



## ***Rocky Enterprise Linux 9.2 Manual Pages on command 'Params::Util.3pm'***

### **C:\>man Params::Util.3pm**

Params::Util(3pm)      User Contributed Perl Documentation      Params::Util(3pm)

#### NAME

Params::Util - Simple, compact and correct param-checking functions

#### SYNOPSIS

```
# Import some functions
use Params::Util qw{ _SCALAR _HASH _INSTANCE };
# If you are lazy, or need a lot of them...
use Params::Util ':ALL';
sub foo {
    my $object = _INSTANCE(shift, 'Foo') or return undef;
    my $image = _SCALAR(shift) or return undef;
    my $options = _HASH(shift) or return undef;
    # etc...
}
```

#### DESCRIPTION

"Params::Util" provides a basic set of importable functions that makes checking parameters a hell of a lot easier

While they can be (and are) used in other contexts, the main point behind this module is that the functions both Do What You Mean, and Do The Right Thing, so they are most useful when you are getting params passed into your code from someone and/or somewhere else and you can't really trust the quality.

Thus, "Params::Util" is of most use at the edges of your API, where params and data

are coming in from outside your code.

The functions provided by "Params::Util" check in the most strictly correct manner known, are documented as thoroughly as possible so their exact behaviour is clear, and heavily tested so make sure they are not fooled by weird data and Really Bad Things.

To use, simply load the module providing the functions you want to use as arguments (as shown in the SYNOPSIS).

To aid in maintainability, "Params::Util" will never export by default.

You must explicitly name the functions you want to export, or use the ":ALL" param to just have it export everything (although this is not recommended if you have any `_FOO` functions yourself with which future additions to "Params::Util" may clash)

## FUNCTIONS

### `_STRING $string`

The "`_STRING`" function is intended to be imported into your package, and provides a convenient way to test to see if a value is a normal non-false string of non-zero length.

Note that this will NOT do anything magic to deal with the special '0' false negative case, but will return it.

```
# '0' not considered valid data
```

```
my $name = _STRING(shift) or die "Bad name";
```

```
# '0' is considered valid data
```

```
my $string = _STRING($_[0]) ? shift : die "Bad string";
```

Please also note that this function expects a normal string. It does not support overloading or other magic techniques to get a string.

Returns the string as a convenience if it is a valid string, or "undef" if not.

### `_IDENTIFIER $string`

The "`_IDENTIFIER`" function is intended to be imported into your package, and provides a convenient way to test to see if a value is a string that is a valid Perl identifier.

Returns the string as a convenience if it is a valid identifier, or "undef" if not.

### `_CLASS $string`

The "`_CLASS`" function is intended to be imported into your package, and provides a convenient way to test to see if a value is a string that is a valid Perl class.

This function only checks that the format is valid, not that the class is actually loaded. It also assumes "normalised" form, and does not accept class names such as "::Foo" or "D'Oh".

Returns the string as a convenience if it is a valid class name, or "undef" if not.

#### `_CLASSISA $string, $class`

The "`_CLASSISA`" function is intended to be imported into your package, and provides a convenient way to test to see if a value is a string that is a particularly class, or a subclass of it.

This function checks that the format is valid and calls the `->isa` method on the class name. It does not check that the class is actually loaded.

It also assumes "normalised" form, and does not accept class names such as "::Foo" or "D'Oh".

Returns the string as a convenience if it is a valid class name, or "undef" if not.

#### `_CLASSDOES $string, $role`

This routine behaves exactly like "`_CLASSISA`", but checks with `->DOES` rather than `->isa`. This is probably only a good idea to use on Perl 5.10 or later, when `UNIVERSAL::DOES` has been implemented.

#### `_SUBCLASS $string, $class`

The "`_SUBCLASS`" function is intended to be imported into your package, and provides a convenient way to test to see if a value is a string that is a subclass of a specified class.

This function checks that the format is valid and calls the `->isa` method on the class name. It does not check that the class is actually loaded.

It also assumes "normalised" form, and does not accept class names such as "::Foo" or "D'Oh".

Returns the string as a convenience if it is a valid class name, or "undef" if not.

#### `_NUMBER $scalar`

The "`_NUMBER`" function is intended to be imported into your package, and provides a convenient way to test to see if a value is a number. That is, it is defined and perl thinks it's a number.

