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Exam Professional Machine Learning Engineer All Questions

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📄 **EXAM PROFESSIONAL MACHINE LEARNING ENGINEER TOPIC 1 QUESTION 49 DISCUSSIO..**

Actual exam question from Google's Professional Machine Learning Engineer

Question #: 49

Topic #: 1

[All Professional Machine Learning Engineer Questions]

You work for an online travel agency that also sells advertising placements on its website to other companies. You have been asked to predict the most relevant web banner that a user should see next. Security is important to your company. The model latency requirements are 300ms@p99, the inventory is thousands of web banners, and your exploratory analysis has shown that navigation context is a good predictor. You want to Implement the simplest solution. How should you configure the prediction pipeline?

A. Embed the client on the website, and then deploy the model on AI Platform Prediction.

B. Embed the client on the website, deploy the gateway on App Engine, and then deploy the model on AI Platform Prediction.

C. Embed the client on the website, deploy the gateway on App Engine, deploy the database on Cloud Bigtable for writing and for reading the user's navigation context, and then deploy the model on AI Platform Prediction.

D. Embed the client on the website, deploy the gateway on App Engine, deploy the database on Memorystore for writing and for reading the user's navigation context, and then deploy the model on Google Kubernetes Engine.

Show Suggested Answer

by 👤 **chohan** at *June 18, 2021, 3:42 p.m.*

Comments

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Paul_Dirac `Highly Voted 👍` 3 years, 2 months ago

Security => not A.
B: doesn't handle processing with banner inventory.
D: deployment on GKE is less simple than on AI Platform. Besides, MemoryStore is in-memory while banners are stored persistently.
Ans: C

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    pinimichele01 6 months ago

    B: doesn't handle processing with banner inventory ---> not true...

    👍 ↩ 🚩 upvoted 2 times

Celia20210714 `Highly Voted 👍` 3 years, 3 months ago

ANS: C
GAE + IAP
https://medium.com/google-cloud/secure-cloud-run-cloud-functions-and-app-engine-with-api-key-73c57bededd1

Bigtable at low latency
https://cloud.google.com/bigtable#section-2

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ccb23cc `Most Recent ⊙` 4 months ago

`Selected Answer: C`

They affirm that navigation context is a good predictor for your model. Therefore you need to be able to perform the prediction and write the new context (if you get more data you will get a better model) and read (to use it for your prediction).
On one hand, BigQuery is a OLAP method so for writings and readings could take it around 2 seconds.
On the other hand, BigTable is a OLTP method and can make writings and readings in about 9 milliseconds
Conclusion: As one of the requerements is that the latency requirements have to be below 300ms your only choice is using BigTable

https://galvarado.com.mx/post/comparaci%C3%B3n-de-bases-de-datos-en-google-cloud-datastore-vs-bigtable-vs-cloud-sql-vs-spanner-vs-bigquery/

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PhilipKoku 4 months, 2 weeks ago

`Selected Answer: C`

C) Big Table for low latency

👍 ↩ 🚩 upvoted 1 times

AnnaR 5 months, 4 weeks ago

`Selected Answer: B`

Was torn between B and C, but decided for B, because the question states how we should configure the PREDICTION pipeline!
Since the exploratory analysis already identified navigation context as good predictor, the focus should be on the prediction model itself.

👍 ↩ 🚩 upvoted 2 times

gscharly 6 months ago

`Selected Answer: C`

agree with Paul_Dirac

👍 ↩ 🚩 upvoted 1 times

rightcd 7 months, 1 week ago

look at Q80

👍 ↩ 🚩 upvoted 3 times

Sum_Sum 11 months, 1 week ago

`Selected Answer: B`

I was torn between B and C.
But I really don't see the need for a DB

👍 ↩ 🚩 upvoted 3 times

Mickey321 11 months, 1 week ago

`Selected Answer: B`

Embed the client on the website, deploy the gateway on App Engine, and then deploy the model on AI Platform Prediction.

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⊟ 👤 **harithacML** 1 year, 3 months ago

Selected Answer: B

secuirity (gateway) + Simplest(ai, not DB)

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⊟ 👤 **Liting** 1 year, 3 months ago

Selected Answer: C

Bigtable is recommended for storage in the case scenario.

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⊟ 👤 **tavva_prudhvi** 1 year, 3 months ago

Selected Answer: C

B is also a possible solution, but it does not include a database for storing and retrieving the user's navigation context. This means that every time a user visits a page, the gateway would need to query the website to retrieve the navigation context, which could be slow and inefficient. By using Cloud Bigtable to store the navigation context, the gateway can quickly retrieve the context from the database and pass it to the model for prediction. This makes the overall prediction pipeline more efficient and scalable. Therefore, C is a better option compared to B.

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⊟ 👤 **friedi** 1 year, 4 months ago

Selected Answer: B

B is correct, C introduces computational overhead, unnecessarily increasing serving latency.

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⊟ 👤 **Voyager2** 1 year, 4 months ago

Selected Answer: C

C. Embed the client on the website, deploy the gateway on App Engine, deploy the database on Cloud Bigtable for writing and for reading the user's navigation context, and then deploy the model on AI Platform Prediction
https://cloud.google.com/architecture/minimizing-predictive-serving-latency-in-machine-
learning#choosing_a_nosql_database
Typical use cases for Bigtable are:
* Ad prediction that leverages dynamically aggregated values over all ad requests and historical data.

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⊟ 👤 **CloudKida** 1 year, 5 months ago

Selected Answer: C

Bigtable is a massively scalable NoSQL database service engineered for high throughput and for low-latency workloads. It can handle petabytes of data, with millions of reads and writes per second at a latency that's on the order of milliseconds.

Typical use cases for Bigtable are:

Fraud detection that leverages dynamically aggregated values. Applications in Fintech and Adtech are usually subject to heavy reads and writes.
Ad prediction that leverages dynamically aggregated values over all ad requests and historical data.
Booking recommendation based on the overall customer base's recent bookings.

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⊟ 👤 **M25** 1 year, 5 months ago

Selected Answer: C

Went with C

👍 ↩ 🏳 upvoted 1 times

⊟ 👤 **fredcaram** 1 year, 6 months ago

Selected Answer: B

The volume is too low for a Bigtable scenario

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