Yuma Tools® yangdiff Manual

YANG-Based Unified Modular Automation Tools

YANG Module Compare Tool

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Yuma Tools yangdiff Manual

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This document assumes you have successfully set up the software as described in the printed document:

Yuma Tools® Installation Guide

Depending on the version of Yuma you purchased, other documentation includes:

Yuma Tools® Quickstart Guide

Yuma Tools® User Manual

Yuma Tools® netconfd Manual

Yuma Tools® yangcli Manual

Yuma Tools® yangdump Manual

Yuma Tools® Developer Manual

To obtain additional support you may email InterWorking Labs at the e-mail address

yuma-support@iwl.com

There are several sources of free information and tools for use with YANG and/or NETCONF.

The following section lists the resources available at this time.

1.3.1 WEB SITES

- **Yuma Tools Home Page**
  - http://yuma.iwl.com/
  - Official home page for Yuma Tools information

- **Netconf Central**
  - http://www.netconfcentral.org/
  - Free information on NETCONF and YANG, tutorials, on-line YANG module validation and documentation database
- **Yang Central**
  - http://www.yang-central.org
  - Free information and tutorials on YANG, free YANG tools for download
- **NETCONF Working Group Wiki Page**
  - http://trac.tools.ietf.org/wg/netconf/trac/wiki
  - Free information on NETCONF standardization activities and NETCONF implementations
- **NETCONF WG Status Page**
  - http://tools.ietf.org/wg/netconf/
  - IETF Internet draft status for NETCONF documents
- **libsmi Home Page**
  - http://www.ibr.cs.tu-bs.de/projects/libsmi/
  - Free tools such as smidump, to convert SMIv2 to YANG

1.3.2 Mailing Lists

- **NETCONF Working Group**
  - http://www.ietf.org/html.charters/netconf-charter.html
  - Technical issues related to the NETCONF protocol are discussed on the NETCONF WG mailing list. Refer to the instructions on the WEB page for joining the mailing list.
- **NETMOD Working Group**
  - http://www.ietf.org/html.charters/netmod-charter.html
  - Technical issues related to the YANG language and YANG data types are discussed on the NETMOD WG mailing list. Refer to the instructions on the WEB page for joining the mailing list.

1.4 Conventions Used in this Document

The following formatting conventions are used throughout this document:

Documentation Conventions

Convention	Description
--foo	CLI parameter foo
<foo>	XML parameter foo
foo	**yangcli** command or parameter
$$FOO	Environment variable FOO
$$foo	**yangcli** global variable foo

Convention	Description
`some text`	Example command or PDU
some text	Plain text

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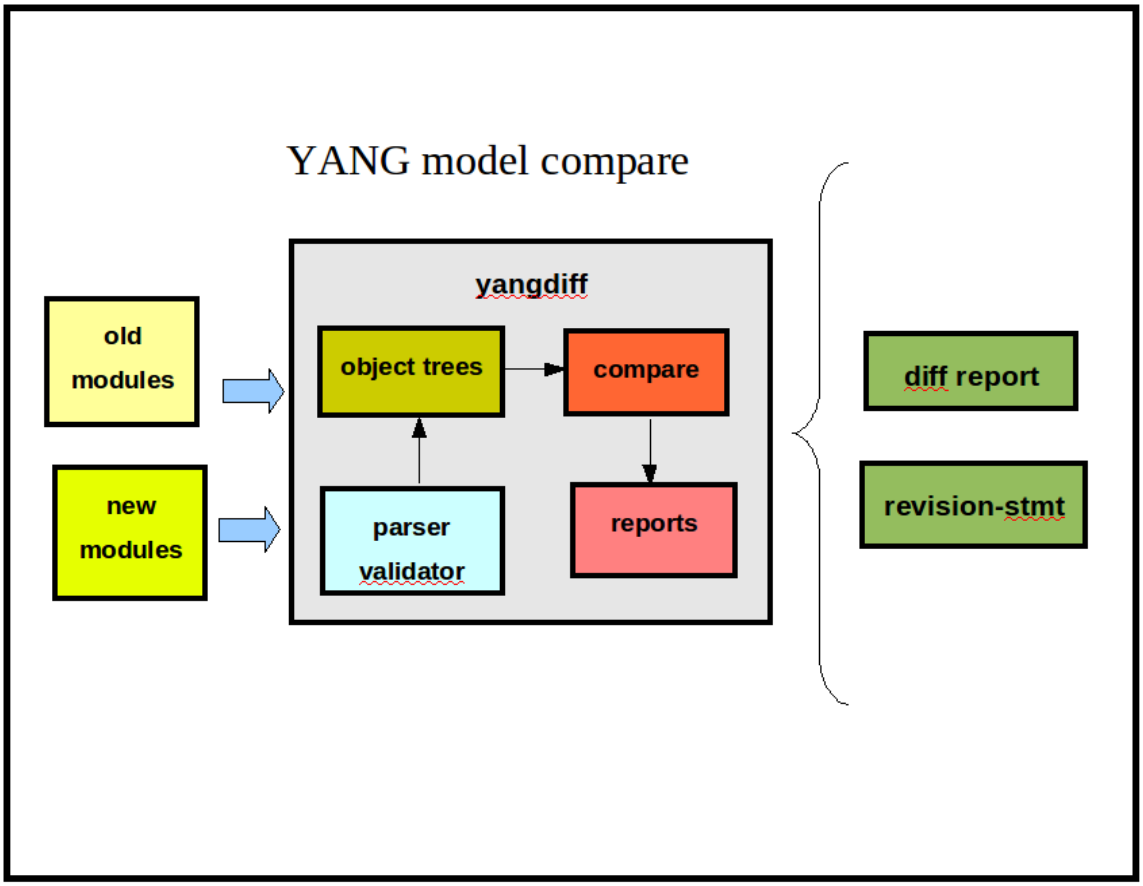

