

Provide credentials as:

```
{ "user": "<username>", "password": "<password>" }
```

These are replaced within parameters of function calls, e.g. loaded from a library.

```
1 {
2   "credentials": "credentials.json"
3   "server": "https://test.genexptain.com",
4   "reconnect": true,
5   "verbose": true,
6   "replaceStrings": [
7     ["$BASE_FOLDER$", "data/Projects/Automatic_testing/Data/example_folder"],
8     ["$STUDY$", "GSE2639_HUVEC_TNF"],
9     ["$LIMMA_FILE$", "TNF vs. Control"]
10  ],
11  "tasks": [
12    {
13      "do": "createFolder",
14      "path": "data/Projects/Automatic_testing/Data",
15      "name": "example_folder"
16    },
17
18    {
19      "do": "imPort",
20      "file": "cola/automat/GSE2639_HUVEC/GSE2639_HUVEC_TNF_CEL_files.zip",
21      "path": "$BASE_FOLDER$",
22      "importer": "ZIP-archive (*.zip)",
23      "wait": true,
24      "progress": true,
25      "parameters": [
26        { "name": "cleanupFolder", "value": false },
27        { "name": "preserveExtension", "value": false },
28        { "name": "preserveArchiveStructure", "value": true },
29        { "name": "importFormat", "value": "Affymetrix CEL file (*.cel)"}
30      ],
31
32      {
33        "do": "external",
34        "showOutput": true,
35        "bin": "sh",
36        "params": ["gxp_wait.sh", "10"]
37      }
38
39    {
40      "do": "createFolder",
41      "path": "$BASE_FOLDER$",
42      "name": "$STUDY$"
43    },
44
45    {
46      "do": "analyze",
47      "method": "Affymetrix normalization",
48      "wait": true,
49      "progress": true,
50      "parameters": [
51        {
52          "name": "celFiles",
53          "value": [
54            "$BASE_FOLDER$/GSE2639_HUVEC_TNF_CEL_files/GSM50777.CEL",
55            "$BASE_FOLDER$/GSE2639_HUVEC_TNF_CEL_files/GSM50778.CEL",
56            "$BASE_FOLDER$/GSE2639_HUVEC_TNF_CEL_files/GSM50779.CEL",
57            "$BASE_FOLDER$/GSE2639_HUVEC_TNF_CEL_files/GSM50780.CEL",
58            "$BASE_FOLDER$/GSE2639_HUVEC_TNF_CEL_files/GSM50781.CEL",
59            "$BASE_FOLDER$/GSE2639_HUVEC_TNF_CEL_files/GSM50782.CEL",
60            "$BASE_FOLDER$/GSE2639_HUVEC_TNF_CEL_files/GSM50783.CEL",
61            "$BASE_FOLDER$/GSE2639_HUVEC_TNF_CEL_files/GSM50784.CEL"
62          ]
63        },
64        { "name": "method", "value": "RMA" },
65        { "name": "bgCorrection", "value": "RMA" },
66        { "name": "normMethod", "value": "quantiles" },
67        { "name": "pmCorrection", "value": "pmonly" },
68        { "name": "summarization", "value": "medianpolish" },
69        { "name": "cdf", "value": "" },
70        { "name": "outputLogarithmBase", "value": "log2" },
71        { "name": "outputPath", "value": "$BASE_FOLDER$/STUDY$/Normalized (RMA)" }
72      ]
73    },
74
75    {
76      "do": "analyze",
77      "method": "Normalization quality plots",
78      "wait": true,
79      "progress": true,
80      "parameters": [
81        {
82          "name": "inputTablePath",
83          "value": "$BASE_FOLDER$/STUDY$/Normalized (RMA)"
84        },
85        { "name": "inputLogarithmBase", "value": "log2" },
86        { "name": "outputFolderPath", "value": "$BASE_FOLDER$/STUDY$/Normalization_QC_plots" }
87      ]
88    },
89
90    {
91      "do": "analyze",
92      "method": "PCA",
93      "wait": true,
94      "progress": true,
95      "parameters": [
96        {
97          "name": "inputTablePath",
98          "value": "$BASE_FOLDER$/STUDY$/Normalized (RMA)"
99        },
100       {
101         "name": "firstName",
102         "value": "Control"
103       },
104       {
105         "name": "firstColumns",
106         "value": ["GSM50777.CEL", "GSM50778.CEL", "GSM50779.CEL", "GSM50780.CEL"]
107       },
108       {
109         "name": "secondName",
110         "value": "TNF"
111       },
112       {
113         "name": "secondColumns",
114         "value": ["GSM50781.CEL", "GSM50782.CEL", "GSM50783.CEL", "GSM50784.CEL"]
115       },
116       { "name": "outputFolderPath", "value": "$BASE_FOLDER$/STUDY$/PCA" }
117     ],
118
119    {
120      "do": "analyze",
121      "method": "Limma",
122      "wait": true,
123      "progress": true,
124      "parameters": [
125        {
126          "name": "inputTablePath",
127          "value": "$BASE_FOLDER$/STUDY$/Normalized (RMA)"
128        },
129
130        {
131          "name": "inputLogarithmBase",
132          "value": "log2"
133        },
134
135        {
136          "name": "firstName",
137          "value": "TNF"
138        },
139
140        {
141          "name": "firstColumns",
142          "value": ["GSM50781.CEL", "GSM50782.CEL", "GSM50783.CEL", "GSM50784.CEL"]
143        },
144        {
145          "name": "secondName",
146          "value": "Control"
147        },
148        {
149          "name": "secondColumns",
150          "value": ["GSM50777.CEL", "GSM50778.CEL", "GSM50779.CEL", "GSM50780.CEL"]
151        },
152        {
153          "name": "outputFolderPath",
154          "value": "$BASE_FOLDER$/STUDY$/Limma"
155        }
156      ]
157    },
158
159    {
160      "do": "analyze",
161      "method": "Convert table",
162      "wait": true,
163      "progress": true,
164      "parameters": [
165        {
166          "name": "sourceTable",
167          "value": "$BASE_FOLDER$/STUDY$/Limma/$LIMMA_FILE$"
168        },
169        {
170          "name": "species",
171          "value": "$SPECIES$"
172        },
173        {
174          "name": "sourceType",
175          "value": "Probes: Affymetrix"
176        },
177        {
178          "name": "targetType",
179          "value": "Genes: Ensembl"
180        },
181        {
182          "name": "outputTable",
183          "value": "$BASE_FOLDER$/STUDY$/Limma/$LIMMA_FILE$ Genes Ensembl"
184        }
185      ]
186    },
187
188    {
189      "do": "analyze",
190      "method": "Convert table",
191      "wait": true,
192      "progress": true,
193      "parameters": [
194        {
195          "name": "sourceTable",
196          "value": "$BASE_FOLDER$/STUDY$/Limma/$LIMMA_FILE$"
197        },
198        {
199          "name": "species",
200          "value": "$SPECIES$"
201        },
202        {
203          "name": "sourceType",
204          "value": "Probes: Affymetrix"
205        },
206        {
207          "name": "targetType",
208          "value": "Proteins: Transpath"
209        },
210        {
211          "name": "outputTable",
212          "value": "$BASE_FOLDER$/STUDY$/Limma/$LIMMA_FILE$ Proteins Transpath"
213        }
214      ]
215    }
216  ]
217 }
```

List of tasks to be executed.

They can be specified in place, loaded from a library or from an external file.

Runs an external script, e.g. here to just wait for n seconds to give the import time to complete.