

uman

Release notes for uman 3.0

<https://atoms.scilab.org/toolboxes/uman>

2019-08-22

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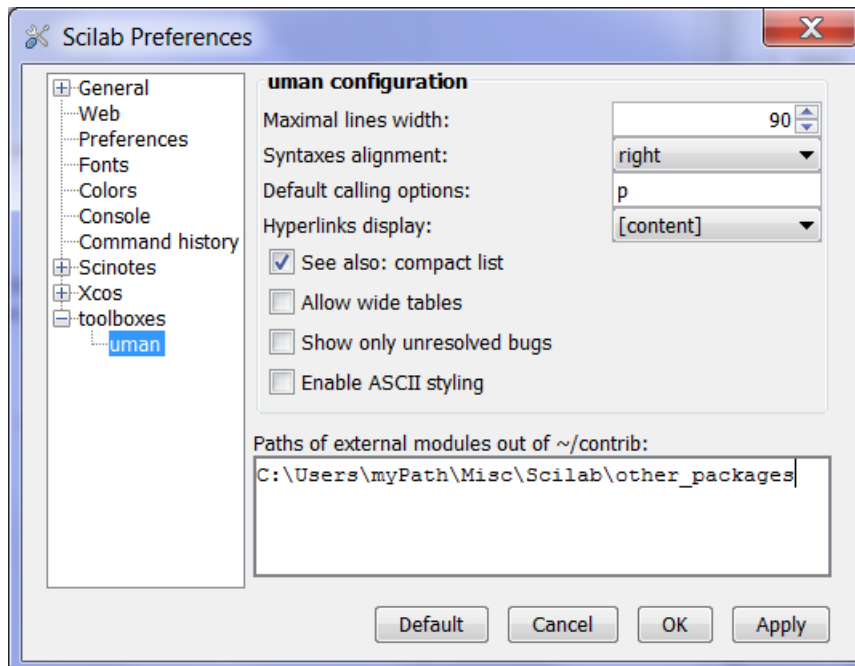
1 Main changes

- **uman environment variables have now their Preferences interface.**
They allow to somewhat customize uman's default behavior to get closer to your needs and make it even more handy.
- **Former removed functions and features can now be addressed with uman.**
This aims to ease the maintenance of old codes in Scilab language. In addition, uman can now work with the complementary module <https://atoms.scilab.org/toolboxes/removed>
- **New option "p" to display the Parameters section**
Formerly, the display of the *Parameters* (= *Arguments*) section was mandatory. It is no longer the case. Its display can now be triggered through this dedicated "p" option, as "e" does for Examples, "h" for the History, etc. The former *uman* behavior can be restored by including 'p' among default calling time options, in uman preferences.
- **Querying bugs about an item: The "wb" mode now becomes more simply "b"**
The former 'b' option alone was almost useless.
- **ATOMS resources are now taken into account in an automatic way**

2 Global changes

A) Configuration parameters

The former global uman environment variables are no longer public. They can be set and tuned through a new uman Preferences interface:



B) uman messages can now be translated

There are already available in french. Examples :

```
--> uman cholesky
uman: 'cholesky' n'a pas de page dédiée.

--> uman lgfft w
'lgfft' a été supprimée après Scilab 5.1.1
```

C) Help pages

For more clarity,

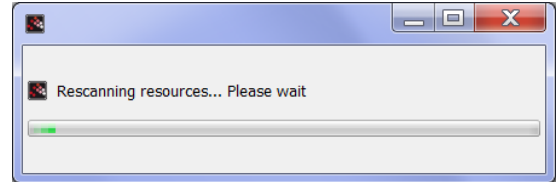
- *Configuration parameters* a.k.a. *Preferences* are now described in a dedicated page.
- Secondary internal technical aspects of uman are now described in a separate page.

D) References added

- **Scilab** => **Scilab**: Atoms, event, events=>xclick
- **External** => **Scilab**: blkdiag, argv, celldisp, columns, completion_matches, contains, endsWith, erase, exist, extractAfter, extractBefore, fgetl, flintmax, flip, fputs, func2str, get_home_directory, image, index, int2str, intmax, intmin, isa, is_absolute_filename, is_valid_file_id, isalnum, isfolder, isguirunning, length, lstat, mat2str, (moment,) msgbox, OCTAVE_HOME, openvar, pkg, polygcd, prctile, puts, rande, randg, randp, replace, residue, reverse, rows, source, startsWith, stat, stdin, stdout, stderr, str2func, strings, strlength, streadd, strrep, strtrunc, substr, terminal_size, tolower, toupper, typeinfo, uitable, yyaxis.
- **ATOMS**: CEMEF-UTN, COMpleib, plotplots, removed, scicv, scipython, xcos_stm32_toolbox (this list is now automatically completed).