2.1 Introduction

The **yangdiff** program is used to compare two revisions of the same YANG file.

2.1.1 Features

The **yangdiff** program has the following features:

- The conceptual YANG object trees are compared, not the actual YANG statements.

- Two separate subtrees of modules can be compared, not just 1 file at a time.
- The differences report format for differences is easy to read, and can be configured with 2 different levels of verbosity.
- A YANG revision statement can be automatically generated instead of a list of differences. This will include an English text summary of the differences found.

2.1.2 STARTING YANGDIFF

The current working directory in use when **yangdiff** is invoked is important. It is most convenient to run **yangdiff** from a work directory, rather than the installation directory or within the module library.

The **yangdiff** program can be invoked several ways:

- To get the current version and exit:

```
yangdiff --version
```

- To get program help and exit:

```
yangdiff --help
yangdiff --help --brief
yangdiff --help --full
```

- To compare a new YANG module named 'foo', with an old version named foo.2008-09-01.yang, the following command line can be used

```
yangdiff --old=foo.2008-09-01.yang --new=foo
```

- To get all the configuration parameters from a text file named '~/yangdiff-project1.conf':

```
yangdiff --config=~/yangdiff-project1.conf
```

- To generate a terse differences report called *~/project-X-diffs.log* for the old files in the '*/public/project-X/modules*' with the new modules in the '*~/work*' directory:

```
yangdiff --difftype=terse --output=~/project-X-diffs.log \
       --old=/public/project-X/modules \
       --new=/work
```

- To generate a revision statement differences to *~/foo-projectX-revision.txt* for the '~/work/foo.yang' module, with the old version in the in the '*/public/project-X/modules*':

```
yangdiff --difftype=revision --output=~/foo-project-X-revision.txt \
       --old=/public/project-X/modules \
       --new=/work/foo.yang
```

2.1.3 Stopping yangdiff

There is no interactive mode for **yangdiff**, so there is no need for a command to exit the program.

The Control C character sequence can be used to cancel the **yangdiff** processing in progress. However, this will leave any partially completed output files in place.

2.1.4 Configuration Parameter List

The following configuration parameters are used by **yangdiff**. Refer to the CLI Reference for more details.

yangdiff CLI Parameters

parameter	description
--config	Specifies the configuration file to use for parameters.
--datapath	Sets the data file search path.
--difftype	Specifies the type of differences report that should be output.
--feature-disable	Leaf list of features to disable
--feature-enable	Specifies a feature that should be enabled
--feature-enable-default	Specifies if a feature should be enabled or disabled by default
--header	Specifies whether the module header data should be compared or not.
--help	Get context-sensitive help, then exit.
--help-mode	Adjust the help output (--brief, or --full).
--indent	Specifies the indent count to use when writing data.
--log	Specifies the log file to use instead of STDOUT.
--log-append	Controls whether a log file will be reused or overwritten.
--log-level	Controls the verbosity of logging messages.
--modpath	Sets the module search path.
--new	Specifies the location of the new revision to compare.
--old	Specifies the location of the old revision to compare.
--output	Specifies where output files should be generated.
--runpath	Sets the executable file search path.

