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📄 **EXAM PROFESSIONAL MACHINE LEARNING ENGINEER TOPIC 1 QUESTION 189 DISCUSSI...**

Actual exam question from Google's Professional Machine Learning Engineer
Question #: 189
Topic #: 1
[All Professional Machine Learning Engineer Questions]

You are implementing a batch inference ML pipeline in Google Cloud. The model was developed using TensorFlow and is stored in SavedModel format in Cloud Storage. You need to apply the model to a historical dataset containing 10 TB of data that is stored in a BigQuery table. How should you perform the inference?

    A. Export the historical data to Cloud Storage in Avro format. Configure a Vertex AI batch prediction job to generate predictions for the exported data

    B. Import the TensorFlow model by using the CREATE MODEL statement in BigQuery ML. Apply the historical data to the TensorFlow model

    C. Export the historical data to Cloud Storage in CSV format. Configure a Vertex AI batch prediction job to generate predictions for the exported data

    D. Configure a Vertex AI batch prediction job to apply the model to the historical data in BigQuery

Show Suggested Answer

by 👤 **pikachu007** at *Jan. 13, 2024, 3:37 a.m.*

Comments

Type your comment...

Foxy2021 1 week, 4 days ago

My answer is D.

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pinimichele01 6 months, 2 weeks ago

Selected Answer: B

https://cloud.google.com/vertex-ai/docs/tabular-data/classification-regression/get-batch-predictions#input_data_requirements

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edoo 7 months, 2 weeks ago

Selected Answer: B

The choice is between B and D, both good BUT:
Importing and making batch predictions is quite straightforward in BQ ML
https://cloud.google.com/bigquery/docs/making-predictions-with-imported-tensorflow-models
if not pre-processing needed on the data. If we need a more complete pipeline I'd chose D, but the tables need partitioning
(100GB is the limit in Vertex AI):
https://cloud.google.com/vertex-ai/docs/tabular-data/classification-regression/get-batch-predictions#input_data_requirements

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guilhermebutzke 8 months, 1 week ago

Selected Answer: D

My Answer: D

The historical dataset is stored in BigQuery, which can be directly accessed by Vertex AI. Vertex AI offers batch prediction
capabilities, allowing you to apply the model to the data stored in BigQuery without the need to export it. So, This approach
leverages the scalability of Google Cloud infrastructure and avoids unnecessary data movement, being not necessary to
export data to Cloud Store (options A and C), nor Import the TensorFlow model to BQ (option B).

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ddogg 8 months, 3 weeks ago

Selected Answer: B

https://cloud.google.com/bigquery/docs/making-predictions-with-imported-tensorflow-
models#:~:text=Import%20TensorFlow%20models,-
To%20import%20TensorFlow&text=In%20the%20Google%20Cloud%20console%2C%20go%20to%20the%20BigQuery%20pa
ge.&text=In%20the%20query%20editor%2C%20enter,MODEL%20statement%20like%20the%20following.&text=The%20prece
ding%20query%20imports%20a,BigQuery%20ML%20model%20named%20imported_tf_model%20.

👍 ↩ ⚑ upvoted 2 times

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sonicclasps 8 months, 3 weeks ago

Selected Answer: B

https://cloud.google.com/bigquery/docs/reference/standard-sql/bigqueryml-syntax-create-tensorflow#limitations

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Zwi3b3l 8 months, 4 weeks ago

Selected Answer: B

Has to be B, because D has limitations:
BigQuery data source tables must be no larger than 100 GB.
https://cloud.google.com/vertex-ai/docs/tabular-data/classification-regression/get-batch-predictions#input_data_requirements

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BlehMaks 9 months ago

Selected Answer: A

Same platform as data == less computation required to load and pass it to model

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> **BlehMaks** 9 months ago
>
> i mean B
>
> 👍 ↩ ⚑ upvoted 1 times

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b1a8fae 9 months, 1 week ago

Selected Answer: D

It could either be B or D. It seems like most of the limitations of B are mentioned in the problem
(https://cloud.google.com/bigquery/docs/reference/standard-sql/bigqueryml-syntax-create-tensorflow#limitations) but some of
them are not and we are left questioning if the model will match the remaining requirements.

Therefore, I would go for D, which can import data from BigQuery, https://cloud.google.com/vertex-ai/docs/predictions/get-

Therefore, I would go for D, which can import data from BigQuery. https://cloud.google.com/vertex-ai/docs/predictions/get-batch-predictions#bigquery

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⊟ 👤 **pikachu007** 9 months, 1 week ago

Limitations of other options:

A and C. Exporting data: Exporting 10 TB of data to Cloud Storage incurs additional storage costs, transfer time, and potential data management complexities.
B. BigQuery ML: While BigQuery ML supports some TensorFlow models, it might have limitations with certain model architectures or features. Additionally, it might not be as optimized for large-scale batch inference as Vertex AI.

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