfer	Note: Long time enable for CSV loggin could returns in very big file
Csv Snapshot	self, prefix=snapshot_, *views	·
		Parameters:
		<ul> <li>prefix: prefix that be added to the filename. Default is snapshot</li> <li>views: list of target views (eg: Port Statistics, Flow Statistics). If view is None, all current available views will be target</li> </ul>
		Samples:
		Tester. <u>CSV Snapshot</u> snapshot03_ # collect all views
		Tester <u>CSV Snapshot</u> snapshot03 Port Statistics Flow Statistics # collect specific views
		Note: the name of result file will be modified so space will be replaced by underbar.
		Depending on the traffic status, the available views could be varied. For example, the view <i>Flow Statistic</i> not available when there is no traffic.
Get All Test	self, prefix=stat_	Collects all Ixia traffic data after traffic is stopped.
Result		Results are CSV files that are stored in result folder. The prefix prefix is appended to the original view n
Get All Views All Csv Logs	self, prefix=	Gets all CSV logs for all available views
Get All Views Csv Log	self, prefix=	Gets the newest CSV log of all available views
Get Csv Log	self, prefix=, index=-1, *views	Gets all CSV log for a specific views or all from current test folder
		Parameters:
		■ <i>views</i> is a list of views. <i>None</i> is all views.
		<ul> <li>prefix will be appended automatically to the beginning of the result</li> <li>range: number of files from the newest data1 for only 1 newest and : for all files.</li> </ul>
		Samples:
		Tester. Get CSV single # get the newest CSV logging data for all
		Log 1 views
		Tester. Get CSV   all   :   Flow Statistics   # get all CSV logging data for one view
Get Quicktest List	self	Returns current loaded Quicktest list
Get Quicktest	self, test_index=-1, prefix=,	Get the result.csv file from the latest Quicktests
Result	enable_all=True	test_index is a index of the current Quicktest1 means that last one.
Get Quicktest	self, test_index=-1	Returns the path of the newest run of a Quicktest
Result Path		test_index is a index of the current Quicktest1 means that last one.
Get Test Composer	self, result_file=composer.log	Get the result of test composer script
Result Get Test Report	colf	Congrator and get report of the current setims test in PDE format
der rest neport	local_name=ixnet_report.pdf, enable_all=True	Generates and get report of the current active test in PDF format  local_name: name of the report on local machine. Default is ixnet_report.pdf
Get Test Result	self, view, prefix=stat_	Collects traffic data of a view and export to a CSV file in result folder
		Currently, supported views are:
		process of the second s

Get View All Csv Logs	self, view, prefix=	Aggregated Statistics, OSPF Aggregated State Counts, OSPFv3 Aggregated Statistics, OSPFv3 Aggregated State Counts, L2-L3 Test Summary Statistics, Flow Statistics, Flow Detective, Data Plane Port Statistics, User Defined Statistics, Traffic Item Statistics  Result were store as CSV files in result folder. If there is no valid data, view will be silently ignored  The prefix prefix is appended to the view name for the CSV file.  Note: the name of the result files are modified so that space will become underbar, hyphen will be deleted.  Gets the newest CSV log file of ALL available views
Get View Csv	self, view, prefix=	Gets the newest CSV log file of the specific view
Log Link Up Down By Index	self, port_index=0, state=up	Simulates a LinkUpDown by port index  Parameters:  • port_index: zero-started port index  • state: is up or down  Samples:  Tester.Link Up Down By Index 0 down  Sleep 5s  Tester.Link Up Down By Index 0 up
Link Up Down By Name	self, port_name, state=up	Simulates a LinkUpDown by port name  Parameters:  port_index: zero-started port index state: is up or down  Samples:  Tester.Link Up Down By Name Sleep 5s Tester.Link Up Down By Name Ethernet - 001 up
Load And Start Traffic	self, wait_time1=10s, wait_time2=10s	Combines Load Traffic and Start Traffic to one keyword.
