

Change Log For The YAML 1.0 Specification

Last Updated On 2004-12-28

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1. Changes From The 15 Mar 2003 4th Last Call Draft

Boolean canonicals	Change to “ y ”/“ n ”. Remove “+”/“-” from examples and the bool type definition. This should have been done a while back (when a plain value could no longer be “-”).
Time-less dates	Changed to 00:00:00Z instead of 12:00:00Z.
Renamed !special to !yaml	Better reflects the intent.
DocBook format	To allow for easier media retargeting. Support HTML and PDF (using XEP).
Fix production bugs	Prevent header/trailer from appearing as content - Thanks to Robin Green for catching this one.
Change “Serialization” back to “Document”	By popular demand.
Implicit/explicit indentation	Allow leading empty lines, and indented content lines to start with a “#” character.
Changed “ taguri: ” to “ tag: ”	As per the updated tag URI RFC.
YAML Processor	Used the term “(YAML) processor” instead of parser, loader etc. This avoids forcing preconceived notions on system architecture to affect the semantics.
Rearranged and renamed node/value productions	Hopefully this would increase production readability.
Hungarian explained	Add a note explaining the production prefixes.
Status	Changed to release candidate.
Allow inline collection form in complex keys	Reusing the productions from the *-in-seq form.
Allow omitting complex and flow keys values	Allows for a nicer set notation.
Allow implicit single pair maps in flow sequences	Allows for a nicer ordered map connection.

Major re-write of model and intro chapters	Add figures, rephrase, make more readable.
URI escaping	Gone.
Empty plain scalars	Are forbidden as keys and as flow sequence entries.
Trailing commas	Are allowed in flow collections and following ... line. Empty lines ending with a specific line break are now treated as comments even if following a block scalar.
Folding and Chomping	Rules have been massively simplified.
Examples	Completely new examples set, with highlights associating parts of the characters stream with specific productions.
Productions	Re-work almost all productions in the syntax section, together with examples.
Sam's corrections	Incorporated minor wording issues (thanks to Sam Vilain).
YAML 1.1	New directive syntax, %TAG directives, patched indentation rules, moved !!str, !!seq and !!map to the repository. Hopefully this is the last "global" change.
Index	Replace all internal links with index entries. It is simply amazing how much work is expressed in this short sentence.

2. Changes From The 24 Jan 2003 3rd Last Call Draft

Implicit header	Was changed to “---” instead of “--- %YAML:1.0”.
Implicit document	Now allows all collection styles, not only block collections.
Block sequence indentation	Wording, productions and examples fixed to allow for more human-friendly interpretation of “-” as indentation.

3. Changes From The 31 Oct 2002 2nd Last Call Draft

BNF productions	Were renamed with a hungarian-like prefix notation and reformatted so that cut-and-paste from HTML would yield proper results.
Vocabulary instead of language	The term “vocabulary” better describes the intent of sub-domains of yaml.org (for type families).
Seq-in-seq	Was added (similar to map-in-seq).
Throwaway indicator	Changed from “ # ” to “ #”.
Directive indicator	Changed from “#” to “%”.
anchors and directive names	Can be any non-space flow char.
Flow values	May start on a following line.
Special “-” plain value	Is canceled (ambiguous with next-line flow). Therefore the -/+ Boolean implicits are gone as well.
Language-independent types	Corrected date indicators.
Integers and floats	Added sexagesimal (base 60) format (using “:”) for time (and degrees).
Nulls	Removed the “ Undef ” possibility.
Merge	Changed from “<=” to “<<”.

