

Oral Exam

Prerequisite: completion of workshop servers 1 & 2

Anytime between now and 29 April

As everything in the course, this is optional and you can choose to do none, some, or all of the following topics.

The format is similar to that of a technical job interview. If you see the term Elasticsearch in the preferred qualifications section of a job ad you are interviewing for, you might prepare by reading a bit about Elasticsearch and prepare yourself for a few questions about the topic. The discussion for each topic will be between 3-5 minutes long. Again, the exam is in the form of a technical job interview. The sample questions below for each topic are just that -- samples.

How to schedule an exam

Exams are scheduled during my office hours. Slack dm me with your suggested time to schedule an exam. Also state which topics you are covering.

Assessment

I expect you to have a general knowledge of the topic area similar in scope to the sample questions. If you seem to be knowledgeable I might ask a followup question, but if you don't know something I won't hold it against you. Part of the assessment is how well you present yourself. If you speak accurately and confidently that counts for something. If you seem insecure in your answer that is a negative. If you left a technical job interview and think

<i>Nailed it</i>	40xp
<i>I did ok -- maybe better than ok</i>	30xp
<i>That could have gone better</i>	20xp
<i>I messed that up</i>	10xp

(xp per topic)

Topics

General Applications of Database Class

Types of questions you might expect

1. It says on your resume you took a database class. Tell me about it.
2. What is database normalization?
3. What is Next.js?
4. What is Node.js
5. How did you deploy your application?
6. What did you use NGINX for?

Acid and Base semantics. SQL vs noSQL

Types of questions you might expect

1. What is the ACID property of a database server?
2. When would you use a noSQL database over a SQL one?
3. Explain the atomicity of the ACID property.
4. What is a transaction?
5. What is the CAP theorem?

Elasticsearch

Types of questions you might expect

1. What is Elasticsearch?
2. When would we use Elasticsearch?
3. What is an index and inverted index in Elasticsearch?
4. What is a document in Elasticsearch?
5. What is a node in Elasticsearch?

Docker

Types of questions you might expect

1. What is containerization?
2. How do containers differ from virtual machines?
3. When would we use containers?
4. What is Docker
5. What is a compelling example of using Docker containers?