This function is basically a `Params::Util`-style wrapper around the `Scalar::Util` "`looks_like_number`" function.

Returns the value as a convenience, or "undef" if the value is not a number.

## `_POSINT $integer`

The "`_POSINT`" function is intended to be imported into your package, and provides a convenient way to test to see if a value is a positive integer (of any length).

Returns the value as a convenience, or "undef" if the value is not a positive integer.

The name itself is derived from the XML schema constraint of the same name.

## `_NONNEGINT $integer`

The "`_NONNEGINT`" function is intended to be imported into your package, and provides a convenient way to test to see if a value is a non-negative integer (of any length). That is, a positive integer, or zero.

Returns the value as a convenience, or "undef" if the value is not a non-negative integer.

As with other tests that may return false values, care should be taken to test via "defined" in boolean valid contexts.

```
unless ( defined _NONNEGINT($value) ) {  
    die "Invalid value";  
}
```

The name itself is derived from the XML schema constraint of the same name.

## `_SCALAR \ $scalar`

The "`_SCALAR`" function is intended to be imported into your package, and provides a convenient way to test for a raw and unblessed "SCALAR" reference, with content of non-zero length.

For a version that allows zero length "SCALAR" references, see the "`_SCALAR0`" function.

Returns the "SCALAR" reference itself as a convenience, or "undef" if the value provided is not a "SCALAR" reference.

## `_SCALAR0 \ $scalar`

The "`_SCALAR0`" function is intended to be imported into your package, and provides a convenient way to test for a raw and unblessed "SCALAR0" reference, allowing content of zero-length.

For a simpler "give me some content" version that requires non-zero length, "`_SCALAR`" function.

Returns the "SCALAR" reference itself as a convenience, or "undef" if the value

provided is not a "SCALAR" reference.

#### `_ARRAY $value`

The "`_ARRAY`" function is intended to be imported into your package, and provides a convenient way to test for a raw and unblessed "ARRAY" reference containing at least one element of any kind.

For a more basic form that allows zero length ARRAY references, see the "`_ARRAY0`" function.

Returns the "ARRAY" reference itself as a convenience, or "undef" if the value provided is not an "ARRAY" reference.

#### `_ARRAY0 $value`

The "`_ARRAY0`" function is intended to be imported into your package, and provides a convenient way to test for a raw and unblessed "ARRAY" reference, allowing "ARRAY" references that contain no elements.

For a more basic "An array of something" form that also requires at least one element, see the "`_ARRAY`" function.

Returns the "ARRAY" reference itself as a convenience, or "undef" if the value provided is not an "ARRAY" reference.

#### `_ARRAYLIKE $value`

The "`_ARRAYLIKE`" function tests whether a given scalar value can respond to array dereferencing. If it can, the value is returned. If it cannot, "`_ARRAYLIKE`" returns "undef".

#### `_HASH $value`

The "`_HASH`" function is intended to be imported into your package, and provides a convenient way to test for a raw and unblessed "HASH" reference with at least one entry.

For a version of this function that allows the "HASH" to be empty, see the "`_HASH0`" function.

Returns the "HASH" reference itself as a convenience, or "undef" if the value provided is not an "HASH" reference.

#### `_HASH0 $value`

The "`_HASH0`" function is intended to be imported into your package, and provides a convenient way to test for a raw and unblessed "HASH" reference, regardless of the "HASH" content.

For a simpler "A hash of something" version that requires at least one element, see the "\_HASH" function.

Returns the "HASH" reference itself as a convenience, or "undef" if the value provided is not an "HASH" reference.

#### `_HASHLIKE $value`

The "\_HASHLIKE" function tests whether a given scalar value can respond to hash dereferencing. If it can, the value is returned. If it cannot, "\_HASHLIKE" returns "undef".

#### `_CODE $value`

The "\_CODE" function is intended to be imported into your package, and provides a convenient way to test for a raw and unblessed "CODE" reference.

Returns the "CODE" reference itself as a convenience, or "undef" if the value provided is not an "CODE" reference.

#### `_CODELIKE $value`

The "\_CODELIKE" is the more generic version of "\_CODE". Unlike "\_CODE", which checks for an explicit "CODE" reference, the "\_CODELIKE" function also includes things that act like them, such as blessed objects that overload '&{}'.

