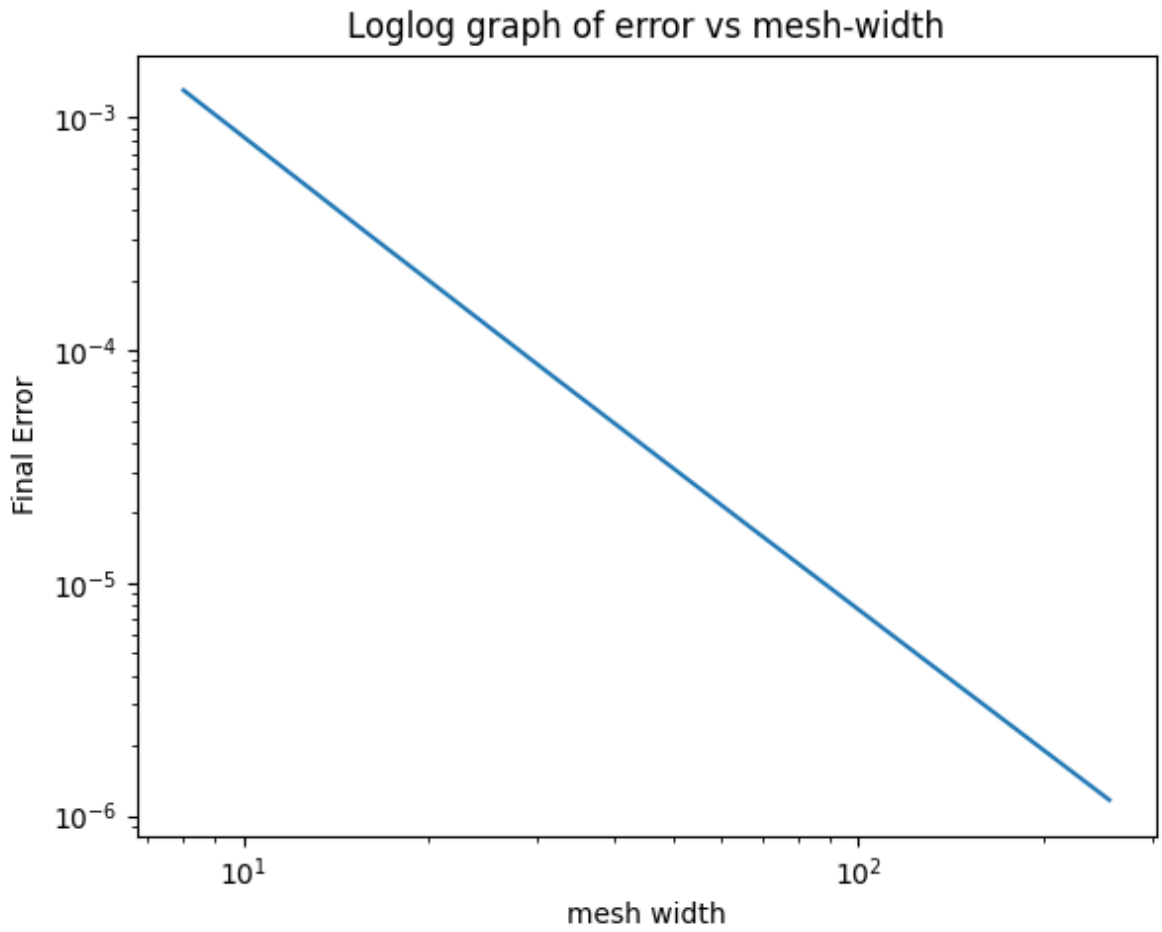
Table and LogLog-Graph



Maximum Level	mesh-width (stepsize)	Final Error after 15 V-Cycles
3	0,125	0,00131031
4	0,0625	3,15074e-4
5	0,03125	7,67301e-5
6	0,015625	1,89078e-5
7	0,0078125	4,69155e-6
8	0,00390625	1,1684e-6

(After 15 Iterations the Level-8 Multigrid-Solver has a convergence factor of >0.99)

Interpretation

With each increase in Level (which corresponds to halving the mesh-width) the Final error also shrinks by roughly one order of magnitude. This is to be expected, because with $h \to 0$

we approach the actual solution of the PDE.
The loglog-graph shows that mesh-width and final error correlate exponentially.