Load Config	self, config_name=, wait_time=2m, wait_time2=2m, apply=True, protocol=True, force=True, wait_time3=30s	loads traffic configuration, applies and start protocol if necessary.  The config file name was defined in the 'local.yaml' which is a lxia Network configuration file and located in the config folder of the test.  The keyword remap the vports to real port when data is specified in the local configuration file. For some reasons, the txMode is cleared when remapping happens. Use tx_mode to set the TxMode of the remapped ports.  Parameters:  apply: applies traffic when True otherwise  protocol: starts all protocols when True otherwise  vait_time: wait time after applying protocols  vait_time: maximum wait time befor all ports become available. In common case, this is calculated automatically so user does not need to change this value.  wait_time3: default waiting time after config file is loaded (30s)  More information about ports could be define in real_port section like this:  # tester information tester:  device: knet03_8009 config: bgp.ixncfg real-port:  chassis: 10.128.4.41 card: 4 port: 7 media: fiber bx_mode: interleaved  Configurable port parameters ares:  bx_mode: sequential or interleaved(default)  media: copper or fiber ( Note: no default value)  See Common for more details about the yaml configuration files.
LOAU TRAIFIC	self, wait_time=2m, wait_time2=2m, apply=True, protocol=True, force=True, tx_mode=interleaved	
Loss From File	self, file_name=Flow_Statistics.csv, index=0	Returns packet loss by miliseconds and <i>delta frame</i> .  Parameters:  ### file_name: flow information (csv format). Default is Flow_Statistics.csv  ### index: row index of the result(counted from zero)

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		Samples:
		\${LOSS} \${DELTA}= Tester. <u>Loss From File</u> Flow_Statistics.csv \${LOSS} \${DELTA}= Tester. <u>Loss From File</u> Flow_Statistics.csv index=1
		<b>Note</b> : The calculation should be performed when traffic is stopped. The calculation supposed traffic is configured by frame per second.
Ping	<pre>self, dst_ip, src_port_index=0, src_intf_index=0</pre>	Ping from Ixia to dst_ip
	Sic_initi_index=0	The keyword return the output string as it is. The return could be
		- Port <portname>: ping failed: port not assigned - Response received from <sourcelp>/unknown . Sequence Number <sequencenumber> - Ping request to <destinationlp>/unknown ip failed: <genericpingerror>/<error>: <genericerror>unknown reason - Error: Couldn't find any source interface for Send Ping to <destinationlp> on <portname> Id <id> - Error: Couldn't find any source IP for Send Ping to <destinationlp> on <portname> Id <id></id></portname></destinationlp></id></portname></destinationlp></genericerror></error></genericpingerror></destinationlp></sequencenumber></sourcelp></portname>
		Parameters:
		<ul> <li>src_port_index: index of lxia port (starts from 0)</li> <li>src_intf_index: index of interface insides the port (starts from 0)</li> </ul>
		Examples:
		Tester. Ping 1.1.1.1 0 0 Tester. Ping 1.1.1.1 0 0
Regenerate	self	Regenerates all flow of current traffic items
Reset Config	self	Clears current config and creates new blank config
Run Quicktest	self, test_index=0,	Runs the Quicktest and wait until it finishes
	wait_until_finish=True	Warning: it could take a long time to finish a quicktest
Set All Traffic Item	self, enabled=True	Enables/Disables all traffic items at once
Set Bgp Items	self, port_index, neighbor_index, route_range_index, is_enable	Enables/Disables BGP entry by a set of port,neighbor,route_range index  Parameters:  port_index: index of the port neighbor_index: index of the neighbor or * route_range_index: index of the route range or * is_enable: \${TRUE} or \${FALSE}  Note  Examples:  Tester. Set BGP Items 0 * * \${FALSE}
Set Bgp	self, *indexes, **kwargs	Tester. Set BGP Items 0 * * \${TRUE}  Enables/Disables BGP entry by neighbor index
Neighbor		<ul> <li>kwargs contains following parameters:</li> <li>indexes: is a list of index of BGP neighbor (index is started from zero)</li> <li>vport_index: is the target vport index</li> <li>enabled: TRUE or FALSE</li> <li>Examples:</li> <li>Tester.Set BGP Item 0 1 vport_index=0 enabled=\${FALSE}</li> <li>Tester.Set BGP Item 0 1 vport_index=1 enabled=\${TRUE}</li> </ul>
