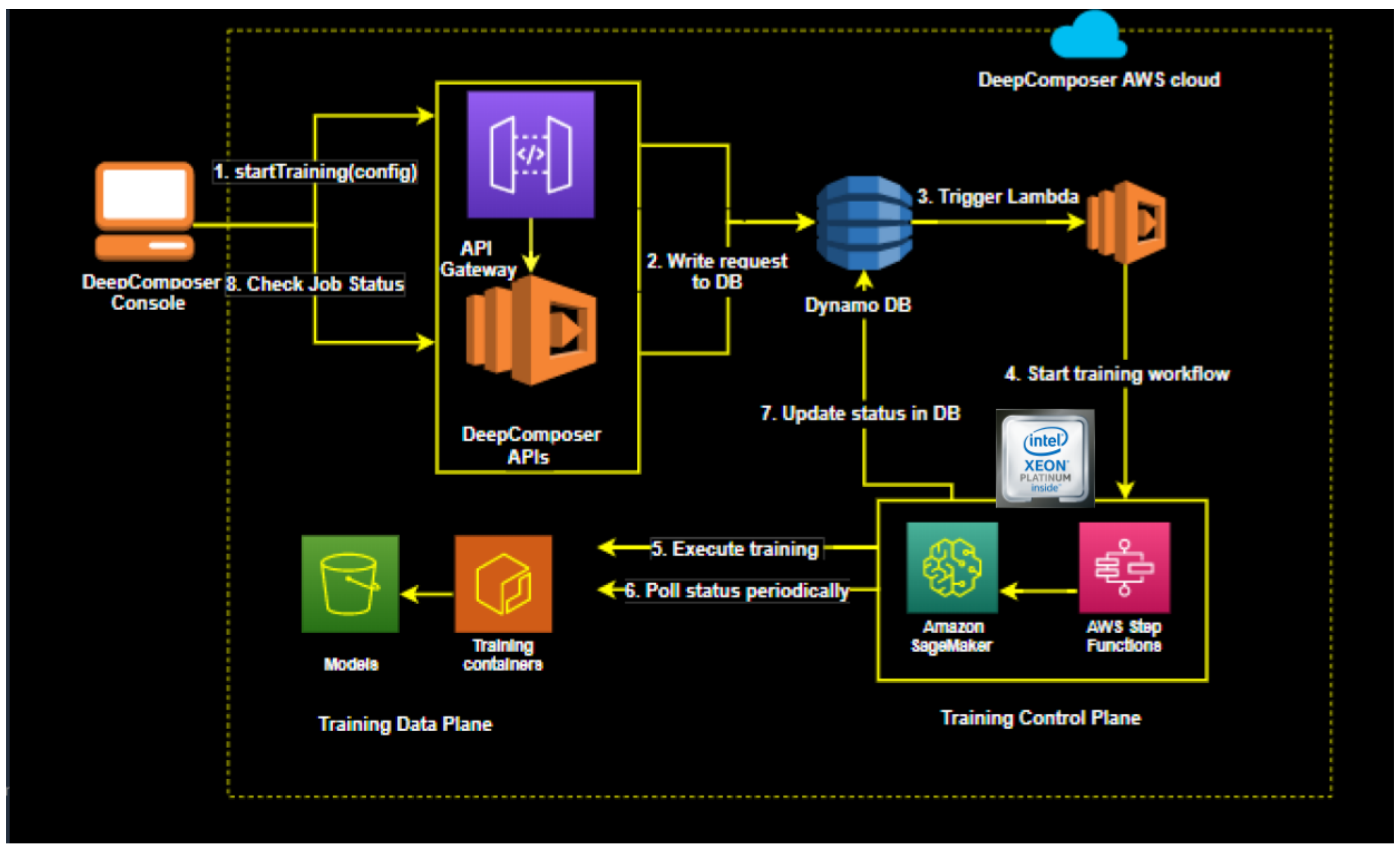
Training Architecture SEND FEEDBACK

How to measure the quality of the music we're generating:

1. We can monitor the loss function to make sure the model is converging
2. We can check the **similarity index** to see how close is the model to mimicking the style of the data. When the graph of the similarity index smoothes out and becomes less spikey, we can be confident that the model is converging
3. We can listen to the music created by the generated model to see if it's doing a good job. The musical quality of the model should improve as the number of training epochs increases.

Training architecture

1. User launch a training job from the AWS DeepComposer console by selecting hyperparameters and data set filtering tags
2. The backend consists of an API Layer (API gateway and lambda) write request to DynamoDB
3. Triggers a lambda function that starts the training workflow
4. It then uses AWS Step Funcitons to launch the training job on Amazon SageMaker
5. Status is continually monitored and updated to DynamoDB
6. The console continues to poll the backend for the status of the training job and update the results live so users can see how the model is learning



Training Architecture

Challenges with GANs

1. Clean datasets are hard to obtain
2. Not all melodies sound good in all genres
3. Convergence in GAN is tricky – it can be fleeting rather than being a stable state
4. Complexity in defining meaningful quantitive metrics to measure the quality of music created

QUESTION 1 OF 2

True or False: We expect the Similarity Index to reach zero

True [✓ False]

SUBMIT

Reflect on how training works ✓

Why might we want to use more than one method to evaluate the quality of our model output?

Your reflection

Using multiple metrics to gauge model performance generates a more accurate picture of it's characteristics.

Things to think about

Nice work! While the graph of a loss function is very helpful, our models are imperfect so it can also be helpful to evaluate the output and see if it sounds right.

NEXT