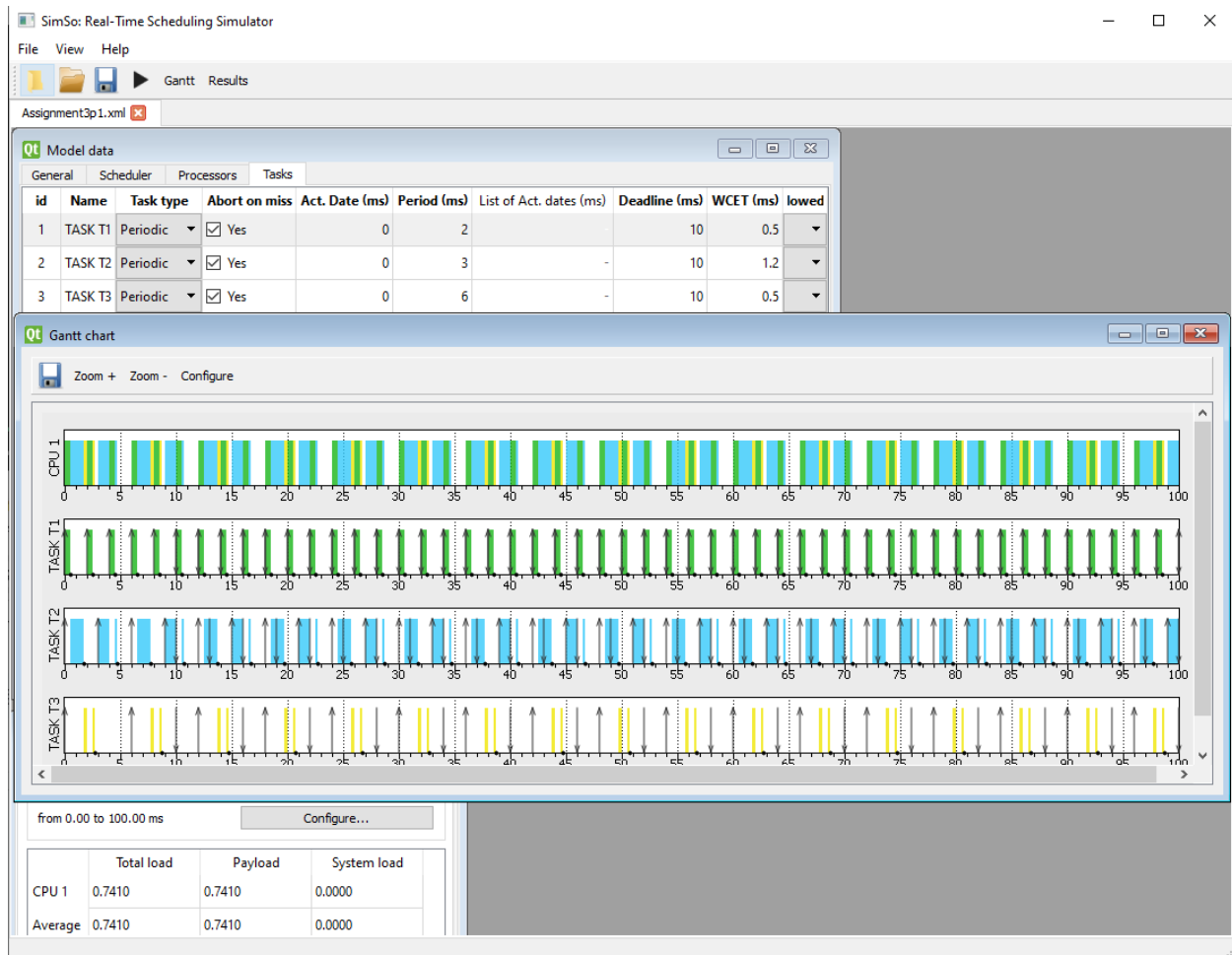


1. T1(2, 0.5), T2(3, 1.2), T3(6, 0.5)

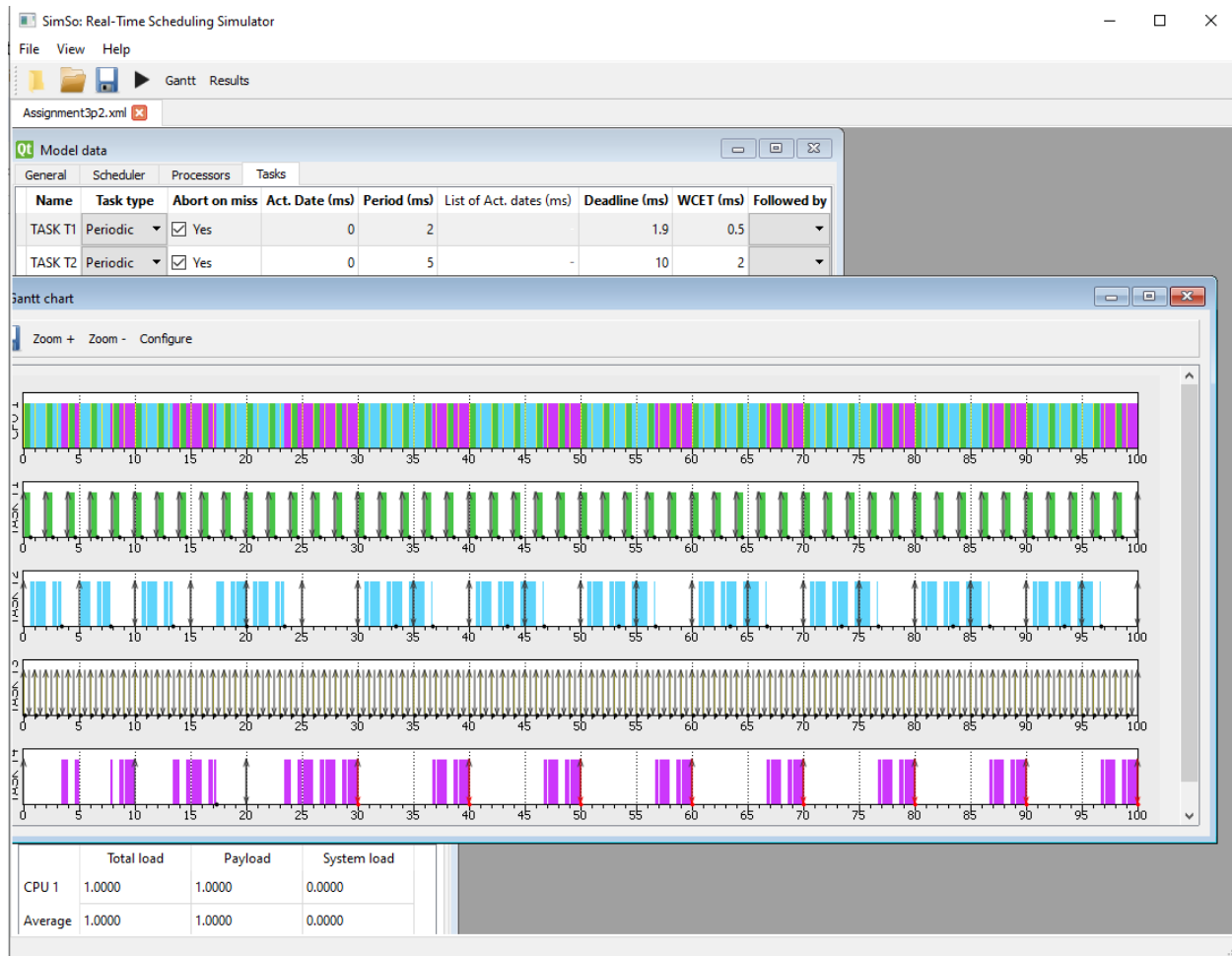


- $\frac{0.5}{2} + \frac{1.2}{3} + \frac{0.5}{6} = 0.73333333$   $URM(3) = 3(2^{\frac{1}{3}} - 1) = 0.79$   $U \leq URM$  feasible
- Here are the min/max/avg respons times for the tasks

Response time:				
Task	min	avg	max	std dev
TASK T1	0.500	0.500	0.500	0.000
TASK T2	1.700	1.700	1.700	0.000
TASK T3	2.700	2.700	2.700	0.000

- None of the tasks missed a deadline.
- It is definitely possible that there can be another scheduler but more tests need to be done. In this specific scenario,  $U$  is less than or equal to the  $U_{rm}$  and is less than 1 which guarantees feasibility.

2.  $T_1(2, 0.5, 1.9)$   $T_2(5, 2)$   $T_3(1, 0.1, 0.5)$   $T_4(10, 5, 20)$



$$U = \frac{0.5}{2} + \frac{2}{5} + \frac{0.1}{1} + \frac{5}{10} = 1.25 \quad U_{rm}(4) = 4(2^{\frac{1}{4}} - 1) = 0.75682846$$

Not feasible

- Here are the min/max/avg response times

Response time:				
Task	min	avg	max	std dev
TASK T1	0.600	0.600	0.600	0.000
TASK T2	2.800	6.511	8.400	1.924
TASK T3	0.100	0.100	0.100	0.000
TASK T4	17.300	17.300	17.300	0.000

- Only Task 4 is missing its deadlines. They are missed at the deadlines 30ms all the way to 100 ms.
- There are no other schedulers that will work with this particular task set because the utilization time exceeds 1, therefore making this system not feasible.