Scheme: Compatibility Libraries and Executables

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Racket was once called "PLT Scheme," and a number of libraries with names starting `scheme` provide compatibility with the old name. A few old executables are also provided.

Do not use `#lang scheme` to start new projects; `#lang racket` is the preferred language.

Contents

1 scheme

```
(require scheme)
```

The scheme library re-exports racket, except based on scheme/base instead of racket/base, the struct and struct/ctc from scheme/unit is exported, scheme/set is not re-exported, scheme/system is not re-exported, pretty-print is re-directed in as scheme/pretty, and scheme/nest is re-exported.

2 scheme/base

```
(require scheme/base)
```

The scheme/base library re-exports racket/base, except that racket's struct, hash, hasheq, hasheqv, in-directory, and local-require are not exported, and make-base-namespace and make-base-empty-namespace are different.

(make-base-empty-namespace) → namespace?

Like make-base-empty-namespace from racket/base, but with scheme/base attached.

(make-base-namespace) → namespace?

Like make-base-namespace from racket/base, but with scheme/base attached.

3 scheme/async-channel

```
(require scheme/async-channel)
```

The scheme/async-channel library re-exports racket/async-channel.

4 scheme/bool

```
(require scheme/bool)
```

The scheme/bool library re-exports racket/bool.

5 scheme/class

```
(require scheme/class)
```

The scheme/class library re-exports racket/class, except that writable<%> is exported under the name printable<%> (and printable<%> from racket/class is not exported).

printable<%> : interface?

An alias for writable<%>.

6 scheme/cmdline

```
(require scheme/cmdline)
```

The scheme/cmdline library re-exports racket/cmdline.

7 scheme/contract

```
(require scheme/contract)
```

The scheme/contract library re-exports racket/contract.

8 scheme/control

```
(require scheme/control)
```

The scheme/control library re-exports racket/control.

9 scheme/date

```
(require scheme/date)
```

The scheme/date library re-exports racket/date.

10 scheme/dict

```
(require scheme/dict)
```

The scheme/dict library re-exports racket/dict.

11 scheme/file

```
(require scheme/file)
```

The scheme/file library re-exports racket/file.

12 scheme/fixnum

```
(require scheme/fixnum)
```

The scheme/fixnum library re-exports racket/fixnum.

13 scheme/flonum

```
(require scheme/flonum)
```

The scheme/flonum library re-exports racket/flonum.

14 scheme/foreign

```
(require scheme/foreign)
```

The scheme/foreign library re-exports ffi/unsafe, ffi/unsafe/cvector, and ffi/vector, except that unsafe! must be used to import the unsafe bindings of ffi/unsafe and ffi/unsafe/cvector.

```
(unsafe!)
```

Makes unsafe bindings available.

```
(provide* provide-star-spec ...)

provide-star-spec = (unsafe id)
                  | (unsafe (rename-out [id external-id]))
                  | provide-spec
```

Like provide, but *id*s under unsafe are not actually provided. Instead, they are collected for introduction into an importing module via a macro created by define-unsafer.

```
(define-unsafer id)
```

Cooperates with provide* to define *id* as a unsafe!-like form that introduces definitions for each binding provided as unsafe. The define-unsafer form must occur after all the provide* forms to which it refers.

15 scheme/function

```
(require scheme/function)
```

The scheme/function library re-exports racket/function.

16 scheme/future

```
(require scheme/future)
```

The scheme/future library re-exports racket/future.

17 scheme/generator

```
(require scheme/generator)
```

The scheme/generator library re-exports racket/generator.

18 scheme/gui

```
(require scheme/gui)
```

The scheme/gui library re-exports racket/gui, except that it builds on scheme/gui/base instead of racket/gui/base.

19 scheme/gui/base

```
(require scheme/gui/base)
```

The scheme/gui/base library re-exports racket/gui/base, except that it builds on scheme instead of racket.

(make-gui-empty-namespace) → namespace?

Like make-base-empty-namespace, but with scheme/class and scheme/gui/base also attached to the result namespace.

(make-gui-namespace) → namespace?

Like make-base-namespace, but with scheme/class and scheme/gui/base also required into the top-level environment of the result namespace.

20 scheme/gui/dynamic

```
(require scheme/gui/dynamic)
```

The scheme/gui/dynamic library re-exports racket/gui/dynamic, except that gui-dynamic-require extracts bindings from mred instead of scheme/gui/base.

```
(gui-dynamic-require sym) → any
  sym : symbol?
```

Like gui-dynamic-require from racket/gui/base, but to access exports of scheme/gui/base.

