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EXAM PROFESSIONAL MACHINE LEARNING ENGINEER TOPIC 1 QUESTION 199 DISCUSSI...

Actual exam question from Google's Professional Machine Learning Engineer

Question #: 199

Topic #: 1

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You are developing a process for training and running your custom model in production. You need to be able to show lineage for your model and predictions. What should you do?

- A. 1. Create a Vertex AI managed dataset.
2. Use a Vertex AI training pipeline to train your model.
3. Generate batch predictions in Vertex AI.
- B. 1. Use a Vertex AI Pipelines custom training job component to train your model.
2. Generate predictions by using a Vertex AI Pipelines model batch predict component.
- C. 1. Upload your dataset to BigQuery.
2. Use a Vertex AI custom training job to train your model.
3. Generate predictions by using Vertex AI SDK custom prediction routines.
- D. 1. Use Vertex AI Experiments to train your model.
2. Register your model in Vertex AI Model Registry.
3. Generate batch predictions in Vertex AI.



Show Suggested Answer

by [36bdc1e](#) at Jan. 13, 2024, 7:26 p.m.

Comments

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  **guilhermebutzke** Highly Voted  8 months, 1 week ago

Selected Answer: D

My Answer: D

According with: <https://cloud.google.com/vertex-ai/docs/experiments/intro-vertex-ai-experiments>

"Vertex AI Experiments is a tool that helps you track and analyze different model architectures, hyperparameters, and training environments, letting you track the steps, inputs, and outputs of an experiment run. Vertex AI Experiments can also evaluate how your model performed in aggregate, against test datasets, and during the training run. You can then use this information to select the best model for your particular use case."

Considering that both options A and B could demonstrate some form of lineage, I believe option D is the most suitable. The text explicitly states "show lineage for your model and predictions," which aligns perfectly with the functionality provided by Vertex AI Experiments.

   upvoted 5 times

  **Foxy2021** Most Recent  1 week, 4 days ago

My answer is B.

   upvoted 1 times

  **baimus** 1 month, 1 week ago

It's a bit ambiguously worded this question. Model lineage involves knowledge of the data it was trained on, so that should be A. That being said, I think the question is implying D from it's wording, experiment tracking. I went for A, but suspect it's wrong.

   upvoted 1 times

  **SahandJ** 5 months, 2 weeks ago

Selected Answer: D

Option A/B doesn't mention anything about lineage. C is definitely wrong as there is no need to upload the dataset to Bigquery.

Only correct answer is D

   upvoted 2 times

  **pinimichele01** 5 months, 4 weeks ago

Selected Answer: B

running your custom model in production -> need pipeline
-> B

   upvoted 1 times

  **cruise93** 6 months ago

Selected Answer: D

Agree with guilhermebutzke

   upvoted 2 times

  **Shark0** 6 months, 3 weeks ago

Selected Answer: A

A because to track lineage you need a managed dataset and vertex ai pipelines

   upvoted 1 times

  **pinimichele01** 6 months, 2 weeks ago

lineage of the model i think, not for data, so it's B

   upvoted 1 times

  **Yan_X** 7 months, 2 weeks ago

Selected Answer: A

A
D cannot provide lineage for the source of your data.
Has to be A to go with Vertex AI managed dataset.

   upvoted 1 times

  **edoo** 7 months, 2 weeks ago


Selected Answer: B

Vertex AI Pipelines are suited to do artifact lineage

<https://cloud.google.com/vertex-ai/docs/pipelines/lineage>

Experiments can do it also, but their main goal is to "track and analyze different model architectures, hyperparameters, and training environments"

   upvoted 3 times

  **sonicclasps** 8 months, 2 weeks ago

Selected Answer: A

Managed data set to help track lineage

<https://cloud.google.com/vertex-ai/docs/training/using-managed-datasets>

   upvoted 1 times

  **ddogg** 8 months, 3 weeks ago

Selected Answer: B

B) REF <https://cloud.google.com/vertex-ai/docs/pipelines/lineage>

Track the lineage of pipeline artifacts

When you run a pipeline using Vertex AI Pipelines, the artifacts and parameters of your pipeline run are stored using Vertex ML Metadata. Vertex ML Metadata makes it easier to analyze the lineage of your pipeline's artifacts, by saving you the difficulty of keeping track of your pipeline's metadata.

An artifact's lineage includes all the factors that contributed to its creation, as well as artifacts and metadata that are derived from this artifact. For example, a model's lineage could include the following:

The training, test, and evaluation data used to create the model.

The hyperparameters used during model training.

Metadata recorded from the training and evaluation process, such as the model's accuracy.

Artifacts that descend from this model, such as the results of batch predictions.

   upvoted 4 times

  **b1a8fae** 9 months, 1 week ago

Selected Answer: D

D. Sample on how to keep track of experiments lineage -> <https://cloud.google.com/vertex-ai/docs/experiments/user-journey/uj-model-training>

   upvoted 1 times

  **BlehMaks** 9 months, 1 week ago

Selected Answer: B

Vertex AI Pipelines provides ability to track the lineage for your model and predictions

   upvoted 1 times

  **36bdc1e** 9 months, 1 week ago

D

"track the lineage of pipeline artifacts". Vertex AI Experiments² is a service that allows you to track and compare the results of your model training runs. Vertex AI Experiments automatically logs metadata such as hyperparameters, metrics, and artifacts for each training run.

   upvoted 1 times



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