4. Changes From The 01 sep 2002 1st Last Call Draft

Brian's wording fixes	Spelling and minor re-wording.
#TAB was removed	Tabs are now completely banned from indentation.
Escaping of type family name	The interaction between “\” and “%” escaping has been clarified in a better way.
Zero explicit indentation	Is now allowed for top level nodes.
Moved language-independent types out of the spec.	Only !map, !seq and !str are in it now.
Changed implicit types	No longer require (). Implicit empty string is !null. Changed nil to undef. These changes depend on a resolution to the implicit typing issues; hence all the separate type documents are not in “last call” status. Yet.
Changed NULL escape	From \z to \0.
Changed “-entry” indentation	Consider the “-” to be indentation, but not the following spaces.
Changed format separator to “#”	This makes transfer methods into URI-references (allow fragments). Type families are URIs (without fragments).
Mutability == collection	Make all collections mutable and all scalars immutable. This simplifies generic tools and the native model.
Re-ordered sections	Moved information models to the end.
Graph implicit types	Allow types to remain unknown (implicit) all the way up to and including the graph model; allow implicit collection types.
Graph implicit types	Allow types to remain unknown (implicit) all the way up to and including the graph model; allow implicit collection types.

5. Changes From The 10 Jul 2002 Draft

Status	Was changed to “Last Call”. At long last.
Implicit strings	May begin with a “/” to allow paths to be unquoted.
Removed the // special keys.	They conflict with the new implicit string format. What to replace them with, if anything, is still TBD.
Example fixes	Minor nits were wrong in some examples (4.3.1, 4.6.4, 4.6.5, 4.6.7).
Renamed “public” type families to “global”	This better conveys the intent.
Separated changes	As of this draft, changes are in a separated document.
Repaginated draft	The previous pagination was nice but it was very wasteful of pages. In the spirit of keeping the spec small, page breaks were moved, reducing the printed size by 10 pages or so.

6. Changes From The 06 Jul 2002 Draft

Table of content	Was enhanced to specify page numbers as well as links. Also, entry 3.1.4 was missing.
Section 1.2, paragraph 7	Remove the sentence about indentation being used for multiple documents (it isn't).
Syntactical problems	Using “an flow” (leftover from the global substitute) and various other minor fixes.
Renamed “nested” to “block”	In all the wording. This makes the wording match the productions.
Cleaned canonical formats	In some cases, the canonical format was a subset of another format, rather than being an implicit format on its own. This is allowed, and is now explicit in the format definition. Also fixed the string formats to satisfy the requirement that a value would only match one implicit or explicit format.

7. Changes From The 30 Jun 2002 Draft

Printing	Should be much improved. Explicit page breaks were added and some reorganization was done so that breaks should reflect logical chunks. At least in A4 and Letter pages size on IE6 :-)
Productions 94 and 98	Now reflect the correct indentation policy for map-in-seq.
Productions 129 and 130	Were renamed to “folded-paragraph” and “folded-text-line” to better reflect the intent.
The “...” “pause” marker	Was added as per the discussions in the mailing list. This added two productions.
Examples	Some examples were re-worked as part of the re-organization. Hopefully for the better. The XML example was removed.

8. Changes From The 25 Jun 2002 Draft

Printing enhancements	Add page-break in many locations for better printing, make table of contents two columns.
Terminology	<p>Change “block scalar” to “literal scalar”, change “in-line” to “flow”. This allows for two sorts of mechanisms, the “block” mechanism and the “flow” mechanism. Within block are literal and folded scalars; within flow are plain, single, and double. This involved a few global substitutions which will probably introduce error, those are:</p> <ul style="list-style-type: none">• s/in-line/flow/• s/nest-/blk-/• s/line-/flow-/• s/flow-feed/line-feed• s/flow-separator/line-separator• s/flow-break-char/line-break-char• s/flow-break/break
Preview Re-structuring	Restructure the preview section for general readability.
Production Changes	Minor change to the comment-break production

