

The 'xdgdirs' Manual

Version 2.2

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1 Introduction

‘`xdgdirs`’ is a program that displays the names and values of the six `XDG_*` env vars related to the [XDG Basedir Specification](#), formatted as a Scheme- and Lisp-friendly alist, or optionally as an associative array in the literal data syntax of various languages.

Other programs can invoke ‘`xdgdirs`’ to obtain the required data in one shot, avoiding the need to implement the (admittedly simple, but anyway fiddly¹ and memory consuming) algorithms involved.

There are four (or three, depending on language) data types represented in the output: symbols, strings, list of strings, and the number 0. For Scheme and Lisp, the name is a symbol; for the other languages, it is a string. Also, “list of strings” can be read as “array of strings” or “sequence of strings” in other languages. Here is a table:

env var	name	value type
<code>XDG_DATA_HOME</code>	<code>data-home</code>	string
<code>XDG_CONFIG_HOME</code>	<code>config-home</code>	string
<code>XDG_DATA_DIRS</code>	<code>data-dirs</code>	list of strings
<code>XDG_CONFIG_DIRS</code>	<code>config-dirs</code>	list of strings
<code>XDG_CACHE_HOME</code>	<code>cache-home</code>	string
<code>XDG_RUNTIME_DIR</code>	<code>runtime-dir</code>	string

The number 0 indicates “not available”, possible for any of the six values, especially when given the ‘`--no-defaults`’ option. For example, here is a simple invocation on the author’s computer, where there are no `XDG_*` env vars set:

```
$ xdgdirs
((data-home . "/home/ttn/.local/share")
 (config-home . "/home/ttn/.config")
 (data-dirs "/usr/local/share" "/usr/share")
 (config-dirs "/etc/xdg")
 (cache-home . "/home/ttn/.cache")
 (runtime-dir . 0))
```

The output here has been reformatted to be more human readable; the actual output appears on one line. Note that `runtime-dir` has no default value and thus is “not available”. Here is a more complicated invocation:

```
$ xdgdirs cool --lang json
{
  "data-home" : "/home/ttn/.local/share/cool",
  "config-home" : "/home/ttn/.config/cool",
  "data-dirs" : ["/usr/local/share/cool", "/usr/share/cool"],
  "config-dirs" : ["/etc/xdg/cool"],
  "cache-home" : "/home/ttn/.cache/cool",
  "runtime-dir" : 0
}
```

(This output is reproduced exactly.) See [Chapter 2 \[Invoking `xdgdirs`\]](#), page 2, for details.

¹ whitespace trimming, trailing ‘/’ (slash) removal, empty value normalization, and so on

2 Invoking xgdirds

In addition to the usual ‘--help’ and ‘--version’ invocations, usage is straightforward:

```
xdgdirs [package] [options]
```

If *package* is specified, it is appended to all the (directory) strings, separated from its parent directory by ‘/’ (slash). Options are:

--sequence

-s Instead of displaying all the variables as a single data structure (alist or associative array), display the name/value pairs, each on a line of its own, without intervening syntax, e.g., ‘,’ (comma). For example:

```
$ xgdirds --sequence
(data-home . "/home/ttn/.local/share")
(config-home . "/home/ttn/.config")
(data-dirs "/usr/local/share" "/usr/share")
(config-dirs "/etc/xdg")
(cache-home . "/home/ttn/.cache")
(runtime-dir . 0)
```

--no-defaults

-D The specification provides for default values in the case where an `XDG_foo` env var is not set (or empty). This option inhibits those values so that the value is 0 (not available). For example:

```
$ xgdirds --no-defaults
((data-home . 0)
 (config-home . 0)
 (data-dirs . 0)
 (config-dirs . 0)
 (cache-home . 0)
 (runtime-dir . 0))
```

--lang lang

-l lang This option specifies that output should be in the syntax of *lang*, one of:

sexp Each pair has one the forms:

```
(symbol . 0)
(symbol . string)
(symbol string ...)
```

The aggregate is a classic alist. This is the default if ‘--lang’ is unspecified.

json Each pair has one of the forms:

```
string : 0
string : string
string : [ string, ... ]
```

Pairs are separated by ‘,’ (comma) and the aggregate surrounded by ‘{’ and ‘}’ (curly braces).

bash Each pair has one of the forms:

```
[symbol]=0
[symbol]="dir"
[symbol]="dir:..."
```

The aggregate is surrounded by ‘(’ and ‘)’ (parens).

- `perl` Each pair has one of the forms:
- ```
string => 0
string => string
string => [string, ...]
```
- Pairs are separated by ‘,’ (comma) and the aggregate surrounded by ‘(’ and ‘)’ (parens).
- `lua` Each pair has one of the forms:
- ```
[string] = 0
[string] = string
[string] = { string, ... }
```
- Pairs are separated by ‘,’ (comma) and the aggregate surrounded by ‘{’ and ‘}’ (curly braces).
- `yaml` Each pair has one of the forms:
- ```
symbol: 0
symbol: string
symbol: [string, ...]
```
- For ‘`--lang yaml`’, option `-sequence` has no effect; The output is a top-level (unindented) mapping.

For any other *lang*, ‘`xdgdirs`’ displays to `stderr` “unrecognized lang” and exits fail-urefully.

If all goes well, after displaying the output, ‘`xdgdirs`’ exits successfully.

## 3 Dependencies

There are three kinds of dependencies: operational, data and community.

### 3.1 operational

First the operational dependency: ‘`xdgdirs`’ is a Guile Scheme script, so it needs Guile (any version) to run. Normally, it uses the first `guile` executable found in the `PATH` env var. You can use env var `GUILE` to override this. For instance:

```
GUILE=$HOME/experimental/guile-42 xgdirts ...
```

If no Guile is available, the shell will probably complain loudly.

### 3.2 data

Now for the data dependency: Obviously, the whole point of ‘`xdgdirs`’ is to look at certain `XDG_*` env vars (see [\[list\]](#), [page 1](#)). Additionally, in the case of unspecified `XDG_*` env vars many of the default values ‘`xdgdirs`’ must ascertain are “user-specific” and involve the user’s “home directory”. ‘`xdgdirs`’ computes this as follows:

1. If `HOME` is useful, use it.
2. Otherwise, try to find the appropriate pwent:
  1. via login
    1. If `LOGNAME` is useful, use it.
    2. Otherwise, if `USER` is useful, use it.
  2. via uid

Here, *useful* means the env var is set and has a non-empty value. If the user’s home directory cannot be determined, ‘`xdgdirs`’ displays to `stderr` a diagnostic to that effect and exits failurefully.

### 3.3 community

Lastly, the community dependency: The aim of ‘`xdgdirs`’ is to serve a wide community of programmers, beyond those who happen to prefer its implementation language and default output syntax. Its long-term viability depends on feedback: bug-reports, (occasional) feature requests, and plain old word-of-mouth advertizing. So, do be heard — spread the word!

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