E) ATOMS references are automatically managed

1. `uman` now automatically detects whether any ATOMS module has been installed or uninstalled during the session, and rescans resources accordingly. The reloading 'r' option is still available. It can be used when you install contribs other than ATOMS ones, or if you write and test your own help pages.



2. `uman` now uses automatically the ATOMS packages list downloaded by your ATOMS manager to complete its own set of ATOMS references. Hence, 'uman' is now always up-to-date about all available ATOMS resources, even uninstalled ones, provided that your ATOMS manager is so.

F) Documentation of removed functions and features : support added

In console, web or helpbrowser modes, when querying information about a removed feature, now

- 'uman' displays an explicit message about last supporting Scilab version,
- 'uman' proposes a possible replacement (if any),
- 'uman' suggests targeting the archived online help page (if any), or actually targets it if the 'w' web mode is used.

In addition, a new module <https://atoms.scilab.org/toolboxes/removed> gathering all help pages of old removed Scilab functions is available on ATOMS, in complement to 'uman'. If it is installed, 'uman' uses it whenever it is relevant.

1. Examples **without** the *removed* module:

```
With uman 2.1 :

--> uman lgfft
uman: "lgfft" has no dedicated page.

--> uman xclea
uman: "xclea" has no dedicated page.

--> uman lgfft w
[ nothing displayed in the console ]
[ + Bugzilla search engine called for lgfft, opened in the web browser]

With uman 3.0 :

--> uman lgfft
uman: 'lgfft' was REMOVED after Scilab 5.1.1

--> uman lgfft w
'lgfft' was REMOVED after Scilab 5.1.1

[ + https://atoms.scilab.org/toolboxes/removed opened in the web browser]

--> uman xclea
uman: 'xclea' was REMOVED after Scilab 4.1.2
uman xfrect // is a possible replacement

--> uman xclea w
'xclea' was REMOVED after Scilab 4.1.2. 'xfrect' replacement displayed.

[ + https://help.scilab.org/docs/6.0.2/en\_US/xfrect.html opened in the web browser]
```

2. Examples **with** the *removed* module installed:

With **uman 2.1** and **uman 3.0** (no change in console mode) :

```
--> uman xclea ph
=====
Removed > 4-1-2 > xclea
.....
xclea - erase a rectangle

Syntax
-----
xclea(x,y,w,h)

Parameters
-----
x,y,w,h : real values defining the rectangle.

History
-----
Version Description
4.1.2 xclea was published up to Scilab 4.1.2. It is now removed.
```

With **uman 2.1** :

```
--> uman xclea w

NO WEB REFERENCE AVAILABLE
=====

Removed > 4-1-2 > xclea
.....
xclea - erase a rectangle

Syntax
-----
xclea(x,y,w,h)

Parameters
-----
x,y,w,h : real values defining the rectangle.
```

With **uman 3.0** :

```
--> uman xclea w
'xclea' was REMOVED after Scilab 4.1.2. 'xfrect' replacement displayed.

[ + https://help.scilab.org/docs/6.0.2/en\_US/xfrect.html opened in the web browser]
=====

[... display of the full xclea page in the console ...]

-----
uman xclea w :
[removed] module EXTERNAL => ONLINE help page UNAVAILABLE
-----
```

G) Bug fixed

- uman failed on Windows when the SCIHOME path includes some spaces.