9. Changes From The 14 Jun 2002 Draft

Use (word) instead of .word for “enums”	This is going to be our generic way to handle implicits that otherwise would be taken to be strings.
Change “word” format names to “english”	More correctly reflects their semantics.
Canonical Booleans	Change canonical Booleans to <code>+/-</code> . Had to make a special case to allow “-” in unquoted values to do it. This doesn't apply to keys, but using the English format there makes more sense anyway. This allows canonical boolean to be implicit.
Add (null)/(nil)	In addition to <code>~</code> , consistent with booleans.
Unify date/time	Merge them into timestamp (and rename it to “time”).
Relax string regexp	Anything starting with a “text” character (“-”, letter or digit), except for int/flt/time.
Change space escapes	“\ ” is now a space, “\ -” is now NBSP.
Allow repeated #	To begin throwaway comments.
Renamed the three chomping variants	To “strip”, “clip” (default) and “keep”.
Changed in-line folding	To allow empty lines to represent line feeds and to preserve specific line breaks. The WIKI feature isn't included as it depends on indentation.
Changed simple style	To reflect the new restrictions (keys can't span; in-lines can't have “, ” and “: ”; for top-level values, anything goes except comments. Comments can no longer be interleaved in such scalars.
Make “?” into a space separator	No reason not to. It was always followed by a space anyway.
Renamed scalar styles	Rename “plain” to “block” and “simple” to “plain”. As a result of the above it isn't that simple any more :-) and having both “plain” and “simple” was confusing. Reverting to “block” more accurately reflects the semantics, freeing “plain” for the unquoted style.
Renamed productions	To make the document more printer-friendly. The main change was to rename nested- to nest- and inline- to line- . The latter is particularly painful, but there was no other good choice.
Float round-tripping	Added a warning that float values may not round-trip exactly due to the use of native float data types.

10. Changes From The 27 May 2002 Draft

Provide mailing list URL	So that its address would be clear even from the printed version.
Line Processing section	Was renamed “Space processing”.
Document productions	Were cleaned up and now allow comments before the header line.
Printing	Many tweaking to ensure printing doesn't clip the comments of the productions tables.
Float format	Extended to allow for infinity and not a number.
Block indicators	Changed to , > and \ (without the leading).
Information model	Whole section was re-worked to accommodate the latest decisions in the mailing list. Leaf and branch are now renamed to collection and scalar; keyed and series are renamed to mapping and sequence.
Multi-line in-lines	Are now allowed, including multi-line in-line scalars.
Limit implicit strings	To word and space characters only.
Unreserve # % ^	No need to reserve them - they can't be used as first characters in a simple value anyway because there's no implicit type using them. Unreserving them allows them to be used in implicit types in the future.
Modify folding	To preserve line breaks around more-indented and specific empty lines.
Spell checking	Run the whole document through Word for spell checking.
Model chart	Changed to use style sheet in a more dependable way, and now reflects the fact the native and generic models “are one” in some respects.
Wording for String	Changed to reflect the fact “-” isn't a word character.
Chomp control	Was added (“-” for chomp, “+” for keep).
Escaped nested style	Was removed. It is redundant due to “..” spanning lines.

11. Changes From The 28 Apr 2002 Draft

Explicit Syntax	Explicit notation is now required for empty scalars. This reverts the change in the previous draft.
No alternate style for collections.	Map and seq can now only be written in keyed and series style.
Comments	Are now allowed to trail lines except for inside multi line text. Comments (explicit and implicit) may trail multi-line text values as long as they are less indented.
URI Scheme	Is now correctly limited to word characters.
Trailing comma	Is no longer allowed in in-line collections.
Simple char	Production 170 fixed to prohibit in-line indicators after a space indicator, or two space indicators followed by a space.
Base64 Format	Was listed as “canonical”. Fixed to “explicit”.
Time intro examples	Used the wrong format
Production fixes	Correct minor problems (missing “(n)”, improper handling of spaces in in-line collections, missing “ ”, etc.)
Integer and Float formats	Now ignores any “,” inside the value. This required making “,” into a space separator.
Boolean	Is now a type of its own.
Ptr	Was removed. Will probably be a Perl-specific type.
Leaf styles	Were simplified to only 6 (3 nested and 3 in-line).