--subdirs	Controls whether sub-directories are searched for YANG files.
--version	Prints the program version and then exit.
--warn-idlen	Controls how identifier lengths are checked.
--warn-linelen	Controls how line lengths are checked.
--warn-off	Suppresses the specified warning number.
--yuma-home	Specifies the **$YUMA_HOME** project root to use when searching for files.

2.2 Comparing YANG Modules

The **yangdiff** program compares YANG files in the following maner:

- The cooked object trees are compared, not the actual YANG statements.
- Whitespace differences are ignored.
- Non-semantic changes are ignored:
  - A uses-stmt can replace a set of objects if the grouping is identical to the old objects.
  - Refine statements are combined into the cooked objects, and not compared directly.
  - A typedef statement can replace an inline type statement
  - Changes to YANG comments are ignored.
  - Sub-statement order is ignored, however object order with a container or list is not ignored.
  - Objects can be moved to submodules, and include statements instead.

If the **--old** parameter is missing, then the module search path will be used to find the specified module with the same name. If the **--old** parameter contains just a module name, then the module search path will be used to find a module with the new name.

The **--new** parameter is required. It can represent one YANG file or a directory of new YANG modules.

The **--difftype** parameter is optional. The 'normal' report mode is used if this parameter is missing.

The **--output** parameter will be used for the report file, if it is specified.

symbol	description
A	Definition has bend added.
M	Definition has been modified.
D	Definition has been deleted.

2.3 Diff Reports

This section uses the example module below (test/**test3a.yang**) to demonstrate the different report formats available. The old module revision is **test/test3.yang**.

The following command is used in all 3 examples, except the value of the --difftype parameter is changed each time.

```
yangdiff --old=test3a --new=test3 --difftype=<enum>
```

2.3.1 Terse Report

If **--difftype=terse** is selected, then a brief summary of all changes will be listed. There will be no indentation, and only the change (Add, Modify, Delete), and the top-level definition is identified.

```
// Generated by yangdiff 0.9.7.473
// Copyright (c) 2009, Netconf Central, All Rights Reserved.

// old: test3 (2008-10-19) test3.yang
// new: test3 (2009-09-09) test3a.yang

D revision '2008-10-19'
A revision '2009-09-09'
A feature X
A identity testbase
A identity testbase1
M typedef C
D container test-D1
D leaf test-D
M container test33
```

2.3.2 Normal Report

If **--difftype=normal** is selected, then a complete summary of all changes will be listed.

If a change line is indented, it indicates a sub-statement of the object in the previous line has been changed.

```
// Generated by yangdiff 0.9.7.473
// Copyright (c) 2009, Netconf Central, All Rights Reserved.

// old: test3 (2008-10-19) test3.yang
// new: test3 (2009-09-09) test3a.yang

D revision '2008-10-19'
```

```
A revision '2009-09-09'
A feature X
A identity testbase
A identity testbase1
M typedef C
   M type
      M range from 'min .. 41 | 45' to 'min .. 41'
D container test-D1
D leaf test-D
M container test33
   D presence 'not a top-level mand...'
   M choice f
      M case f1
         M leaf f1
            A if-feature 'X'
```

2.3.3 Revision Statement

If **--difftype=revision** is selected, then a complete summary of all changes will be printed in the form of a YANG revision statement. The current date will be used for the revision-date field of the revision statement.

```
// Generated by yangdiff 0.9.7.473
// Copyright (c) 2009, Netconf Central, All Rights Reserved.

// old: test3 (2008-10-19) test3.yang
// new: test3 (2009-09-09) test3a.yang

   revision 2009-09-10 {
      description "
         - Removed revision '2008-10-19'
         - Added revision '2009-09-09'
         - Added feature X
         - Added identity testbase
         - Added identity testbase1
         - Changed typedef C
            - Changed type
               - Changed range from 'min .. 41 | 45' to 'min .. 41'
         - Removed container test-D1
         - Removed leaf test-D
         - Changed container test33
```

```
            - Removed presence 'not a top-level mand...'
            - Changed choice f
               - Changed case f1
                  - Changed leaf f1
                     - Added if-feature 'X'
      ";
   }
```

3 CLI Reference

The **yangdiff** program uses command line interface (CLI) parameters to control program behavior.

