

Scalability Tests

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Why Test?

- **Performance should be quantified**
- **Find bottle necks in the system**
- **Explore the behaviour of the system under certain conditions**

Testing vs Profiling

- Testing views quantifies the performance of the application on a certain *machine*, the results may vary across machines
- To view the internals of the application which will be consistent across machines, *Profiling* is done instead

Profiling

- **Allows developers to view:**
 - Memory used per object
 - Total threads created and how they are utilized
 - Memory heap and garbage collection times
- **Profiling is used to see if the application behaves as expected**

Test Types

- **Load Testing**
- **Stress Testing**
- **Performance Testing**
- **Volume Testing**

Load Testing

- **Checks the ability of the system to scale up under an influx of requests**

Stress Testing

- **Checks how the system behaves under prolonged high loads and whether it can scale back down**

Performance Testing

- Checks the average response time per request in the system

Volume Testing

- **Checks the average response time for large data such as media files and how many users can be served during the transmission of said large files**

Any questions?