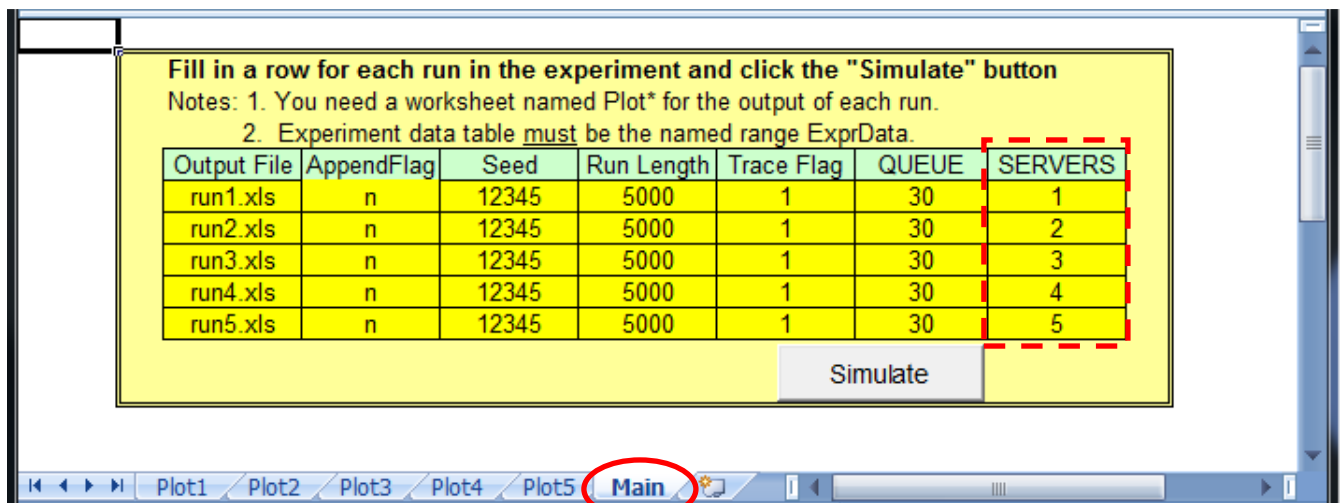


XLDEMO1 Tutorial

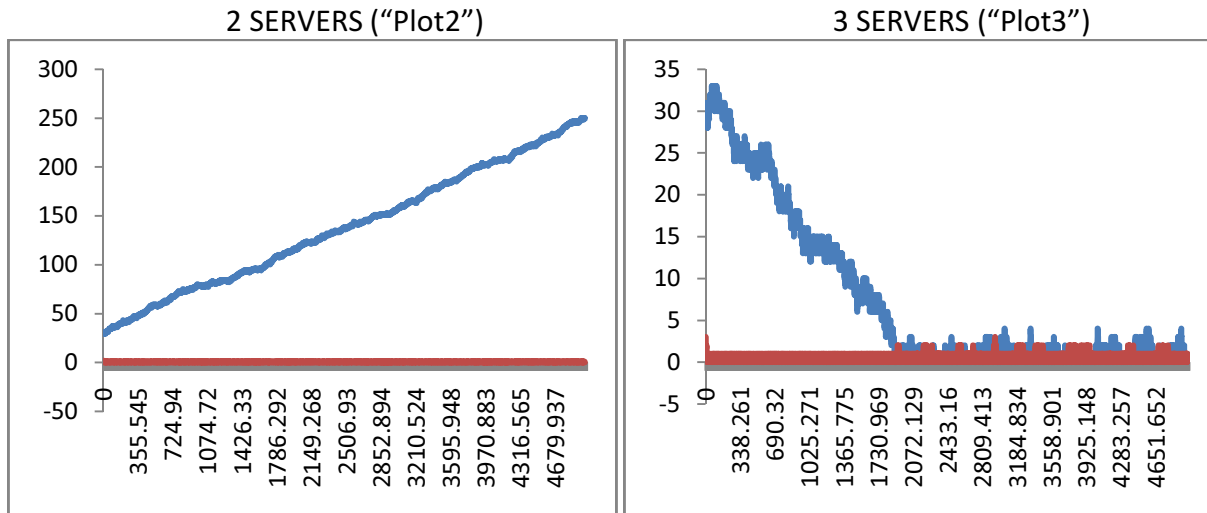
SIGMA is great for constructing and debugging simulations, but end users often prefer the look and feel of something that they are more familiar with. In this tutorial, we'll look at how you can integrate Excel with SIGMA to create some simple front-end dashboards for your simulation. Excel allows users to change key settings in a simulation model, without the need to load and use SIGMA software. Let's look at a simple example using SERVICE.MOD.