3 Changes in console (default) mode

A) New features and improvements

a) New option 'p' to display the *Parameters = Arguments* section. Example :

```
--> uman gsort
=====

Scilab > Elementary Functions > Search and sort > gsort
.....

gsort - sorting by quick sort algorithm

Syntaxes
-----
[B, k] = gsort(A)
[B, k] = gsort(A, option)
[B, k] = gsort(A, option, direction)

See Also
-----
find | overloading

--> uman gsort p
=====

Scilab > Elementary Functions > Search and sort > gsort
.....

gsort - sorting by quick sort algorithm

Syntaxes
-----
[B, k] = gsort(A)
[B, k] = gsort(A, option)
[B, k] = gsort(A, option, direction)

Parameters
-----
A : a real, an integer or a character string vector/matrix or a sparse vector.
option : a character string. It gives the type of sort to perform:
    * 'r' : each column of A is sorted
    * 'c' : each row of A is sorted
    * 'g' : all elements of A are sorted. It is the default value.
    * 'lr' : lexicographic sort of the rows of A
    * 'lc' : lexicographic sort of the columns of A

direction :
    a character string. It gives the ordering direction: 'i' stand for increasing
    and 'd' for decreasing order (default).

B : an array with same type and dimensions as A.
k : a real array with integer values and same dimensions as A. Contains the origin
    indices.

See Also
-----
find | overloading
```

- b) `<latex>` formulae are now displayed as text in the console, provided that a text-readable equivalent is provided in the alt `<latex alt='..'>` attribute in the source file of the page. Example:

```
--> uman inductor d // with uman 2.1
../..
Description
-----
Inductor is an electrical component that can store energy in electrical circuits. The
relationship between the voltage across the ports of an inductor of inductance and the
current passing through it is given by:
[IMAGE: _LaTeX_Inductor.xml_1.png]
Inductors can also be used to differentiate between high-frequency and low-frequency
...

--> uman inductor d // with uman 3.0
../..
Description
-----
Inductor is an electrical component that can store energy in electrical circuits. The
relationship between the voltage across the ports of an inductor of inductance and the
current passing through it is given by:
 $v = L \cdot dI/dt$ 
Inductors can also be used to differentiate between high-frequency and low-frequency
...
```

- c) Internal and external links can now be displayed.

The display style can be chosen in *uman Preferences*. For `<link href='url'>text</link>`,

- the 'content' mode will display only 'text' (as with uman 2.1)
- the '[content]' mode will display '[text]', showing that there is a link, without displaying its URL
- the 'content [url]' mode will display 'text [url]', showing both.

Exceptions: Internal URL are never displayed in Summaries nor in *See also* sections.

- d) *See also* section: New *umanSeeAlsoOnlyKeywords* configuration parameter (settable in *Preferences*), to display the list in a compact way. Example:

```
--> uman permute // with SeeAlsoOnlyKeywords disabled
...
See Also
-----
pertrans – Transposition with reference to the 2nd diagonal
quote – (') transpose operator, string delimiter
ndims – number of dimensions of an array
squeeze – removes singleton dimensions of a hypermatrix

--> uman permute // with SeeAlsoOnlyKeywords enabled
...
See Also
-----
pertrans | quote | ndims | squeeze
```

- e) *See also* section: External links are now (always) displayed. Example:

```
--> uman xmlXPath // with uman 2.1
...
See Also
-----
W3C XPath recommendation
XPath tutorial

--> uman xmlXPath // with uman 3.0
...
See Also
-----
W3C XPath recommendation [http://www.w3.org/TR/1999/REC-xpath-19991116/]
XPath tutorial [http://www.w3schools.com/xpath/]
```

f) Tables: Cells with simple contents spanning on multiple columns are now supported.

Example:

```
--> uman typeof d // With uman 2.1
...
Description
-----
t = typeof(object) returns one of the following strings:
string          object is a matrix or hypermatrix made of
                characters and texts.
boolean         object is a boolean matrix or hypermatrix.
2$int8 or int16 or int32 or int64 or uint8
or uint16 or uint32 or uint64
                object is a matrix or hypermatrix of
                [unsigned] integers stored on 8, 16, 32 or
                64 bits. (see inttype)
constant       object is matrix or hypermatrix of decimal
                or complex numbers.
...

--> uman typeof d // With uman 3.0
...
Description
-----
t = typeof(object) returns one of the following strings:

string          object is a matrix or hypermatrix made of characters and texts.
boolean         object is a boolean matrix or hypermatrix.
int8 or int16 or int32 or int64 or uint8 or uint16 or uint32 or uint64
                object is a matrix or hypermatrix of unsigned integers stored on 8,
                16, 32 or 64 bits. (see inttype)
constant       object is matrix or hypermatrix of decimal or complex numbers.
...