21 scheme/help

```
(require scheme/help)
```

The scheme/help library re-exports racket/help.

22 scheme/include

```
(require scheme/include)
```

The scheme/include library re-exports racket/include.

23 scheme/init

```
(require scheme/init)
```

The scheme/init library re-exports racket/init, except that it builds on scheme instead pf racket.

24 scheme/language-info

```
(require scheme/language-info)
```

The scheme/language-info library is like racket/language-info, except that it produces '(#(scheme/runtime-config configure #f)) for the 'configure-runtime information key.

See also scheme/runtime-config.

25 scheme/list

```
(require scheme/list)
```

The scheme/list library re-exports racket/list.

26 scheme/load

```
(require scheme/load)
```

The scheme/load library re-exports racket/load.

27 scheme/local

```
(require scheme/local)
```

The scheme/local library re-exports racket/local.

28 scheme/match

```
(require scheme/match)
```

The scheme/match library re-exports racket/match.

29 scheme/math

```
(require scheme/math)
```

The scheme/math library re-exports racket/math.

30 scheme/mpair

```
(require scheme/mpair)
```

The scheme/mpair library re-exports compatibility/mlist.

31 scheme/nest

```
(require scheme/nest)
```

```
(nest ([datum ...+] ...) body ...+)
```

Combines nested expressions that syntactically drift to the right into a more linear textual format, much in the same way that `let*` linearizes a sequence of nested `let` expressions.

For example,

```
(nest ([let ([x 10]
             [y 6])]
       [with-handlers ([exn:fail? (lambda (x) 15)])]
       [parameterize ([current-output-port (current-error-port)])]
       [let-values ([(d r) (quotient/remainder x y)])])
  (display (+ d r)))
```

is equivalent to

```
(let ([x 10]
      [y 6])
  (with-handlers ([exn:fail? (lambda (x) 15)])
    (parameterize ([current-output-port (current-error-port)])
      (let-values ([(d r) (quotient/remainder x y)])
        (display (+ d r))))))
```

The `nest` form is unusual in that it has no semantics apart from its expansion, and its implementation is easier to understand than a precise prose description:

```
(define-syntax nest
  (syntax-rules ()
    [(nest () body0 body ...)
     (let () body0 body ...)]
    [(nest ([form forms ...]) body0 body ...)
     (form forms ... (let () body0 body ...))]
    [(nest ([form forms ...] . more) body0 body ...)
     (form forms ... (nest more body0 body ...))]))
```

32 scheme/package

```
(require scheme/package)
```

The scheme/package library re-exports compatibility/package.

33 scheme/path

```
(require scheme/path)
```

The scheme/path library re-exports racket/path.

34 scheme/port

```
(require scheme/port)
```

The scheme/port library re-exports racket/port.

35 scheme/pretty

```
(require scheme/pretty)
```

The scheme/pretty library re-exports racket/pretty, except that pretty-write is exported under the name pretty-print (and pretty-print from racket/pretty is not exported).

```
(pretty-print v [port]) → void?
  v : any/c
  port : output-port? = (current-output-port)
```

An alias for pretty-write.

36 scheme/promise

```
(require scheme/promise)
```

The scheme/promise library re-exports racket/promise.

37 scheme/provide

```
(require scheme/provide)
```

The scheme/provide library re-exports racket/provide.

38 scheme/provide-syntax

```
(require scheme/provide-syntax)
```

The scheme/provide-syntax library re-exports racket/provide-syntax.

39 scheme/provide-transform

```
(require scheme/provide-transform)
```

The scheme/provide-transform library re-exports racket/provide-transform.

40 scheme/require

```
(require scheme/require)
```

The scheme/require library re-exports racket/require.

41 scheme/require-syntax

```
(require scheme/require-syntax)
```

The scheme/require-syntax library re-exports racket/require-syntax.

42 scheme/require-transform

```
(require scheme/require-transform)
```

The scheme/require-transform library re-exports racket/require-transform.

43 scheme/runtime-config

```
(require scheme/runtime-config)
```

The scheme/runtime-config library is like racket/runtime-config, except that the result of its configure function is a procedure that sets print-as-expression to #f.

44 scheme/runtime-path

```
(require scheme/runtime-path)
```

The scheme/runtime-path library re-exports racket/runtime-path.

