How did you test your code?

I have test my code manually, but using white box and black box tests and using console.log() to trace certain paths of the code. I also have tested the web program using load test API.

npm install -g loadtest

```
$ loadtest [-n requests] [-c concurrency] [-k] URL
```

How long does it take to process a single post?

For loadtest -n 1 -c 1, the time taken to process a single post was 0.0358s (35.8 ms)

<u>Does the size of the data submitted to the server impact the performance?</u>

loadtest -n 1 -c 1 -P '{"topic":"1","data":"1"}}' -k: 0.026s

loadtest -n 1 -c 1 -P

'{"topic":"9AElSaYEvaUavpnB4uJafdv0AKiqb69BdlkTWjU1mhVbTKPkhh9AElPk","data":"hh9AElSaYEvaUavpnB4uJafdv0AKiqb69BdlkTWjU1mhVbTKPkhhjlljkjgkl2"}}'

: <u>0.029s</u>

loadtest -n 1 -c 1 -P

 $\label{thm:condition} $$ '\{''topic'': ''hh9AElSaYEvaUavpnB4uJafdv0AKiqb69BdlkTWjU1mhVbTKPkhh9AElSaYEvaUavpnB4uJafdv0AKiqb69BdlkTWjU1mhVbTKPk'', ''data'': ''hh9AElSaYEvaUavpnB4uJafdv0AKiqb69BdlkTWjU1mhVbTKPhh9AElSaYEvaUavpnB4uJafdv0AKiqb69BdlkTWjU1mhVbTKPkhh9AElSaYEvaUavpnB4kk''\}': \underline{0.27s} $$$

loadtest -n 1 -c 1 -P

'{"topic":"hh9AElSaYEvaUavpnB4uJafdv0AKiqb69BdIkTWjU1mhVbTKPkhh9AElSaYEvaUavpnB4u Jafdv0AKiqb69BdIkTWjU1mhVbTKPk","data":"hh9AElSaYEvaUavpnB4uJafdv0AKiqb69BdIkTWjU1mhVbTKPhh9AElSaYEvaUavpnB4uJafdv0AKiqb69BdIkTWjU1mhVbTKPkhh9AElSaYEvaUavfguow rhgowhgolhwrlughwrlkghl;wrjhguio;wrhgio;uwrhguio;whruio;ghwerio;ughwiourhgiouwrhgiuwh gikjkwnriughiwrughiwrhgiuwrhgiuhwruighwriuhguiwrvpnB4kk"}': 0.034s

The size of the data submitted to the server didn't impact the performance. The total time remained constant for a simple data and a large data.

How does the number of requests impact the performance of the server?

loadtest -n 500 -c 1: 3.11s

loadtest -n 500 -c 1: 27.78s

loadtest -n 100000 -c 1: 483.9s

Higher number of requests takes more time. So, number of requests impacts the performance of the server significantly.

How does the level of concurrency impact the performance of the server?

loadtest -n 10000 -c 10 -k: 12.67s

loadtest -n 10000 -c 100 -k: <u>10.38s</u>

loadtest -n 10000 -c 1000 -k: <u>11.63s</u>

loadtest -n 10000 -c 10000 -k: <u>15.10s</u>

From the results above level of concurrency doesn't significantly impact the performance of the server. It slightly decreases performance.