The following sections document all the Yuma CLI parameters relevant to this program, in alphabetical order.

3.1 --config

The **--config** parameter specifies the name of a Yuma configuration file that contains more parameters to process, in addition to the CLI parameters.

Refer to the 'Configuration Files' section for details on the format of this file.

--config parameter

Syntax	string: complete file specification of the text file to parse for more parameters.
Default:	/etc/yuma/yangdiff.conf
Min Allowed:	0
Max Allowed:	1
Supported by:	netconfd yangcli yangdiff yangdump
Example:	`yangdiff --old=test1 --new=test1a \ --config=~/testconf.conf`

3.2 --difftype

The **--difftype** parameter controls how differences are displayed in the **yangdiff** program..

The allowed values are 'terse', 'normal', and 'revision'.

The basic report format is:

```
[add/delete/modify] field-name [field-value]
```

The '**terse**' option will include the names of the top-level fields that are different. The actual differences for modification lines ('M') are not printed.

```
M typedef C
D container test-D1
```

```
D leaf test-D
M container test33
```

The '**normal**' option will include any changes for any nested fields or objects. A brief description of the changes made in a modification line ('M') are printed. This is the default reporting mode.

```
M typedef C
   M type
      M range from 'min .. 41 | 45' to 'min .. 41'
D container test-D1
D leaf test-D
M container test33
   D presence 'not a top-level mand...'
   M choice f
      M case f1
         M leaf f1
            A if-feature 'X'
```

The '**revision**' option will generate the differences report in YANG revision-stmt format. For example:

```
  revision 2009-09-10 {
      description "
         - Changed typedef C
            - Changed type
               - Changed range from 'min .. 41 | 45' to 'min .. 41'
         - Removed container test-D1
         - Removed leaf test-D
         - Changed container test33
            - Removed presence 'not a top-level mand...'
            - Changed choice f
               - Changed case f1
                  - Changed leaf f1
                     - Added if-feature 'X'
      ";
   }
```

difftype parameter

Syntax	enumeration: **terse** **normal** **revision**
Default:	normal

Min Allowed:	0
Max Allowed:	1
Supported by:	yangdiff

Example:	`yangdiff --difftype=revision \`
	`  --new=test3a\`
	`  --old=~test3`

3.3 --feature-disable

The **--feature-disable** parameter directs all programs to disable a specific feature.

This parameter is a formatted string containing a module name, followed by a colon ':', followed by a feature name, e.g.,

```
test:feature1
```

It is an error if a **--feature-enable** and **--feature-disable** parameter specify the same feature.

Parameters for unknown features will be ignored.

--feature-disable parameter

Syntax	formatted string (module:feature
Default:	none
Min Allowed:	0
Max Allowed:	unlimited
Supported by:	yangcli yangdiff yangdump netconfd

Example:	`yangdump --format=c \`
	`  --feature-`
	`disable=test:feature1 \`
	`  --module=test`

3.4 --feature-enable

The **--feature-enable** parameter directs all programs to enable a specific feature.

This parameter is a formatted string containing a module name, followed by a colon ':', followed by a feature name, e.g.,

```
test:feature1
```

It is an error if a **--feature-disable** and **--feature-enable** parameter specify the same feature.

Parameters for unknown features will be ignored.

--feature-enable parameter

Syntax	formatted string (module:feature
Default:	none
Min Allowed:	0
Max Allowed:	unlimited
Supported by:	yangcli yangdiff yangdump netconfd

Example:	`yangdump --format=c \`
	`    --feature-enable=test:feature1 \`
	`    --module=test`

3.5 --feature-enable-default

The **--feature-enable-default** parameter controls how **yangdump** will generate C code for YANG features by default.

If 'true', then by default, features will be enabled.

If 'false', then by default, features will be disabled.

