THE SCOOP PREPARE BibTeX FILE TOOL

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ABSTRACT. This document describes the SCOOP PREPARE BibTeX File tool (version 1.5.0).

CONTENTS

1. Introduction

The bibliography of LaTeX documents is often obtained by having `bibtex` process a BibTeX (`.bib`) file. The appearance of the bibliography is then determined by the BibTeX style `.bst` file selected via a `\bibliographystyle` command.

Commonly used `.bst` files, notably those distributed for publications in scientific journals, come with varying features and limitations. For instance, the support of `@ONLINE` entries, which are not among the BibTeX standard entry types[1] but are defined in the BibLaTeX standard[2], varies across `.bst` files.

The Scoop Prepare BibTeX File tool (`spbf`) is meant to produce `.bib` files which are customized to be processed by `bibtex` with a `.bst` file with known limitations. It particular, it allows users to maintain their `.bib` files in the modern BibLaTeX standard and produce downgraded `.bib` files on demand, which are compatible with `bibtex` processing and compliant with the features of a particular `.bst` file.

The `spbf` tool is used internally by the Scoop Template Engine (`ste`)[3], but it may also be used independently. To produce a customized BibTeX file, `spbf convert` performs three steps.

(1) First, it runs

```
biber --bblsafechars --output-format=bibtex
```

on the input file, which takes care of recoding any UTF8 characters present in the input into LaTeX accented characters, e.g., the German umlaut ä becomes `\"{a}` etc.

(2) Second, it applies a couple of transcription rules, whose which primary purpose is to downgrade entries using BibLaTeX features to BibTeX compatible features. For instance, the fields `TITLE`, `SUBTITLE` and `BOOKTITLE`, whose contents are likely to be converted to lower lower case by many `.bst` files, are protected by curly braces. Entry types such as `@THESIS` will be transcribed into BibTeX types, etc. These unconditional transcriptions are described in Section 3.

(3) Third, it applies a couple of additional transcription rules depending on the command line options given. For instance,

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[1] https://en.wikipedia.org/wiki/BibTeX
[2] https://mirrors.ctan.org/info/biblatex-cheatsheet/biblatex-cheatsheet.pdf
[3] https://gitlab.com/scoopgroup-public/scoop-template-engine

```
spbf convert --arxivtotypeornote ...
```

would transcribe the entry

```
@ARTICLE{...,
  ... = {...},
  EPRINT = {1804.06214},
  EPRINTTYPE = {arXiv},
}
```

into

```
@ARTICLE{...,
  ... = {...},
  NOTE = {{arXiv}: \href{https://arxiv.org/abs/
    1804.06214}{1804.06214}},
}
```

This example of a transcription can be useful since the *EPRINT* and *EPRINTTYPE* entries are not BibTeX standard entry types[4] and thus are not honored by some `.bst` files.

A description of the command line options to customize the behavior of `spbf convert` is given in Section 4.

`spbf convert` takes as input either

- a BibTeX or BibLaTeX (`.bib`) file (database mode),

- or a BibLaTeX control (`.bcf`) file (document mode).

In document mode, your system's `biber` command must be version 2.10 or higher.

2. COMMANDS

The SCOOP PREPARE BibTeX FILE tool offers the following functions. The commands

```
spbf help
spbf doc
spbf version
```

should be self-explanatory. The main functionality is

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[4]https://en.wikipedia.org/wiki/BibTeX

```
spbf convert [options] infile [outfile]
```

whose operation is described in the remainder of this document.

3. Unconditional Transcriptions

spbf convert first carries out a number of transcriptions independently of which command line [options] are given. These are meant primarily to allow users to make use of BibLATEX features in their input .bib files and use spbf convert to downgrade those to features to standard BibTEX entry types.[5] The transcriptions are carried out in the order they are described below.