- 1) Begin by opening the excel file called XLDEMO1 in the "XLDEMO1 of Excel Interface" folder in Sigma Models. Make sure macros are enabled by clicking 'options' and then 'enable this content.'



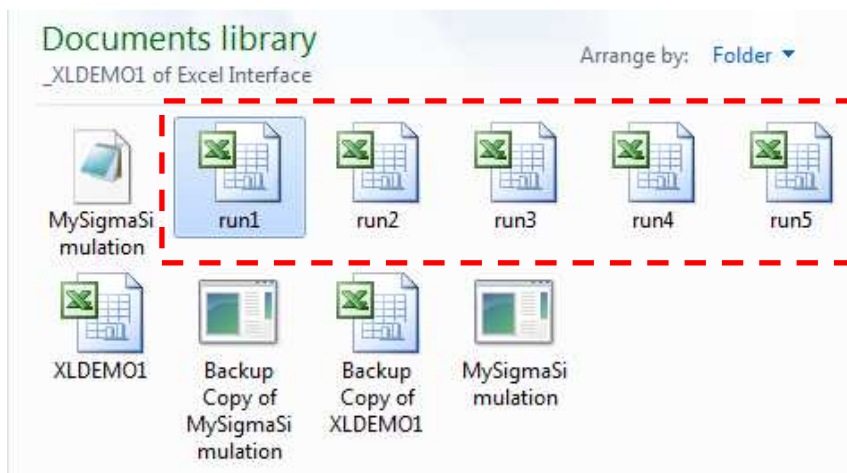
- 2) The "Main" tab displays a table that allows you to alter or add output file names, the seed, run length, trace flag, and the variables relating to your simulation.
- 3) Here we have 5 output file names, and so there is a "Plot" tab for each of these files.
- 4) Also notice that the number of SERVERS is different for each experiment. Note that the simulation has only one input parameter, the initial number of servers. More complex simulations may have additional columns.
- 5) You can change any of this experiment data, but for now we will leave it and simply click "Simulate".
- 6) A window will appear and prompt you to click "OK" to import the results.
- 7) Now each "Plot" tab will be populated with a plot that corresponds to a run file.

- 8) By clicking through the results on the “Plot” tab, you can see that the queue keeps increasing in “Plot1” and “Plot2”. But in “Plot3” the queue begins to decrease overall.
- 9) Using this analysis, we can see that 3 SERVERS or more are needed to keep the queue from steadily increasing over time.



10) You can also view the trace for each of these experiments. When you imported the results, an Excel worksheet with the trace data was created for each run in the same folder as the Excel file (called “XLDEMO1 of Excel Interface”).

11) Let’s view one of these output files now by opening the “XLDEMO1 of Excel Interface” folder.



12) Double click on “run1” Excel file and you will see all of the trace data. This can be useful to do a more detailed analysis of what is happening in your simulation.

	A	B	C	D	E	F
1	Time	Event	Count	QUE	SERVERS	
2	0	RUN	1	30	1	
3	0	ENTER	1	31	1	
4	0	START	1	30	0	
5	3.483	ENTER	2	31	0	
6	11.222	ENTER	3	32	0	
7	14.401	ENTER	4	33	0	
8	17.459	ENTER	5	34	0	
9	20.714	ENTER	6	35	0	
10	21.68	LEAVE	1	35	1	
11	21.68	START	2	34	0	
12	27.543	ENTER	7	35	0	
13	35.114	ENTER	8	36	0	
14	38.378	LEAVE	2	36	1	
15	38.378	START	2	35	0	