Cloud Computing
Final Project

Building a scalable dynamic website

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Website overview

- Properties
  - A technology social-network
  - Dynamic

- The structure
  - Storage
  - Database
  - Webserver

- A few quirks
  - Optional authentication
  - Public content
Initial server

- EC2 (one instance)
- Node.js
- Local storage
Tests

- Variables
  - Latency
  - Loading times (up and down)
- Using Condor for testing
- Apache benchmark
Testing latency and page loading

Wall page tested
Testing uploads

3 uploads per job (or run):

0.5 MB
2 MB
4 MB

\[ \sum 6.5 \text{ MB} \times 100 \text{ uploads} \]

Around 650 MB of traffic in ~50 seconds
Apache benchmark results

*Homepage tested*

<table>
<thead>
<tr>
<th>Mean time [st. dev] (ms)</th>
</tr>
</thead>
<tbody>
<tr>
<td># of concurrent accesses</td>
</tr>
<tr>
<td>Connecting time</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
Conclusions

- Not a good idea to send the client everything at once
- The server performance decreased considerably with a couple hundred requests
Next step: scaling the website

- Database
- Processing
- Storage
Questions