3.1. Upper-Case Character Protection. spbf convert protects the fields TITLE, SUBTITLE and BOOKTITLE by curly braces. For instance, an entry

```
@...{...,
  TITLE = {Intrinsic formulation of KKT conditions and
    constraint qualifications on smooth manifolds},
}
```

is transcribed into[6]

```
@...{...,
  TITLE = {{Intrinsic formulation of KKT conditions and
    constraint qualifications on smooth manifolds}},
}
```

3.2. DATE Field. spbf convert transcribes the DATE field into a YEAR field. For instance, an entry

```
@...{...,
  DATE = {2012-12},
}
```

is transcribed into

```
@...{...,
  YEAR = {2012},
}
```

---

[5]https://en.wikipedia.org/wiki/BibTeX

[6]Protecting the entire field is simpler compared to protecting only terms containing upper-case letters since mathematical expressions would need to be protected as well.

3.3. `LOCATION` **Field.** `spbf convert` transcribes the `LOCATION` field into a `ADDRESS` field. For instance, an entry

```
@...{...,
  LOCATION = {Berlin, Heidelberg},
}
```

is transcribed into

```
@...{...,
  ADDRESS = {Berlin, Heidelberg},
}
```

3.4. `JOURNALTITLE` **Field.** `spbf convert` transcribes the `JOURNALTITLE` field into a `JOURNAL` field. For instance, an entry

```
@...{...,
  JOURNALTITLE = {SIAM Journal on Optimization},
}
```

is transcribed into

```
@...{...,
  JOURNAL = {SIAM Journal on Optimization},
}
```

3.5. `ORGANIZATION` **Field.** `spbf convert` transcribes the `ORGANIZATION` field into a `PUBLISHER` field. For instance, an entry

```
@...{...,
  ORGANIZATION = {IEEE},
}
```

is transcribed into

```
@...{...,
  PUBLISHER = {IEEE},
}
```

3.6. `SUBTITLE` **Field.** `spbf convert` appends the contents of the `SUBTITLE` field to the `TITLE` field. For instance, an entry

```
@...{...,
  TITLE = {Infinite Dimensional Analysis},
  SUBTITLE = {A Hitchhiker's Guide},
}
```

is transcribed into

```
@...{...,
  TITLE = {Infinite Dimensional Analysis.
    A Hitchhiker's Guide},
}
```

3.7. `@REPORT` **Entries.** `spbf convert` transcribes entries of type `@REPORT` into entries of type `@TECHREPORT`. If applicable, it also converts the `TYPE` field: if the `TYPE` field equals `{techreport}`, it will be transcribed into `{{T}echnical report}`. For instance, an entry

```
@REPORT{...,
  ... = {...},
  TYPE = {techreport},
}
```

is transcribed into

```
@TECHREPORT{...,
  ... = {...},
  TYPE = {{T}echnical report},
}
```

3.8. `@COLLECTION` **Entries.** `spbf convert` transcribes entries of type `@COLLECTION` into entries of type `@BOOK`. For instance, an entry

```
@COLLECTION{...,
  ... = {...},
}
```

is transcribed into

```
@BOOK{...,
  ... = {...},
}
```

3.9. **Bachelor @THESIS.** `spbf convert` transcribes entries of type @THESIS with a `TYPE = {Bachelor thesis}` field into entries of type @MASTERTHESIS with a field `TYPE = {{B}achelor thesis}`. In this case, it also replaces an `INSTITUTION` field by a `SCHOOL` field. For instance, an entry

```
@THESIS{...,
   ... = {...},
   INSTITUTION = {Heidelberg University},
   TYPE = {Bachelor thesis},
}
```

is transcribed into

```
@MASTERTHESIS{...,
   ... = {...},
   SCHOOL = {Heidelberg University},
   TYPE = {{B}achelor thesis},
}
```

