

Cover Letter

How long have you been working as a backend developer? *

5 years

Which city & state do you belong to in India? *

Mumbai

How long were you at your previous organisation and why did you leave/want to switch? *

I worked for around 3 years 7 months in my last organization Mclabs private limited, a startup backed by IIT Bombay. Reason to switch is Mclabs currently is going through financial issues. Considering that and even the revival seems difficult for next 2 years at least, I decided to switch. Also blessed with a baby last year. So want to switch somewhere stable and growing environment.

Are you committed to devoting at least 9 Hours in a WFH setup from Monday to Friday? *

Yes

Does the calculation of salary based on the number of hours worked create any concerns for you? *

No

Does time-tracking software evoke any fear/objections in your mind? *

No

Have you worked with any time tracking software previously (Describe when & where)? *

No

Please provide your Github link. *

<https://github.com/shata1729>

Do you have any references you want to share? If so, enter their name and email here, as well as share a brief description of what you did for them, and when. *

Akshay Patil akshay@mclabs.co.in,ahvpatil@gmail.com He is the founder of my previous organization called Mclabs privated limited. As a first employee in the start up, worked on all aspects related to backend mainly int the organization. Authentication system, openid integration with keycloak, file server creation, QR system implementation and many more.

Is working in a global environment with team members from different countries challenging for you? *

No

Describe a project where you used JavaScript or TypeScript extensively. What challenges did you face, and how did you overcome them? *

I have worked on NodeJS since last 5+ years. In my previous company, I have worked on various parts of Mission Critical services including communication between desktop and mobile devices using SIP based stack. Learning SIP based javascript stack and also reading and interpreting 3gpp documentation was really challenging. Also implementing openid authentication using Keycloak was also a good experience.

What are some common performance issues in Node.js applications, and how do you address them? *

1. As Nodejs runs in Single thread environment, heavy computation based tasks can block the event loop from accepting other requests. We can use cluster mode or external tools like pm2 for taking advantage of underlying multiple cores of OS. For example my computer has 12 cores(i5 12th generation), so it can fork 12 processes and accept upto 12 requests which require heavy computation without blocking.
2. Also improving database queries can improve performance greatly. One of the things I have done it to is add indexing on columns frequently read.
3. Also used Winston library for logging instead of using console.log.

How do you manage asynchronous operations in Node.js? Can you provide an example of when you used Promises or async/await in your code? *

Have used async/await all the time for requesting data from APIs, database operations. We had to implement various types of calls for which server has to generate invites for each user which was done using promises. For example for group call, promise.allSettled was used. There was a call type First-to-Answer call where whichever user accepts invite first, that call will get established. For that used promise.race. And countless other async operations

Have you worked with other databases like PostgreSQL or MySQL? How do you decide which database technology to use for a specific project? *

I have been working on postgres since last 4 years. Before that, I have worked on mysql for around 2 years. Also have worked on mongodb too for one australian project called Mash. In my previous project since it was enterprise level database and performance requirements were high, we chose postgres. Mysql was used for few shorter projects too.

How do you design and optimise database schemas in MongoDB? Can you give an example from your past experience? *

In a project called Mash, which was basically similar to upwork but for creative people, I had added indexes on combination of some columns which were frequently needed. Also denormalized some tables as the tables were designed previously in traditional RDBMS ways.

Anything else you would like to share? *

I have a total experience of more than 10 years of which first 5 years I have worked as a teacher and freelance trainer. In 2018, we needed to shift the city from Mumbai to Nashik since my wife got a great opportunity there. After which I started my journey in coding, in Nashik based company called Standard wings technologies. After which I joined a startup called Mclabs pvt ltd, since it was WFH role. Now back in Mumbai only, although still prefer a WFH role to avoid Mumbai traffic.