

## Spread.com Server Protocol Specification

Spread.com is a spreadsheet micro service that allows users to create and manage spreadsheets consisting of formulae.

To connect to the server, clients hook up to the IP address and port number found below:

IP: localhost or 127.0.0.1 (IP for Spread.com if connecting over internet)  
Port: 8000

A TCP client socket should be opened in order to send and receive data. The buffer-size limits the amount of socket buffer space that can be allocated for each send and receive buffer. The server will only accept a buffer size of 1024.

Messages can be sent in bulk, but will be processed chronologically. TCP will handle any necessary retransmission of dropped or garbled packages. Messages should be sent as JSON objects and encoded in utf-8. Below are the specifications for the shapes of valid messages:

Create spreadsheet

```
{ "task": "create", "name": string, "table": [[JF, ...] ...] }
```

Table is a rectangle for JFs and name is the name of a spreadsheet.

Set

```
{ "task": "set", "name": string, "x": number, "y": number, "formula": JF }
```

This request will be processed only if x and y point to a valid cell

At

```
{ "task": "at", "name": string, "x": number, "y": number }
```

The value of desired cell will be given only if x and y point to a valid cell and there is no circularity detected.

JF is one of:

-- number

-- [ ">", N, N ]

-- [ "+", JF, JF ]

-- [ "\*", JF, JF ]

Set or At messages will not work if the table they reference has not been created.