If a **--feature-enable** or **--feature-disable** parameter is present for a specific feature, then this parameter will be ignored for that feature.

--feature-enable-default parameter

Syntax	boolean (true or false)
Default:	TRUE
Min Allowed:	0
Max Allowed:	1
Supported by:	yangcli yangdiff yangdump netconfd

Example:	`netconfd \` `  --feature-enable-default=false`

3.6 --header

The **--header** parameter controls whether YANG header contents will be compared in the **yangdiff** program.

--header parameter

Syntax	boolean (true or false)
Default:	TRUE
Min Allowed:	0
Max Allowed:	1
Supported by:	yangdiff

Example:	`yangdiff --header=false \`
	`  --old=~/saved-modules \`
	`  -- new=~/work`

3.7 --help

The **--help** parameter causes program help text to be printed, and then the program will exit instead of running as normal.

This parameter can be combined with the **--help-mode** parameter to control the verbosity of the help text. Use **--brief** for less, and **--full** for more than the normal verbosity.

This parameter can be combined with the **--version** parameter in all programs. It can also be combined with the **--show-errors** parameter in **yangdump**.

The program configuration parameters will be displayed in alphabetical order, not in schema order.

--help parameter

Syntax	empty
Default:	none
Min Allowed:	0
Max Allowed:	1
Supported by:	netconfd yangcli yangdiff yangdump

Example:	`yangdiff --help`

3.8 --help-mode

The **--help-mode** parameter is used to control the amount of detail printed when help text is requested in some command. It is always used with another command, and makes no sense by itself. It is ignored unless used with the **--help** parameter.

--help-mode parameter

Syntax	choice of 3 empty leafs **--brief** **--normal** **--full**
Default:	normal
Min Allowed:	0
Max Allowed:	1
Supported by:	netconfd yangcli yangdiff yangdump
Example:	`yangdiff --help --help-mode=full`

- **default choice:** normal
- **choice help-mode**
  - **brief**
    - type: empty
    - This parameter specifies that brief documentation mode should be used.
  - **normal**
    - type: empty
    - This parameter specifies that normal documentation mode should be used.
  - **full**
    - type: empty
    - This parameter specifies that full documentation mode should be used.

3.9 --indent

The **--indent** parameter specifies the number of spaces that will be used to add to the indentation level, each time a child node is printed during program operation.

--indent parameter

Syntax	uint32 (0 .. 9)
Default:	3
Min Allowed:	0
Max Allowed:	1
Supported by:	netconfd yangcli yangdiff yangdump
Example:	`yangcli --indent=4`

3.10 --log

The **--log** parameter specifies the file name to be used for logging program messages, instead of STDOUT. It can be used with the optional **--log-append** and **--log-level** parameters to control how the log file is written.

--log parameter

Syntax	string: log file specification
Default:	none
Min Allowed:	0
Max Allowed:	1
Supported by:	netconfd yangcli yangdiff yangdump
Example:	`netconfd --log=~/server.log&`

3.11 --log-append

The **--log-append** parameter specifies that the existing log file (if any) should be appended , instead of deleted. It is ignored unless the **--log** parameter is present.

--log-append parameter

Syntax	empty
Default:	none
Min Allowed:	0
Max Allowed:	1
Supported by:	netconfd yangcli yangdiff yangdump
Example:	`netconfd --log-append \` `  --log=~/server.log&`

3.12 --log-level

The **--log-level** parameter controls the verbosity level of messages printed to the log file or STDOUT, if no log file is specified.

The log levels are incremental, meaning that each higher level includes everything from the previous level, plus additional messages.

There are 7 settings that can be used:

- **none**: All logging is suppressed. Use with extreme caution!
- **error**: Error messages are printed, indicating problems that require attention.
- **warn**: Warning messages are printed, indicating problems that may require attention.
- **info**: Informational messages are printed, that indicate program status changes.
- **debug**: Debugging messages are printed that indicate program activity.
- **debug2**: Protocol debugging and trace messages are enabled.
- **debug3**: Very verbose debugging messages are enabled. This has an impact on resources and performance, and should be used with caution.

log-level parameter

Syntax	enumeration: **off** **error** **warn** **info** **debug** **debug2** **debug3**
Default:	--info (--debug for DEBUG builds)
Min Allowed:	0
Max Allowed:	1

Supported by:	netconfd yangcli yangdiff yangdump
Example:	`netconfd --log-level=debug \` `  --log=~/server.log&`

3.13 --modpath

The **--modpath** parameter specifies the YANG module search path to use while searching for YANG files. It consists of a colon (':') separated list of path specifications, commonly found in Unix, such as the **$PATH** environment variable.

