

# Lua

the context libraries

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## 1 Introduction

Once we started the Lua<sub>TEX</sub> project it didn't take long for Con<sub>TEX</sub>t to use the Lua language extensively. And so, rather soon, a bunch of libraries evolved that provided all kind of helpers. Because Lua<sub>TEX</sub> can also act as a Lua interpreter, and because we have `mtxrun` as script runner we can also use some of those libraries outside Con<sub>TEX</sub>t. So, for me, a rather natural way to run a Lua script is:

```
mtxrun --script myscript.lua <optional arguments>
```

The advantage of this approach is that you operate in the same file domain as your <sub>TEX</sub> runs as all file locators are preloaded as well. However, in some cases this is not possible, for instance when you run a stock Lua or some embedded version. For this we provide an alternative mechanism.

## 2 Making libraries

In the Con<sub>TEX</sub>t distribution there is a script called `mtxlibs.lua` that can create a library for you that has the basic general purpose Con<sub>TEX</sub>t libraries on board, as well as whatever more you specify.

```
lua mtxlibs.lua --selfmerge myproject-a-libs.lua
lua mtxlibs.lua --selfmerge myproject-b-libs.lua \
  trac-lmx
lua mtxlibs.lua --selfmerge myproject-c-libs.lua \
  util-sql util-sql-imp-client util-sql-imp-library
```

Here we create three libs. The first one has only the core libraries. You can read more about what they provide in the `cld-mkiv.pdf` manual. The second library includes code for creating web pages. The third variant preloads sql support.

You can best run this file in its own directory, in the Con<sub>TEX</sub>t tree, so that it knows where to find the libraries needed. Of course you can put the result everywhere you want, preferably alongside your normal scripts. As we merge code, this is a rather good way to prevent compatibility issues. After all, some of the code might get improved.

You can `require("mtxlibs")` directly in which case it will load the core libraries runtime. Of course this means that Lua should be able to figure out where it can find them.

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