3.10. **Master @THESIS.** `spbf convert` transcribes entries of type @THESIS with a `TYPE = {mathesis}` field into entries of type @MASTERTHESIS with a field `TYPE = {{M}aster thesis}`. In this case, it also replaces an `INSTITUTION` field by a `SCHOOL` field. For instance, an entry

```
@THESIS{...,
   ... = {...},
   INSTITUTION = {Heidelberg University},
   TYPE = {mathesis},
}
```

is transcribed into

```
@MASTERTHESIS{...,
   ... = {...},
   SCHOOL = {Heidelberg University},
   TYPE = {{M}aster thesis},
}
```

3.11. **Ph.D. @THESIS.** `spbf convert` transcribes entries of type @THESIS with a `TYPE = {phdthesis}` field into entries of type @PHDTHESIS with a field `TYPE = {{P}h.{D}. thesis}`. In this case, it also replaces an `INSTITUTION` field by a `SCHOOL` field. For instance, an entry

```
@THESIS{...,
   ... = {...},
   INSTITUTION = {Heidelberg University},
   TYPE = {phdthesis},
}
```

is transcribed into

```
@PHDTHESIS{...,
   ... = {...},
   SCHOOL = {Heidelberg University},
   TYPE = {{P}h.{D}. thesis},
}
```

3.12. **Habilitation** @THESIS. spbf convert transcribes entries of type @THESIS
with a TYPE = {Habilitation thesis} field into entries of type @PHDTHESIS
with a field TYPE = {{H}abilitation thesis}. In this case, it also replaces
an INSTITUTION field by a SCHOOL field. For instance, an entry

```
@THESIS{...,
   ... = {...},
   INSTITUTION = {Heidelberg University},
   TYPE = {Habilitation thesis},
}
```

is transcribed into

```
@PHDTHESIS{...,
   ... = {...},
   SCHOOL = {Heidelberg University},
   TYPE = {{H}abilitation thesis},
}
```

4. COMMAND LINE OPTIONS

Following the conversions described in Section 3, spbf convert carries out a
number of additional transcriptions depending on the command line options
given.

4.1. **Options Related to Specific Entry Types.**

4.1.1. *--onlinetotechreport.* The `--onlinetotechreport` option is meant to create a `.bib` file for processing in documents whose `.bst` file does not properly render `@ONLINE` entry types. It causes `@ONLINE` to be replaced by `@TECHREPORT`.

4.2. **Options Related to `EPRINT` fields.**

4.2.1. *--arxivtotypeornote.* The `--arxivtotypeornote` option is meant to create a `.bib` file for processing in documents whose `.bst` file does not honor

```
@...{...,
  EPRINTTYPE = {arXiv},
}
```

fields. It causes entries of type `@TECHREPORT`

```
@TECHREPORT{...,
  ... = {...},
  EPRINT = {1804.06214},
  EPRINTTYPE = {arXiv},
}
```

to be transcribed according to

```
@TECHREPORT{...,
  ... = {...},
  TYPE = {{arXiv}: \href{https://arxiv.org/abs/
    1804.06214}{1804.06214}},
}
```

and entries of all other types

```
@...{...,
  ... = {...},
  EPRINT = {1804.06214},
  EPRINTTYPE = {arXiv},
}
```

to be transcribed according to

```
@...{...,
  ... = {...},
  NOTE = {{arXiv}: \href{https://arxiv.org/abs/
    1804.06214}{1804.06214}},
}
```

4.2.2. *--haltotypeornote.* The `--haltotypeornote` option is meant to create a `.bib` file for processing in documents whose `.bst` file does not honor

```
@...{...,
  EPRINTTYPE = {HAL},
}
```

fields. It causes entries of type `@TECHREPORT`

```
@TECHREPORT{...,
  ... = {...},
  EPRINT = {hal-01686770},
  EPRINTTYPE = {HAL},
}
```

to be transcribed according to

```
@TECHREPORT{...,
  ... = {...},
  TYPE = {{HAL}: \href{https://hal.archives-ouvertes.fr/
    hal-01686770}{hal-01686770}},
}
```

and entries of all other types

```
@...{...,
  ... = {...},
  EPRINT = {hal-01686770},
  EPRINTTYPE = {HAL},
}
```

to be transcribed according to

```
@...{...,
  ... = {...},
  NOTE = {{HAL}: \href{https://hal.archives-ouvertes.fr/
    hal-01686770}{hal-01686770}},
}
```