This parameter overrides the **$YUMA_MODPATH** environment variable, if it is present.

--modpath parameter

Syntax	string: list of directory specifications
Default:	**$YUMA_MODPATH** environment variable
Min Allowed:	0
Max Allowed:	1
Supported by:	netconfd yangcli yangdiff yangdump

Example:	`yangdump \`
	`  --modpath=”~/testmodules:~/modul`
	`es:~/trunk/netconf/modules” \`
	`  --module=~/test42.yang`

3.14 --new

The **--new** parameter specifies the YANG file or directory containing the new revision to be compared in the **yangdiff** program.

If this parameter indicates a filename, then it represents the YANG source module name to compare as the newer of the two revisions.

If this parameter indicates a directory (and the 'old' parameter indicates a filename), then it will be used to to search for a file with the same name as the 'new' parameter.

If the 'old' parameter identifies a directory as well (and the 'no-subdirs' parameter is present), then the modules within the 'new' directory will be compared to files with the same name in the 'old' directory.

If the **--subdirs** parameter is ''true'', then all sub-directories within the 'src' directory will also be checked.

If this string begins with a '~' character, then a username is expected to follow or a directory separator character. If it begins with a '$' character, then an environment variable name is expected to follow.

```
~/some/path ==> <my-home-dir>/some/path
~fred/some/path ==> <fred-home-dir>/some/path
$workdir/some/path ==> <workdir-env-var>/some/path
```

This parameter must be present unless the **--help** or **--version** parameters are present.

--new parameter

Syntax	string (module or directory specification. length 1 .. 4095)
Default:	none
Min Allowed:	1
Max Allowed:	1
Supported by:	yangdiff

Example:	`yangdiff \`
	`  --new=test3a`
	`  --difftype=terse`
	`  --old=test3\`

3.15 --old

The **--old** parameter specifies the YANG file or directory containing the older revision to be compared in the **yangdiff** program.

If this parameter indicates a filename, then it represents the YANG source module name to compare as the older of the two revisions.

If this parameter indicates a directory (and the 'old' parameter indicates a filename), then it will be used to to search for a file with the same name as the 'new' parameter.

If this string begins with a '~' character, then a username is expected to follow or a directory separator character. If it begins with a '$' character, then an environment variable name is expected to follow.

```
~/some/path ==> <my-home-dir>/some/path
~fred/some/path ==> <fred-home-dir>/some/path
$workdir/some/path ==> <workdir-env-var>/some/path
```

This parameter must be present unless the **--help** or **--version** parameters are present.

--old parameter

Syntax	string (module or directory specification. length 1 .. 4095)
Default:	none
Min Allowed:	1
Max Allowed:	1
Supported by:	yangdiff

Example:	`yangdiff \`
	`  --old=test3`
	`  --difftype=terse`
	`  --new=test3a\`

3.16 --output

The **--output** parameter specifies where the output files generated by the program will be stored.

- The default is STDOUT if this parameter is not specified and the **--defnames** parameter is set to 'false'.
- If this parameter represents an existing directory, then the **--defnames** parameter will be set to 'true' by default.
- If this parameter represents a file name, then the **--defnames** parameter will be ignored, and all translation output will be directed to the specified file.
- If this string begins with a '~' character, then a username is expected to follow or a directory separator character. If it begins with a '$' character, then an environment variable name is expected to follow.

```
~/some/path ==> <my-home-dir>/some/path

~fred/some/path ==> <fred-home-dir>/some/path

$workdir/some/path ==> <workdir-env-var>/some/path
```

- If the target specified in this parameter **does not** exist:
  - If there is only one file to be output, then this parameter is used as the file name.
  - If there are multiple files to be output, then this parameter is used as a directory name. A new directory will be created, if it is needed.
- If the target specified in this parameter **does** exist:
  - If there is only one file to be output:
    - If the existing target is also a file, then the current file is over-written.