```

g) Tables: Itemized or ordered lists are now supported in table cells. This holds for the history section, and in <note>, <warning> and <important> sections: Itemized or numbered lists lost their itemization and were puzzled. They are now correctly displayed. Example:

```
--> uman int8 h // with uman 2.1
...
History
-----
Version Description
6.0      int64() and uint64() added to Scilab.Complex input numbers are now
         accepted.This is now instead of int8([-%inf, %inf])[-128, 127][0, 0]int16([-%inf,
         %inf])[-32768, 32767][0,
         0]int32(%inf)2147483647-2147483648uint8(%inf)255uint16(%inf)65535uint32(%inf)42949672950

--> uman int8 h // with uman 3.0
...
History
-----
Version Description
6.0      * int64() and uint64() added to Scilab.
         * Complex input numbers are now accepted.
         *
         This is now instead of
         int8([-%inf, %inf]) [-128, 127] [0, 0]
         int16([-%inf, %inf]) [-32768, 32767] [0, 0]
         int32(%inf) 2147483647 -2147483648
         uint8(%inf) 255 0
         uint16(%inf) 65535 0
         uint32(%inf) 4294967295 0

```

h) Tables: Excerpts of code are now correctly displayed in cells. Example:

```
--> uman m2sci_diag e // with uman 2.1
...
Examples
-----
| Matlab | Scilab |
| B=diag('str')B=['s ',' t ',' r'] | B=diag("str")B="str"B=mtlb_diag("str")B=["s ";" t ";" r"] |
|-----|-----|

--> uman m2sci_diag e // with uman 3.0
...
Examples
-----
| Matlab | Scilab |
| B = diag('str') | B = diag("str") |
| B = ['s ',' t ',' r'] | B = "str" |
| | B = mtlb_diag("str") |
| | B = ["s ";" t ";" r"] |
|-----|-----|
```

i) Tables: Wide tables can now be displayed beyond the *umanMaxLineWidth* limit, within the console's width, thanks to the new *umanAllowWideTables* boolean configuration parameter. This can avoid a high line-wrapping rate, while in a cell lines are already short enough to stay easily readable. Example:

```
--> //----- Right console's edge >>>|
--> //----- umanMaxLineWidth >>>|

--> uman EXTRACTBITS e // with umanAllowWideTables disabled
...
Examples
-----
In the following table, we present the results obtained for the number 215 according
to several combinations of the parameters.

-----
| Input | Bits to Extract | Number of Bits or | Treat Bit Field | Output |
| 11010111 (215) | Upper Half | Ignored | no | 01100000 (208) |
| 11010111 (215) | Upper Half | Ignored | yes | 00001101 (13) |
| 11010111 (215) | Lower Half | Ignored | no | 00000111 (7) |
| 11010111 (215) | Lower Half | Ignored | yes | 00000111 (7) |
| 11010111 (215) | Range starting | 6 | no | 11010100 (212) |
| | with MSB | | | |
| 11010111 (215) | Range starting | 6 | yes | 00110101 (53) |
| | with MSB | | | |
| 11010111 (215) | Range starting | 6 | no | 00010111 (23) |
| | with LSB | | | |
| 11010111 (215) | Range starting | 6 | yes | 00010111 (23) |
| | with LSB | | | |
| 11010111 (215) | Range of bits | [ 2, 5 ] | no | 00010100 (20) |
| 11010111 (215) | Range of bits | [ 2, 5 ] | yes | 00000101 (5) |
| 11010111 (-41) | Upper half | Ignored | no | 11010000 (-48) |
| 11010111 (-48) | Upper half | Ignored | yes | 11111101 (-3) |
|-----|-----|

In the following diagram, two decimal digit numbers are coded on an only byte. The
diagram decode the input to obtain two separate digits.
...

--> uman EXTRACTBITS e // with umanAllowWideTables enabled
...
Examples
-----
In the following table, we present the results obtained for the number 215 according
to several combinations of the parameters.

-----
| Input | Bits to Extract | Number of Bits or Index | Treat Bit Field as an | Output |
| 11010111 (215) | Upper Half | Ignored | no | 01100000 (208) |
| 11010111 (215) | Upper Half | Ignored | yes | 00001101 (13) |
| 11010111 (215) | Lower Half | Ignored | no | 00000111 (7) |
| 11010111 (215) | Lower Half | Ignored | yes | 00000111 (7) |
| 11010111 (215) | Range starting with MSB | 6 | no | 11010100 (212) |
| 11010111 (215) | Range starting with MSB | 6 | yes | 00110101 (53) |
| 11010111 (215) | Range starting with LSB | 6 | no | 00010111 (23) |
| 11010111 (215) | Range starting with LSB | 6 | yes | 00010111 (23) |
| 11010111 (215) | Range of bits | [ 2, 5 ] | no | 00010100 (20) |
| 11010111 (215) | Range of bits | [ 2, 5 ] | yes | 00000101 (5) |
| 11010111 (-41) | Upper half | Ignored | no | 11010000 (-48) |
| 11010111 (-48) | Upper half | Ignored | yes | 11111101 (-3) |
|-----|-----|

In the following diagram, two decimal digit numbers are coded on an only byte. The
diagram decode the input to obtain two separate digits.
```