12. Changes From The 07 Apr 2002 Draft

Document Separator	Is now restricted to “---”. BOM is allowed if encoding does not change. Production 49 has been corrected accordingly, and the reference to the obsolete non-alias_node was corrected.
In-series keyed	This special case (production 93) has been restricted to in-line leaf keys without any properties. This minimizes lookahead in parsers.
Inline leaf	Now allows an empty unquoted value (production 163).

13. Changes From The 10 Mar 2002 Draft

Anchors for aliases	Are now forbidden.
Timestamp format	Fixed a problem with the regexp. Allow both a valid ISO8601 format (using “ T ”) and a space separated format (for readability).
Productions	Break node productions to smaller bits.

14. Changes From The 20 Feb 2002 Draft

YAC 22 The **#TAB** directive is now required to allow tabs in indentation.

15. Changes From The 16 Feb 2002 Draft

Corrected examples	Floating point numbers in all examples now start with “0”.
Wording improvements	In various places.
Empty line indentation	Is now be indent (<=n) instead of the previous indent (n) ?

16. Changes From The 10 Feb 2002 Draft

YAC 20 The yaml: scheme has been replaced by an http: one. Mapping of XML namespaces is now done using “\$” instead of “;”. The prefix indicator is now “^” and the format indicator is now “|”.

17. Changes From The 10 Dec 2001 Draft

Transfer Method	Is now split to type family and format; type family is now a URI.
Date/Time Types	Were added.
Tree Model	Now includes the format.
Wording changes	Throughout the whole spec.
Format in Transfer Method	Is now separated by a “~”.
YAC List	Removed the Probable changes section; it is now replaced by the YAC list.
YAC 3, YAC 5	Added a uniform URI based namespace scheme.
YAC 6	Unrecognized explicitly typed implicit (simple) leafs are allowed.
YAC 7	C1 Control codes are explicitly forbidden.
YAC 10	In-series in-line syntax was modified according to the flexible indentation scheme (YAC needs to be updated).
YAC 11	Rename implicit leaves to simple leaves.
YAC 12	Throwaways are now allowed everywhere. Blank lines are comments. <i>There are ambiguity problems in chomped leaf values.</i>
YAC 13	Indentation is now generic (flexible).
YAC 14	Nested leaf format is now built out of three orthogonal properties.
YAC 15	Top level nodes can be in-line.
YAC 16	A “--- #YAML:1.0” is assumed if there's no header.
YAC 18	YAML Ain't Markup Language

18. Changes From The 11 Nov 2001 Draft

Quoted Strings	Are now implemented as a text implicit transfer format. This changed slightly the definition of an escaped leaf so that the two would be equivalent.
Relative DNS type familys	Are now supported using the simplest form only. the definition of an escaped leaf so that the two would be equivalent.
Syntax/Grammar/Formatting	Were fixed according to Brian's inputs.
Block	Is now chomped using “ ” rather than “ -” for consistency.
Document Header	Can now be anything starting with “- -”; therefore is required before the first document in a multi-document stream.
Transfer Methods	Can now accept any printable characters, not just words. “!” now means “force implicit typing”.
New Scalar Styles	We now have the following: \ \ ' " implicit.
Treat sequence/map as Collection Styles	In productions and in information model.
Add Structured Keys	Using a key indicator (done - Oren).
Add Examples	Added a detailed examples section to the introduction to better acquaint the user so that the spec can proceed with some basic knowledge.
In-line maps/sequences	Are now supported. Empty maps/sequences are a natural special case.
Minor Changes	Moved list of changes down... it was cluttering the top of the spec.
Information model and Preview	Completely new rewrite.