4.2.3. *--urntonote.* The `--urntonote` option is meant to create a `.bib` file for processing in documents whose `.bst` file does not honor

```
@...{...,
  EPRINTTYPE = {urn},
}
```

fields. It causes entries of all types

```
@...{...,
  ... = {...},
  EPRINT = {urn},
  EPRINTTYPE = {urn:nbn:de:bsz:ch1-qucosa-227446},
}
```

to be transcribed according to

```
@...{...,
  ... = {...},
  NOTE = {{URN}: \href{https://www.nbn-resolving.de/
    urn:nbn:de:bsz:ch1-qucosa-227446}
    {urn:nbn:de:bsz:ch1-qucosa-227446}},
}
```

4.3. **Options Related to the** `DOI` **Field.**

4.3.1. *--doitourl.* The `--doitourl` option is meant to create a `.bib` file for processing in documents whose `.bst` file does not honor

```
@...{...,
  DOI = {...},
}
```

fields but which do honor

```
@...{...,
  URL = {...},
}
```

fields. It causes entries of all types

```
@...{...,
  ... = {...},
  DOI = {10.1137/18M1181602},
}
```

to be transcribed according to

```
@...{...,
   ... = {...},
  URL = {https://doi.org/10.1137/18M1181602},
}
```

4.3.2. *--doitonote.* The `--doitonote` option is meant to create a `.bib` file
for processing in documents whose `.bst` file does not honor

```
@...{...,
  DOI = {...},
}
```

fields nor

```
@...{...,
  URL = {...},
}
```

fields (hence `--doitourl` is not helpful). It causes entries of all types

```
@...{...,
   ... = {...},
  DOI = {10.1137/18M1181602},
}
```

to be transcribed according to

```
@...{...,
   ... = {...},
  NOTE = {{DOI} \href{https://doi.org/10.1137/18M1181602}
     {10.1137/18M1181602}},
}
```

4.4. **Options Related to the** URL **Field.**

4.4.1. *--urltonote.* The `--urltonote` option is meant to create a `.bib` file
for processing in documents whose `.bst` file does not honor

```
@...{...,
  URL = {...},
}
```

fields. It causes entries of all types

```
@...{...,
   ... = {...},
  URL = {http://www.optpde.net/},
}
```

to be transcribed according to

```
@...{...,
   ... = {...},
  NOTE = {\url{http://www.optpde.net/}},
}
```

4.5. Options Related to Author Names.

4.5.1. *--giveninits*. Most but not all `.bst` files abbreviate authors' and editors' given names. This option is meant to create a `.bib` file for processing in documents whose `.bst` file does not abbreviate given names, particularly in the case that your `.bib` file may have some entries with abbreviated given names and other entries with complete given names. This option causes entries of all types

```
@...{...,
  AUTHOR = {Hoffmann, Karl-Heinz},
}
```

to be transcribed according to

```
@...{...,
  AUTHOR = {Hoffmann, K.-H.},
}
```

and entries of all types

```
@...{...,
  EDITOR = {Hoffmann, Karl-Heinz},
}
```

to be transcribed according to

```
@...{...,
  EDITOR = {Hoffmann, K.-H.},
}
```

4.5.2. *--protectfamilynames*. Some `.bst` files do not correctly handle multi-part author and editor family names. This option causes entries of all types

```
@...{...,
  AUTHOR = {Hoffmann, Karl-Heinz},
}
```

to be transcribed according to

```
@...{...,
  AUTHOR = {{Hoffmann}, K.-H.},
}
```

and entries of all types

```
@...{...,
  EDITOR = {Hoffmann, Karl-Heinz},
}
```

to be transcribed according to

```
@...{...,
  EDITOR = {{Hoffmann}, K.-H.},
}
```

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