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## Exam Professional Machine Learning Engineer All Questions

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### EXAM PROFESSIONAL MACHINE LEARNING ENGINEER TOPIC 1 QUESTION 213 DISCUSSI...

Actual exam question from Google's Professional Machine Learning Engineer

Question #: 213

Topic #: 1

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You are building a TensorFlow text-to-image generative model by using a dataset that contains billions of images with their respective captions. You want to create a low maintenance, automated workflow that reads the data from a Cloud Storage bucket collects statistics, splits the dataset into training/validation/test datasets performs data transformations trains the model using the training/validation datasets, and validates the model by using the test dataset. What should you do?

- A. Use the Apache Airflow SDK to create multiple operators that use Dataflow and Vertex AI services. Deploy the workflow on Cloud Composer.
- B. Use the MLFlow SDK and deploy it on a Google Kubernetes Engine cluster. Create multiple components that use Dataflow and Vertex AI services.
- C. Use the Kubeflow Pipelines (KFP) SDK to create multiple components that use Dataflow and Vertex AI services. Deploy the workflow on Vertex AI Pipelines.
- D. Use the TensorFlow Extended (TFX) SDK to create multiple components that use Dataflow and Vertex AI services. Deploy the workflow on Vertex AI Pipelines.

Show Suggested Answer

by [pikachu007](#) at Jan. 13, 2024, 5:59 a.m.

### Comments

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  **wences** 1 month ago

**Selected Answer: D**

in this one will go with D, TFX is more specialized than kfp



   upvoted 1 times

  **baimus** 1 month, 1 week ago

**Selected Answer: D**

TFX is going to be easier than kubeflow with custom code, as it basically does exactly what is listed there, by default.

   upvoted 1 times

  **dija123** 3 months, 3 weeks ago

**Selected Answer: D**

Agree with TFX


   upvoted 1 times

  **PhilipKoku** 4 months, 2 weeks ago

**Selected Answer: D**

D) TFX is the way forward as it has services to support every step of the use case presented.

   upvoted 2 times


  **fitri001** 6 months, 1 week ago

**Selected Answer: C**

KFP Pipelines: Kubeflow Pipelines (KFP) is a popular open-source framework for building and deploying machine learning workflows. It provides a user-friendly SDK for defining pipelines as components and simplifies workflow orchestration. Vertex AI Pipelines Integration: Vertex AI Pipelines is a managed service from Google Cloud that integrates seamlessly with KFP. You can deploy your KFP-defined workflow on Vertex AI Pipelines, leveraging its features like scheduling, monitoring, and versioning.

Dataflow and Vertex AI Services: Both Dataflow and Vertex AI are Google Cloud services well-suited for this workflow

   upvoted 2 times

  **fitri001** 6 months, 1 week ago

why not others?

A. Airflow with Dataflow and Vertex AI: While Airflow is a powerful workflow management tool, deploying it on Cloud Composer adds additional complexity compared to the managed environment of Vertex AI Pipelines.

B. MLflow with Dataflow and Vertex AI: MLflow focuses primarily on model lifecycle management. While it can be used for building pipelines, KFP offers a more specialized and user-friendly approach for this specific use case.

D. TFX with Dataflow and Vertex AI: TFX is a comprehensive end-to-end ML platform. While it offers several functionalities, it might be an overkill for this scenario focusing on data processing, training, and validation. KFP provides a simpler solution for this specific workflow.

   upvoted 2 times

  **pinimichele01** 6 months, 2 weeks ago

**Selected Answer: C**

If you use TensorFlow in an ML workflow that processes terabytes of structured data or text data, we recommend that you build your pipeline using TFX.

For other use cases, we recommend that you build your pipeline using the Kubeflow Pipelines SDK

<https://cloud.google.com/vertex-ai/docs/pipelines/build-pipeline#sdk>

   upvoted 4 times

  **winston9** 9 months, 1 week ago




**Selected Answer: D**

C and D are valid options. if the model is created in TF, use TFX, in any other case, use KFP; therefore, here is D

   upvoted 2 times

  **pinimichele01** 6 months, 2 weeks ago

<https://cloud.google.com/vertex-ai/docs/pipelines/build-pipeline#sdk>

   upvoted 1 times

  **BlehMaks** 9 months, 1 week ago

**Selected Answer: C**

<https://cloud.google.com/vertex-ai/docs/pipelines/build-pipeline#sdk>

   upvoted 2 times

  **pikachu007** 9 months, 1 week ago

**Selected Answer: D**

Airflow (A): While versatile, Airflow often requires more manual configuration and integration with ML services, potentially increasing maintenance effort.

MLFlow (B): MLFlow focuses on experiment tracking and model management, lacking built-in pipeline components for data processing and model training.

Kubeflow Pipelines (C): KFP is flexible but requires more setup and infrastructure management compared to TFX's managed services.

   upvoted 2 times

  **pinimichele01** 6 months, 2 weeks ago

<https://cloud.google.com/vertex-ai/docs/pipelines/build-pipeline#sdk>

   upvoted 1 times

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