Set Capture	self, data_mode=True,	Capture packets for follow port
Port	control_mode=True, port_index=0	port_index: is a index of current test port (start from 0) data_mode: capture data packets and save in <int>_HW.cap file control_mode: capture controls packets and save in <int>_SW.cap file   Note: control_mode saves all control packets and data_mode only saves data packets.   Note: control_mode saves all control packets and data_mode only saves data packet   Examples:   Tester. Set Capture Port ontrol_mode=\${TRUE} 0 1</int></int>
Set Traffic Item	self, *items, **kwargs	Enables/Disables some traffic items items
		Parameters:  items: a list of Ixia traffic item name enabled: False or True ,the mode to set traffic item to, default is True (enabled)  Note: traffic item could be specified by :: <num> format. In this case the num is the order of traffic item</num>
		count from zero.  Returns True if all items are set coordinately or otherwise
		Examples:
		Set Traffic Item Traffic Item 1 Traffic Item 2
		Set Traffic Item @{item list}

		<del>                                  </del>
		Set Traffic Item   Traffic Item 1   enabled = \${FALSE}
Should Be		Ping from Ixia and raise an error if ping fails
Pingable	src_intf_index=0	The keyword return <i>True</i> if succeeds
Start Capture	self, wait_time=30s	Start packet capture
		Target ports are set by the configuration file or by [Set Capture] keyword
Start Protocol	self, wait_time=1m	Starts all protocols and wait for wait_time
		Default wait_time is 1 minute. Make sure wait_time is big engouh to start all protocols.
Start Test	self, script_name=Main_Procedure, run_num=1, wait_for_test=True, parameter=, wait=10s	Run a test composer script.
Composer		The test composer script should be included in an Ixia Network configuration file and loaded properly with <u>Load Config</u>
		Parameters:
		<ul> <li>script_name is the name of the script to run. Default value is Main_Procedure.</li> <li>wait_for_test: if \${TRUE} then wait until the script finishes.</li> <li>parameter: parameter that is passed to the script. Parameter could be in 2 formats: {{VAR1 VALUE1} {VAR2 VALUE2}} or simply as VALUE1 VALUE2.</li> </ul>
		The script must prepare <i>VAR1</i> and <i>VAR2</i> properly by <i>Test parameter</i> . See Ixia Network anout composer script for more details.
		wait: wait time before go to next keyword
		Examples:
		Tester. Start Test Composer parameter=XXX YYY
		Tester. Get Test Composer Result result_file=script1.log
		Tester. Start Test Composer parameter={{VAR1 AAA} {VAR2 BBB}}  Tester. Get Test Composer Result result file=script1.log
Start Traffic	self, wait time=30s	Starts the current traffic settiing and wait for wait_time.
otart Tramo	son, war_ame=oos	Note: This is a asynchronus action. After called, the keyword finishes immediatly but it will take a while before traffic starts
		By default the keyword will wait for 30 seconds.
Stop All Protocols	self, wait_time=30s	Stop all running protocols
Stop And Save Capture	self, prefix=, wait_until_finish=True, monitor_interval=5s	Stop current capture and save the resuls to folder specified by path  Captured files will be saved in current result folder with prefix appended in their names.  Examples:
		Tester. <u>Start Capture</u>
		Sleep 10s
		Tester. Stop And Save Capture \${RESULT_FOLDER}/capture.zip
Stop Quicktest	self, test_index=0	Stops a running test
Stop Test Composer	self, wait=10s	Stop a running composer
Composer		Do nothing when a test composer has already stopped or no composer has been prepared.
Stop Traffic	self, stop_protocol=False, wait_time=10s	Stops the current traffic and wait for wait_time
		Parameters:
		<ul> <li>stop_protocol: if True also stops all running protocols</li> <li>wait_time: time to wait after apply the command</li> </ul>
Wait Until	self, timeout_str=5m	Waits until ports become enabled and connected
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Connected
Altogether 49 keywords.
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