45 scheme/sandbox

```
(require scheme/sandbox)
```

The scheme/sandbox library re-exports racket/sandbox, except that sandbox-namespace-specs, make-evaluator, and make-module-evaluator are replaced.

```
(sandbox-namespace-specs) → (cons/c (-> namespace?)
                                    (listof module-path?))
(sandbox-namespace-specs spec) → void?
  spec : (cons/c (-> namespace?)
                 (listof module-path?))
```

Like sandbox-namespace-specs from racket/sandbox, but the default is (list make-base-namespace) if gui? is #f, (list make-gui-namespace) if gui? is #t.

```
(make-evaluator language
                input-program ...
                #:requires requires
                #:allow-read allow) → (any/c . -> . any)
            (or/c module-path?
  language :      (list/c 'special symbol?)
                  (cons/c 'begin list?))
  input-program : any/c
  requires : (listof (or/c module-path? path?))
  allow : (listof (or/c module-path? path?))
(make-module-evaluator module-decl
                       #:language lang
                       #:allow-read allow) → (any/c . -> . any)
  module-decl : (or/c syntax? pair?)
  lang : (or/c #f module-path?)
  allow : (listof (or/c module-path? path?))
```

Like make-evaluator and make-module-evaluator from racket/sandbox, but the value of the sandbox-namespace-specs parameter is installed as the value of sandbox-namespace-specs from racket/sandbox before chaining to make-evaluator and make-module-evaluator from racket/sandbox.

46 scheme/serialize

```
(require scheme/serialize)
```

The scheme/serialize library re-exports racket/serialize.

47 scheme/set

```
(require scheme/set)
```

The scheme/set library re-exports racket/set.

48 scheme/signature

```
(require scheme/signature)
```

The scheme/signature library re-exports racket/signature.

49 scheme/shared

```
(require scheme/shared)
```

The scheme/shared library re-exports racket/shared.

50 scheme/splicing

```
(require scheme/splicing)
```

The scheme/splicing library re-exports racket/splicing.

51 scheme/string

```
(require scheme/string)
```

The scheme/string library re-exports racket/string.

52 scheme/struct-info

```
(require scheme/struct-info)
```

The scheme/struct-info library re-exports racket/struct-info.

53 scheme/stxparam

```
(require scheme/stxparam)
```

The scheme/stxparam library re-exports racket/stxparam.

54 scheme/stxparam-exptime

```
(require scheme/stxparam-exptime)
```

The scheme/stxparam-exptime library re-exports racket/stxparam-exptime.

55 scheme/surrogate

```
(require scheme/surrogate)
```

The scheme/surrogate library re-exports racket/surrogate.

56 scheme/system

```
(require scheme/system)
```

The scheme/system library re-exports racket/system.

57 scheme/tcp

```
(require scheme/tcp)
```

The scheme/tcp library re-exports racket/tcp.

58 scheme/trait

```
(require scheme/trait)
```

The scheme/trait library re-exports racket/trait.

59 scheme/udp

```
(require scheme/udp)
```

The scheme/udp library re-exports racket/udp.

60 scheme/unit

```
(require scheme/unit)
```

The scheme/unit library re-exports racket/unit, except that struct and struct/ctc are struct~s and struct~s/ctc from mzlib/unit instead of struct from racket/base and struct/ctc from racket/unit.

61 scheme/unit-exptime

```
(require scheme/unit-exptime)
```

The scheme/unit-exptime library re-exports racket/unit-exptime.

62 scheme/unsafe/ops

```
(require scheme/unsafe/ops)
```

The scheme/unsafe/ops library re-exports racket/unsafe/ops.

63 scheme/vector

```
(require scheme/vector)
```

The scheme/vector library re-exports racket/vector.

64 mred

```
(require mred)
```

The mred library is like scheme/gui/base, except that it provides variants of make-gui-namespace and make-gui-empty-namespace that attach mred instead of scheme/gui/base.

Both scheme/gui/base and racket/gui/base depend on mred, so it is attached by all variants of make-gui-empty-namespace.

```
(require mred/mred)
```

The mred library actually just re-exports mred/mred, which is an even older name for the library.

65 Compatibility Executables

The following executables are included in the Racket distribution for compatibility with older versions of Racket:

- `mzscheme` — the same a `racket -I scheme/init`
- `mred` — the same a `gracket -I scheme/gui/init`
- `drscheme` — the same as `drracket`
- `mzc` — an old interface to some of the tools provided by `raco`, including `raco make` and `raco ctool`; use `mzc --help` for more information
- `plt-help` — the same as `raco docs`