Please note that in the case of objects overloaded with '&{}', you will almost always end up also testing it in 'bool' context at some stage.

For example:

```
sub foo {  
    my $code1 = _CODELIKE(shift) or die "No code param provided";  
    my $code2 = _CODELIKE(shift);  
    if ( $code2 ) {  
        print "Got optional second code param";  
    }  
}
```

As such, you will most likely always want to make sure your class has at least the following to allow it to evaluate to true in boolean context.

```
# Always evaluate to true in boolean context  
use overload 'bool' => sub () { 1 };
```

Returns the callable value as a convenience, or "undef" if the value provided is not callable.

Note - This function was formerly known as `_CALLABLE` but has been renamed for greater symmetry with the other `_XXXXLIKE` functions.

The use of `_CALLABLE` has been deprecated. It will continue to work, but with a warning, until end-2006, then will be removed.

I apologise for any inconvenience caused.

#### `_INVOCANT $value`

This routine tests whether the given value is a valid method invocant. This can be either an instance of an object, or a class name.

If so, the value itself is returned. Otherwise, `"_INVOCANT"` returns `"undef"`.

#### `_INSTANCE $object, $class`

The `"_INSTANCE"` function is intended to be imported into your package, and provides a convenient way to test for an object of a particular class in a strictly correct manner.

Returns the object itself as a convenience, or `"undef"` if the value provided is not an object of that type.

#### `_INSTANCEDOES $object, $role`

This routine behaves exactly like `"_INSTANCE"`, but checks with `"->DOES"` rather than `"->isa"`. This is probably only a good idea to use on Perl 5.10 or later, when `UNIVERSAL::DOES` has been implemented.

#### `_REGEX $value`

The `"_REGEX"` function is intended to be imported into your package, and provides a convenient way to test for a regular expression.

Returns the value itself as a convenience, or `"undef"` if the value provided is not a regular expression.

#### `_SET \@array, $class`

The `"_SET"` function is intended to be imported into your package, and provides a convenient way to test for set of at least one object of a particular class in a strictly correct manner.

The set is provided as a reference to an `"ARRAY"` of objects of the class provided.

For an alternative function that allows zero-length sets, see the `"_SET0"` function.

Returns the `"ARRAY"` reference itself as a convenience, or `"undef"` if the value provided is not a set of that class.

#### `_SET0 \@array, $class`

The "\_SET0" function is intended to be imported into your package, and provides a convenient way to test for a set of objects of a particular class in a strictly correct manner, allowing for zero objects.

The set is provided as a reference to an "ARRAY" of objects of the class provided.

For an alternative function that requires at least one object, see the "\_SET" function.

Returns the "ARRAY" reference itself as a convenience, or "undef" if the value provided is not a set of that class.

## \_HANDLE

The "\_HANDLE" function is intended to be imported into your package, and provides a convenient way to test whether or not a single scalar value is a file handle.

Unfortunately, in Perl the definition of a file handle can be a little bit fuzzy, so this function is likely to be somewhat imperfect (at first anyway).

That said, it is implemented as well or better than the other file handle detectors in existence (and we stole from the best of them).

## \_DRIVER \$string

```
sub foo {  
    my $class = _DRIVER(shift, 'My::Driver::Base') or die "Bad driver";  
    ...  
}
```

The "\_DRIVER" function is intended to be imported into your package, and provides a convenient way to load and validate a driver class.

The most common pattern when taking a driver class as a parameter is to check that the name is a class (i.e. check against \_CLASS) and then to load the class (if it exists) and then ensure that the class returns true for the isa method on some base driver name.

Return the value as a convenience, or "undef" if the value is not a class name, the module does not exist, the module does not load, or the class fails the isa test.

## TO DO

- Add \_CAN to help resolve the UNIVERSAL::can debacle
- Would be even nicer if someone would demonstrate how the hell to build a Module::Install dist of the ::Util dual Perl/XS type. :/
- Implement an assertion-like version of this module, that dies on error.

- Implement a Test:: version of this module, for use in testing

## SUPPORT

Bugs should be reported via the CPAN bug tracker at

<http://rt.cpan.org/NoAuth/ReportBug.html?Queue=Params-Util>

For other issues, contact the author.

## AUTHOR

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## SEE ALSO

Params::Validate

## COPYRIGHT

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