- j) Tables: Other improvements :
 1. The balance of columns widths and the internal row wrapping are now better performed (some further improvement planned).
 2. In a column, the unbreakability of some wide contents that imposed an extra-wide column is now managed in a more comprehensive way.
 3. Nested tables are now (partly) supported.
- k) Pages of Xcos blocks have a specific layout. Their display in console is improved:
 - Useless sections 'Module' and 'Palette' are now ignored.
 - Sections 'Block Screenshot' and 'Contents' are irrelevant in console mode and are now ignored.
 - If no uman content option is used, 'a' (all) is now forced.

B) Bugs fixed

- 'uman %i s' now displays '* %i -- ..' instead of '* percenti -- ..'
- '&&' sequences in a page yielded an XML parsing error.
- Titles of <refsect3> subsections tags were not processed and appeared with their native <h5> tags.
Ex: 'uman colorbar e'
- 'uman optim d' : The '<' characters present in <screen> area were not displayed.
- 'uman atomsInstall p' displayed tables rows with some uncleaned tabulations.
- In a <variablelist>, terms with an id were not displayed.
- 'uman xset dlfr' : some lines were lengthened with inner blanks and were not wrapped.
- 'uman xset d' : wrapping sometimes output some extra empty lines.
- Numbered lists were badly indented. Ex: uman uman d // Known limitations
- Some '▣' characters used as unbreakable spaces were not replaced with actual blanks before display.
- In a list of terms, the ones being quite long could have uncleaned extra spaces.
- 'uman dneupd u' : For very long syntaxes wrapped on several lines, only the first line was displayed.
- 'uman m2sci_isa d' yielded an error.
- 'uman sysconv d' : in the table, at the n1 row and n2 column, the new_line was not taken into account in the cell.
- 'uman int8 h' : The table in the History section was puzzled.
- 'uman addModulePreferences' yielded an error instead of telling that addModulePreferences has no help page.
- 'uman scicos_graphics' yielded an 'Unknown field: sections' error.
- 'uman CUMSUM s': ids of CUMSUM and RICC were followed by a hash code.
- 'uman scilab s' yielded 'operation +[]' warnings and finally an error.
- 'uman CUMSUM g' and 'uman Type g' dit not find the targeted page.
- 'uman cshift g' displayed a message as if cshift was a module.
The displayed recommandation was 'uman cshift wg // should work.'
instead of 'uman cshift w // should work.'

4 Changes in bugs query mode "uman .. b"

A) I

1. All syntaxes 'uman section/author>.. b', 'uman author/section>.. b', 'uman section>..b' and 'uman author>.. b' can now be used. This makes searching by author or/and section much simpler. Don't care about the order.

2. The Bugzilla's list of categories needed to be updated.
3. New *ListOnlyUnresolvedBugs* configuration parameter. Example :

```
--> uman strsubst b // with ListOnlyUnresolvedBugs disabled
```

19 bugs found.

