Testing Hooks

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Three arguments in chunk hooks

A chunk hook has three arguments: `before`, `options` and `envir`. We show how they work through some simple examples.

The `before` argument

It is a logical argument: `before == TRUE` executes code before a chunk.

```
library(knitr)
knit_hooks$set(foo1 = function(before, options, envir) {
  if (before) {
    '_I appear before a chunk!_\n\n'
  } else {
    '\n\n_I am after a chunk..._'
  }
})
```

Test the `foo1` hook:

I appear before a chunk!

```
1+1
```

```
## [1] 2
```

I am after a chunk...

The `options` argument

It contains all the chunk options (include global options) for the current chunk.

```
knit_hooks$set(foo2 = function(before, options, envir) {
  if (!before) {
    z = capture.output(str(options[c('eval', 'dev', 'results', 'bar1', 'bar2', 'bar3','label')]))
    z = paste('    ', z, sep = '', collapse = '\n')
    paste('Some chunk options in the above chunk are:\n\n', z, sep = '')
  }
})
```

Test the `foo2` hook:

```
1+1
```

```
## [1] 2
```

Some chunk options in the above chunk are:

```
List of 7
 $ eval   : logi TRUE
 $ dev    : chr "pdf"
 $ results: chr "markup"
 $ bar1   : logi TRUE
 $ bar2   : chr "asdf"
 $ bar3   : num 3.14
 $ label  : chr "SpecialFooChunk"
```

The `envir` argument

It is the environment of the current chunk.

```
knit_hooks$set(foo3 = function(before, options, envir) {
  if (!before) {
    paste('Objects available in the above chunk:',
          paste('`', ls(envir), '`', sep = '', collapse = ', '))
  }
})
```

Test the `foo3` hook:

```
x2=1+1; y3=rnorm(10)
```

Objects available in the above chunk: `x2`, `y3`

Another example:

```
knit_hooks$set(foo4 = function(before, options, envir) {
  if (!before && exists('z5', envir = envir)) {
    sprintf('**Ha! I see z5 = %.3f!**', envir$z5)
  }
})
```

Test `foo4`:

```
pi
```

```
## [1] 3.141593
```

This above chunk is quiet because `z5` does not exist yet.

```
z5=2*pi
```

Ha! I see z5 = 6.283!

```
knit_hooks$set(rgl = function(before, options, envir) {
  if (!before) {
    ## after a chunk has been evaluated
    if (rgl.cur() == 0) return()  # no active device
    name = paste(options$fig.path, options$label, sep = '')
    rgl.snapshot(paste(name, '.png', sep = ''), fmt = 'png')
    return(paste('\\includegraphics{', name, '}\n', sep = ''))
  }
})
```

And the code chunk may look like this:

```r
library(rgl)  # example taken from ?plot3d
open3d()
x = sort(rnorm(1000)); y = rnorm(1000); z = rnorm(1000) + atan2(x,y)
plot3d(x, y, z, col = rainbow(1000))
```