Simple JSON RPC with OpenCPU

The jsonlite package is used by OpenCPU to convert between JSON data and R objects. Thereby clients can retrieve R objects, or remotely call R functions using JSON where the function arguments as well as function return value are JSON objects. For example to download the Boston data from the MASS package:

Command in R	Example URL on OpenCPU
toJSON(Boston, digits=4)	https://cran.ocpu.io/MASS/data/Boston/json?digits=4
toJSON(Boston, dataframe="col")	https://cran.ocpu.io/MASS/data/Boston/json?dataframe=col
toJSON(Boston, pretty=FALSE)	https://cran.ocpu.io/MASS/data/Boston/json?pretty=false

To calculate the variance of some the numbers 1:9 in the command line using using curl:

```
curl https://cran.ocpu.io/stats/R/var/json -d "x=[1,2,3,4,5,6,7,8,9]"
```

Or equivalently post the entire body in JSON format:

```
curl https://cran.ocpu.io/stats/R/var/json -H "Content-Type: application/json" \
-d "{\"x\":[1,2,3,4,5,6,7,8,9]}"
```

Below an example where we call the melt function from the reshape2 package using some example rows from the airquality data. Here both input and output consist of a data frame.

```
curl https://cran.ocpu.io/reshape2/R/melt/json -d 'id=["Month", "Day"]&data=[
  { "Ozone" : 41, "Solar.R" : 190, "Wind" : 7.4, "Temp" : 67, "Month" : 5, "Day" : 1 },
  { "Ozone" : 36, "Solar.R" : 118, "Wind" : 8, "Temp" : 72, "Month" : 5, "Day" : 2 } ]'
```

Or equivalently:

```
curl https://cran.ocpu.io/reshape2/R/melt/json -H "Content-Type: application/json" \
  -d '{"id" : ["Month", "Day"], "data" : [
    { "Ozone" : 41, "Solar.R" : 190, "Wind" : 7.4, "Temp" : 67, "Month" : 5, "Day" : 1 },
    { "Ozone" : 36, "Solar.R" : 118, "Wind" : 8, "Temp" : 72, "Month" : 5, "Day" : 2 }
  ] }'
```

This request basically executes the following R code:

```r
mydata <- airquality[1:2,]
y <- reshape2::melt(data = mydata, id = c("Month", "Day"))
toJSON(y)
```