

L05 Documentation

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Introduction

1 Introduction

2 Generate

3 Verify

4 Meeting

- Preview

Learning Outcomes

After successful completion of L05
students will be able to use techniques to

- remember basics
- generate documentation
- verify documentation

Correctness

Documentation tends to be:

- outdated
- incorrect
- not helpful

Make Sure That

- documentation gets reviewed
- documentation is in source code management
- small distance to code
- avoid redundant information

Different Types of Documentation

tutorials for learning

how-to solving a problem

reference searching for details
e.g. man pages, API docu

explanations in doc/dev “How?”

decisions for background information “Why?”

examples for copy&paste

Different People

beginners never forget everybody starts as beginner

advanced understanding how to improve

expert learn how to teach others,
improve upon what the software is doing

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Markdown

Minimal formatting abilities but implemented by many tools

- [Link](/linktarget) or [Link](relative/link)
- *italics* and **bold**
- 'inline code' or 'code fences'
- - item
 - item
 - item

Views

The same (markdown) file can be viewed via:

- directly viewing the source `doc/help/kdb.md`
- website <https://www.libelektra.org/manpages/kdb> (rendered by marked)
- API docu
https://doc.libelektra.org/api/master/html/doc_help_kdb_md.html
(rendered by doxygen)
- `man kdb` (rendered by roff)
- `kdb -help` or `kdb help <command>`
- GitHub <https://master.libelektra.org/doc/help/kdb.md>
- From qt-gui (rendered by discount)

→ 5 different markdown renderer involved

Plugins

For plugins, documentation even changes the build process:

```
1 -_infos=_Information_about_the_toml_plugin_is_in_keys_below
2 -_infos/author=_Jakob_Fischer_<jakobfischer93@gmail.com>
3 -_infos/licence=_BSD
4 -_infos/provides=_storage/toml
5 -_infos/needs=_base64
6 -_infos/recommends=_type
7 -_infos/placements=_getstorage_setstorage
8 -_infos/status=_experimental_unfinished
9 -_infos/metadata=_order_comment/#_comment/#/start_comment/#/s
10 -_infos/description=_This_storage_plugin_reads_and_writes_TOML
```

Conclusion

- reuse of documentation by generation
- avoids duplication and errors
- avoids CI checks for inconsistencies
- generation by CI

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Verify

1 Introduction

2 Generate

3 Verify

4 Meeting

- Preview

Goals

Not every documentation-related task can be generated:

- in the text we want to refer to the behavior
- we want to verify if given examples are correct

Problems with Unit Tests

- ① difficult to read
- ② code cannot be directly copied (asserts)
- ③ cannot be easily integrated in tutorials

→ specialized verification language for documentation

Verification of Tutorials

```
1 _____' ' 'sh
2 _____kdb_set_user:/tests/something
3 _____#_RET:_0
4
5 _____kdb_get_user:/tests/something
6 _____' ' '

```

Syntax

- ① starts with `'''sh`
- ② comments introduce checks
- ③ otherwise is shell code to be executed
- ④ `#>` verifies stdout output
- ⑤ `# RET:` verifies return code (if not 0)

Conventions

- ① Test data in /tests.
- ② Generate temporary files if needed or use [HERE](#).

Conclusions

- ① If possible, generate.
- ② Otherwise, verify.
- ③ Keep user and purpose in mind.

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Meeting

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L06 Entry Barriers