chatServer

**What is it?**

A highly scalable fault tolerant chat server application.

**What can it do?**

The goal is to be able to handle 1B users.

**Why is it needed?**

I am interested in highly scalable applications. I wanted to try to build an application which is highly scalable, fault tolerant, redundant and distributed. I also wanted to learn more about node.js. Also from what I have read (very little) the art of scalability seems to be magic so wanted to familiarize myself with it.

**Tech stack used?**

Nginx (maybe), NodeJs, Redis, Websockets protocol

**High level block diagram (tentative)**

Legend

N 🡪 Nginx server (loan balancer)

NS 🡪 NodeJs server (application server)

R 🡪 Redis server (cache server)

C 🡪 Client

|\_| 🡪 Cluster representation

=> 🡪 Websocket connection

A very high level view

C => |\_\_ N\_\_| => |\_\_NS\_\_| => |\_\_NS\_\_| => |\_\_N\_\_| => C

A high level view diagram drawn in Microsoft Visio, please refer to that.

**Things to build (in terms of code)**

Ngnix module to communicate with NodeJS server

NodeJs chat server

Redis cluster

Mongodb cluster

OS optimizations to accepts many socket connections

**Algorithm for a sending and receiving a message (TODO)**