19. Changes From The 04 Nov 2001 Draft

Polish	Minor wording fixes, added internal links, etc.
List	Was renamed to “sequence”.
Separator	Was changed to “---” instead of “----”.
Indentation	Was changed to one space instead of one tab.
Base64	Is no longer an implicit type. The surrounding “[=...=]” are kept, however, in case we change our mind later (e.g., if we introduce pipelining). The type was renamed to “binary” to stress its class rather than the encoding used.
Float	Was renamed to “real” to decouple it from specific in-memory representation. Mathematicians may object :-)
Length	Was removed from the sequence map.
Type vs. Class	Added some wording to clarify the difference. Most likely this will need to be changed once we settle the pipelining issue.
Productions	Were completely overhauled, again, to accomodate the new semantics.
Next Line Scalars	Now have two separate indicators, one for quoted and one for unquoted values.
Duplicate keys	Are now an error. The parser may ignore the second occurrence with a warning.

20. Changes From The 12 Aug 2001 Draft

Indentation	Has been changed to use tabs instead of spaces.
Throwaway comments	Were added. The persistent comment key was changed to “//”.
Indicators	Were changed. “-” now signifies a list entry and “\” signifies a next-line leaf value. “@” and “%” are no longer necessary (they may be if we ever support map/list keys). As a result no lookahead is ever required.
Multiple documents	Are now possible in a single file (again), using “----” as a separator.
Wording	Has been changed in numerous locations, hopefully to make it clearer. There was also some shuffling of the text sections to remove redundancy.
Productions	Were thoroughly overhauled and therefore undoubtedly contain new bugs. Also, all the shorthand production names were replaced by long ones to improve readability.
Indicator keys	Are no longer allowed. Structure keys are used instead, where some have only an in-memory representation.
Map/List keys	Are no longer allowed. This may have to be revisited when Perl 6 comes out.
Deep References	Are still supported but as an explicit type rather than as a hack.
Types List	Has been shrunk to only the common types, with a reference to yaml.org for a fuller list of types. The three core types were added as required types.
Type vs. Kind	This distinction was inserted explicitly into the text, with several examples to drive the point home.

21. Changes From The 01 Aug 2001 Draft

Character Set	Is now defined as simply printable Unicode characters without explicit ranges. This makes the spec resistant to the evolution of the Unicode spec.
Reserved Indicators	The set of such indicators has been minimized. There is now a conflict between reserving them for future use and allowing people to use them as markers for implicit leaf types.
Simple Scalar	Has been renamed to unquoted leaf.
Generic Model	Has been generalized to allow for types nodes.
Implicit Typing	Has been added with an assortment of suggested types.
General Keys	Keys can now be any nodes to allow for Java serialization.
Multi-level references	Are now supported for Perl serialization.

22. Changes From The 31 Jul 2001 Draft

Simple Scalar and End Of Lines	Moved eol productions to the end, rather than the start, of most productions. The wording and productions for the simple leaf were fixed to match each other and the intended semantics. The simple leaf example set was enhanced to clarify the proper interpretation.
Empty Document	Both empty top level maps and no top level maps are now allowed, and hence so are empty documents.

23. Changes From The 22 Jul 2001 Draft

Thanks to Joe Lapp for reviewing the 22 Jul 2001 draft and recommending these changes.

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|------------------|---|
| Phrasing fixes | Fixed phrasing in the abstract, and sections 1.3, 2.1, 2.3.1, 2.4.3, 2.4.4, 2.4.5, 2.4.6 and 2.5.3. |
| Production fixes | Fixed productions: added production 47, 59, fixed productions 57, 58, 60 and 64 (productions numbers in the 22 Jul 2001 draft are off by one in some cases). Most are bug fixes. Actual changes include allowing for empty lines surrounding a top level map, allowing an optional trailing separator line, and forbidding annotations which have no sensible semantics (anchor to null, anchor to a reference, shorthand for a reference). |