ID▼	Sev	Vers	Resolution	Changed	Summary
14501	Cri	6.0 n	---	2019-02-24	strsubst can not compact consecutive duplicated characters (crash. Regression. was
9123	Wis	5.0 t	---	2018-08-18	strsubst does not handle group replacement.
6145	Wis	5.0 t	---	2018-03-16	strsubst : allow multiple Pattern/Replacement pairs
4807	Min	maste	---	2018-10-24	strsubst does not check if second argument is a valid pattern when there is 'r'
15422	Maj	6.0.0	FIXE	2018-10-29	strsubst("ab", "", "cd") crashes Scilab instead of returning "ab" (regression)
4968	Med	maste	FIXE	2010-05-18	part() or strsubst() problem with UTF-8 when exec ???
4277	Min	5.0 t	FIXE	2015-10-08	strsubst returns strange results if accented characters and character class are
4276	Min	5.0 t	FIXE	2017-03-02	strsubst() only replace the first occurrence found if the pattern to search is a
3912	Cri	5.0 t	FIXE	2015-10-08	The strsubst used with regular expression may return very strange result. -->t="
3891	Min	5.0 t	FIXE	2018-03-23	strsubst() replaces the wrong characters with the regexp mode and when the subje
2788	Min	maste	FIXE	2008-03-12	strsubst() function return weird strings. (only under Linux)
2664	Min	maste	FIXE	2008-03-21	strsubst() cannot be called in regexp mode
975	Min	4.x a	FIXE	2015-10-08	If I generate a Postscriptfile with: xs2ps(0,fname,1); sci1 = strsubst(SCI
15513	Min	6.0.1	INVA	2018-03-29	strsubst
4769	Min	maste	WONT	2013-04-04	The function strsubst does not manage ascii(0) characters correctly: -->str =
15844	Min	6.0.0	DUPL	2018-10-29	strsubst crashes scilab when trying to replace empty strings in a string matrix.
15754	Cri	6.0.1	DUPL	2018-09-02	in some cases, strsubst make Scilab crash
15714	Min	6.0.1	DUPL	2018-08-18	strsubst() in regexp mode crashes SCILAB if argument 2 is invalid
11617	Min	5.4.0	DUPL	2012-08-03	strsubst only replaces only the first match

```
--> uman strsubst b // with ListOnlyUnresolvedBugs enabled
```

4 bugs found.

ID▼	Sev	Vers	Resolution	Changed	Summary
14501	Cri	6.0 n	---	2019-02-24	strsubst can not compact consecutive duplicated characters (crash. Regression. was
9123	Wis	5.0 t	---	2018-08-18	strsubst does not handle group replacement.
6145	Wis	5.0 t	---	2018-03-16	strsubst : allow multiple Pattern/Replacement pairs
4807	Min	maste	---	2018-10-24	strsubst does not check if second argument is a valid pattern when there is 'r'

B) Bugs fixed

- 'uman .. wb' with any query including some double quote failed.
- 'uman .. wb' with an item including a semi-colon ";" yielded a Bugzilla error
- 'uman plot xwb' no longer filtered the list of plotlib bugs against 'plot' (provided that plotlib is installed).
- 'uman ">>1" wb' to search ">1" on Bugzilla yielded a Scilab Invalid index error
- 'uman "<1<" wb' searches for '<1<' instead of '<1' with no age condition.
- 'uman dynpeak wb' and 'uman dynpeak w' misworked: Dynpeak was registered twice.
- 'uman iodelay wb' did not open the iodelay ATOMS page, and did nothing.
- 'uman wiki/> wb' did not work (empty list), nor for any other web component.
- 'uman unsorted/> wb' yielded an empty list.
- 'uman "Input / output>" wb' yielded an empty list, due to "/" in the section's name.
- 'uman item wb' trimmed the regexp query for any item ending with a figure.
- 'uman "operation +" wb' was misprocessed and displayed no result.

5 Changes in "g" help browser mode

'uman . . g' no longer displays in the console a copy of the help page opened in the help browser. This display is kept only when no content can be displayed in the browser (feature of an external unloaded module ; local user's function, ...)

6 Changes in web mode "uman ... w"

A) Change

Unavailable web page of an installed ATOMS or contrib module: Now by default the full page is printed in the console, unless at least one explicit content option is set at calling time: Then default and explicit contents options are taken into account.

B) Bugs fixed

- 'uman CUMSUM w' did not find the CUMSUM online page.
- 'uman iodelay w' opened help.scilab.org instead of the iodelay ATOMS page.

7 Changes in "uman .. @" mailing lists mode

A) Bugs fixed

- 'uman author>topic<Ndays @' ignored topic and Ndays.
- 'uman author1|author2|..>.. @' was broken.
- 'uman author*>.. @' was broken.
- 'uman det([]) @' yielded an error on the server. [] are now protected.