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Exam Professional Machine Learning Engineer All Questions

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EXAM PROFESSIONAL MACHINE LEARNING ENGINEER TOPIC 1 QUESTION 129 DISCUSSI...

Actual exam question from Google's Professional Machine Learning Engineer

Question #: 129

Topic #: 1

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You have been asked to productionize a proof-of-concept ML model built using Keras. The model was trained in a Jupyter notebook on a data scientist's local machine. The notebook contains a cell that performs data validation and a cell that performs model analysis. You need to orchestrate the steps contained in the notebook and automate the execution of these steps for weekly retraining. You expect much more training data in the future. You want your solution to take advantage of managed services while minimizing cost. What should you do?

- A. Move the Jupyter notebook to a Notebooks instance on the largest N2 machine type, and schedule the execution of the steps in the Notebooks instance using Cloud Scheduler.
- B. Write the code as a TensorFlow Extended (TFX) pipeline orchestrated with Vertex AI Pipelines. Use standard TFX components for data validation and model analysis, and use Vertex AI Pipelines for model retraining.
- C. Rewrite the steps in the Jupyter notebook as an Apache Spark job, and schedule the execution of the job on ephemeral Dataproc clusters using Cloud Scheduler.
- D. Extract the steps contained in the Jupyter notebook as Python scripts, wrap each script in an Apache Airflow BashOperator, and run the resulting directed acyclic graph (DAG) in Cloud Composer.

Show Suggested Answer

by [hiromi](#) at Dec. 22, 2022, 12:31 a.m.

Comments

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  **M25** 1 year, 6 months ago

Selected Answer: B

Went with B

   upvoted 2 times

  **Antmal** 1 year, 6 months ago

Selected Answer: B

I believe it B. Write the code as a TensorFlow Extended (TFX) pipeline orchestrated with Vertex AI Pipelines. Use standard TFX components for data validation and model analysis, and use Vertex AI Pipelines for model retraining. Because :

- Solution A is not scalable and will be expensive to run. It also does not take advantage of managed services.

Solution C is more scalable than option A, but it is still not as scalable as using TFX and Vertex AI Pipelines. It also does not take advantage of managed services.

- Solution D is the most flexible, but it is also the most complex. It requires more knowledge of Apache Airflow and is more difficult to manage.

Overall, the best solution to productionize the proof-of-concept ML model is to use TFX and Vertex AI Pipelines. This solution is scalable, reliable, and easy to manage. It also takes advantage of managed services, which can help to reduce costs.

   upvoted 3 times



  **TNT87** 1 year, 8 months ago

Selected Answer: B

B. Write the code as a TensorFlow Extended (TFX) pipeline orchestrated with Vertex AI Pipelines. Use standard TFX components for data validation and model analysis, and use Vertex AI Pipelines for model retraining.

The reason for this choice is that TFX and Vertex AI Pipelines provide a scalable and cost-effective solution for productionizing machine learning models. TFX is an end-to-end ML platform for building scalable and repeatable ML workflows, while Vertex AI Pipelines provides a fully managed service for orchestrating ML workflows at scale. By using TFX and Vertex AI Pipelines, you can automate the execution of the steps contained in the Jupyter notebook, and schedule the pipeline for weekly retraining. This approach also takes advantage of managed services, which helps to minimize cost.

   upvoted 3 times

  **ares81** 1 year, 10 months ago

Selected Answer: B

All the others look really wrong, so B.

   upvoted 2 times

  **hiromi** 1 year, 10 months ago

Selected Answer: B

B (not sure)

   upvoted 2 times

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