24. Changes From The 23 Jun 2001 Draft

Merge Spec	Due to the decision to leave all API related issues outside the core spec, the spec has been re-merged into a single file, covering just what used to be the introduction and serialization sections of the previous specs.
Character Encodings	The spec now refers only to the Unicode standard. Due to the efforts by the Unicode and ISO/IEC 10646 groups, both standards are in almost complete agreement. The additional features provided by the ISO/IEC standard are rarely used in practice, while Unicode is simpler and is more widely supported by existing languages and systems.
Strict Indentation	Indentation is now a strict 4 spaces per level. This allows for the new white space policy and the new block notation.
Shorthand Notation	The spec introduces a shorthand notation for attaching special keys to any node kind (converting it to a map if necessary). This will need more work.
Null Nodes	Null nodes have finally been added, after somehow eluding all previous versions.
Bullet Lists	Change the * optional prefix for leaf list entries to a mandatory : and therefore remove the special name “bulleted list entries”.
Simplify Keys	Multi-line simple keys are now out. The door is open for re-introducing them, however.
Change Whitespace Policy	White space folding has been replaced by line break folding. White space is now always significant, except for indentation and for separation of structure tokens.
Block Scalar Syntax	The syntax for block leaves has been replaced by a more elegant one.

25. Changes From The 16 Jun 2001 Draft

Split Spec	The spec is now separated into several files. This allows different versions of the spec to share the same version of unchanged section, and make it easier to refer to a particular version of important pieces of the spec such as serialization and interfaces. All the HTML files use the same shared CSS file. Cross references between the separate parts of the spec are now relative, though references to older versions are absolute and refer to the main site.
Cyclical Graph	Change the wording on the information model to allow for graphs with cycles. The alternative is to define the anchor semantics in such a way that would preclude cycles.
Null Character Escape	The escape sequence <code>\z</code> was added to allow convenient escaping of the ASCII zero (null) character.
Remove Binary Scalars	The information model now contains just one type of leaf. The special syntax for binary leaves has been removed. This functionality will be re-added in the form of a color.
Remove Class Shorthand	The syntax no longer supports the <code>!class</code> syntax. This functionality will be re-added in the form of a color.
Bullet Lists	Change the optional prefix for leaf list entries to <code>*</code> and rename such entries to “bulleted list entries”.
Make Keys More Scalars-Compatible	Allow for multi-line simple keys and unify the description of leaf keys and values where it makes sense.
HTML Tidying	All the HTML pages have gone through Tidy. Also, all the HTML files have been run through an HTML validation service [http://validator.w3.org/] and a CSS validation service [http://jigsaw.w3.org/css-validator/validator-uri.html]. Broken links and spelling were checked using another online HTML validator [http://www.zdnet.com/devhead/static/toolbox/]. This needs to be repeated for all future drafts.

26. Changes From The 09 Jun 2001 Draft

Relationship with MIME	Beyond using base64 for binary leaves, no additional special relationship with MIME is expected. Hence references to the MIME and mail RFCs were moved from section 1.1 (“required reading”) to section 1.2 (“background material”).
Strict Indentation	Indentation is now completely strict for all leaf styles. Also, the productions were changes to use a consistent semantics to the indentation level parameter.
List Scalar Prefixes	A list leaf entry may be prefixed by an optional : indicator to improve readability of multi-line simple leaf values.
Anchor Semantics	Leading zeros are now ignored for comparing anchor strings.
No Empty Line At Start	The document production was fixed so as not to require an empty line at the start of a document.
Character Escapes	The set of character escapes is now maximal (including the rare \e escape for the useful ASCII ESC character). Also, it is now possible to “escape” a line break in a quoted string (the previous drafts were inconsistent at this point).
32 Bit Characters	The current draft allows such characters, and includes a specialized escaping format (“\Uxxxxxxxx”) to support them.

27. Changes From The 26 May 2001 Draft

Changes Section	The changes section was added for easier comparison of different versions. The final draft will not contain this section.
Class Indicator	The indicator was changed from # to ! to allow for # to be used for comments.
No Empty Line At End	The document production was fixed so as not to require an empty line at the end of a document.
Strict Indentation	Indentation in quoted strings and binary blocks is now strict to ensure readability.
Productions	Problems in the productions were fixed, especially where related to white space issues and formatting of the result.
BOM Comment	The link to the Unicode FAQ was moved to section 2.2.2.
Binary Scalars	The information model now distinguishes between text and binary leaves.