        - If the existing target is a directory, then the output file will be created in this directory.
    - If there are multiple files to be output:
        - If the existing target is a file, then an error will be generated instead of the output files.
        - If the existing target is a directory, then the output files will be created in the specified directory.
- Use a trailing path separator character to force this parameter value to be treated as a path specification (e.g., '~/workfiles/').
- This parameter is ignored if the **--format** parameter is missing.

--output parameter

Syntax	string (path or file specification)
Default:	none
Min Allowed:	0
Max Allowed:	1
Supported by:	yangdump yangdiff

Example:	`yangdump \`
	`  --output=~/html-files`
	`  --subtree=testfiles \`
	`  --format=html`

3.17 --subdirs

The **--subdirs** parameter controls whether sub-directories should be searched or not, if they are found during a module search.

If false, the file search paths for modules, scripts, and data files will not include sub-directories if they exist in the specified path.

--subdirs parameter

Syntax	boolean
Default:	TRUE
Min Allowed:	0
Max Allowed:	1
Supported by:	yangdiff yangdump
Example:	`yangdump \` `  --subdirs=false \`

	`--subtree=/testpath`

3.18 --version

The **--version** parameter causes the program version string to be printed, and then the program will exit instead of running as normal.

All Yuma version strings use the same format:

<major>.<minor>.<yang-draft-version>.<svn-build-version>

An example version number that may be printed:

```
yangdump 0.9.6.390
```

This indicates that the **yangdump** program version is '0.9', it supports YANG draft version '-06', and the subversion build identifier is '390'.

This parameter can be combined with the **--help** parameter.

--version parameter

Syntax	empty
Default:	none
Min Allowed:	0
Max Allowed:	1
Supported by:	netconfd yangcli yangdiff yangdump
Example:	`yangdump --version`

3.19 --warn-idlen

The **--warn-idlen** parameter controls whether identifier length warnings will be generated.

The value zero disables all identifier length checking. If non-zero, then a warning will be generated if an identifier is defined which has a length is greater than this amount.

--warn-idlen parameter

Syntax	uint32: 0 to disable, or 8 .. 1023
Default:	64
Min Allowed:	0

Max Allowed:	1
Supported by:	netconfd yangcli yangdiff yangdump
Example:	`yangcli --warn-idlen=50`

3.20 --warn-linelen

The **--warn-linelen** parameter controls whether line length warnings will be generated.

The value zero disables all line length checking. If non-zero, then a warning will be generated if a YANG file line is entered which has a length is greater than this amount.

Tab characters are counted as 8 spaces.

--warn-linelen parameter

Syntax	uint32: 0 to disable, or 40 .. 4095
Default:	72
Min Allowed:	0
Max Allowed:	1
Supported by:	netconfd yangcli yangdiff yangdump
Example:	`yangcli --warn-linelen=79`

3.21 --warn-off

The **--warn-off** parameter suppresses a specific warning number.

The error and warning numbers, and the default messages, can be viewed with the yangdump program by using the **--show-errors** configuration parameter.

The specific warning message will be disabled for all modules. No message will be printed and the warning will not count towards the total for that module.

--warn-off parameter

Syntax	uint32: 400 .. 899
Default:	none

Min Allowed:	0
Max Allowed:	499
Supported by:	netconfd yangcli yangdiff yangdump
Example:	`netconfd --warn-off=435` `# revision order not descending`

3.22 --yuma-home

The **--yuma-home** parameter specifies the project directory root to use when searching for files.

If present, this directory location will override the '**$YUMA_HOME** environment variable, if it is set. If this parameter is set to a zero-length string, then the $**YUMA_HOME** environment variable will be ignored.

The following directories are searched when either the **$YUMA_HOME** environment variable or this parameter is set:

- **$YUMA_HOME/modules**
  - This sub-tree is searched for YANG files.
- **$YUMA_HOME/data**
  - This directory is searched for data files.
- **$YUMA_HOME/scripts**
  - This directory is searched for **yangcli** script files.

yuma-home parameter

Syntax	string: directory specification
Default:	**$YUMA_HOME** environment variable
Min Allowed:	0
Max Allowed:	1
Supported by:	netconfd yangcli yangdiff yangdump

Example:	`netconfd \`
	`  --yuma-home=~/sw/netconf \`
	`  --log=~/server.log&`