

# Maintaining Your Azure ML Solution

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# Azure Machine Learning Solution Lifecycle

## Create Trained Experiment

Processing data

Selecting algorithm

Training model

Evaluating model

## Deploy Predictive Service

Request Response WS

Batch Execution  
Service

## Maintain Predictive Model

Based on data

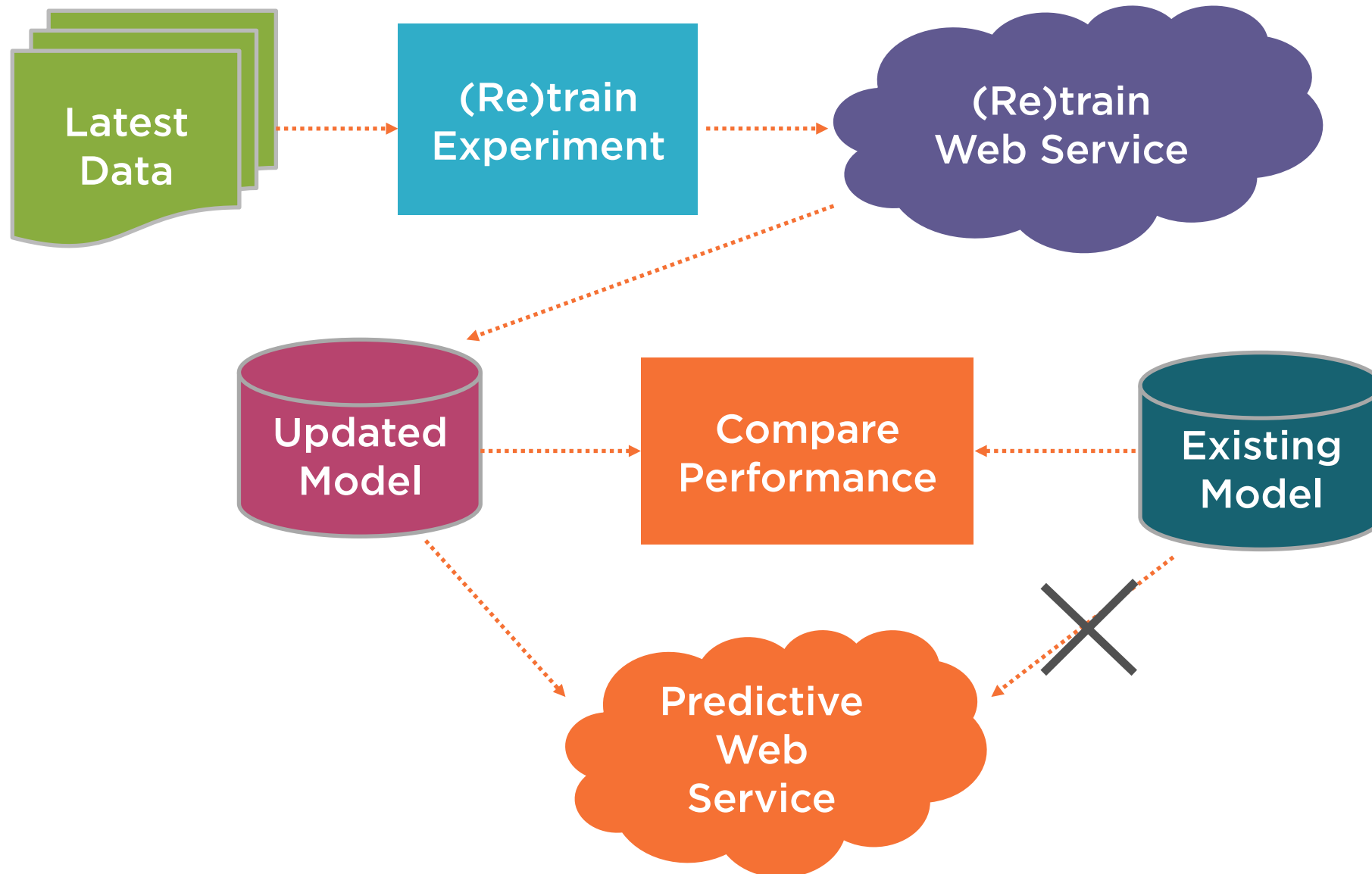
Data changes

Retrain our model

Requires Azure  
account



# Predictive WS Retraining



# Demo



## Creating Retrain Web Service



# Retrain Web Service

Based on original Training Experiment

Batch Execution Web Service

Input from updated data

Creates model from updated data

Output prediction values

Outputs evaluation results for comparison



# Demo



## Modifying Predictive Web Service



# Modified Predictive Web Service

Default endpoint used to keep original training and scoring experiment in sync.  
**It cannot be replaced.**

**We need an endpoint to connect newly created trained model**



# Demo

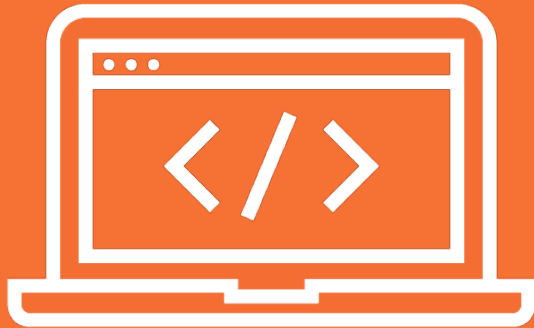


## Creating Retrain Web Service





# Retrain Web Service



Make copy of Training Experiment

Add web service input

Add web service output at Train Model;  
and at Evaluate Model modules

Add end point pointing to new trained  
model

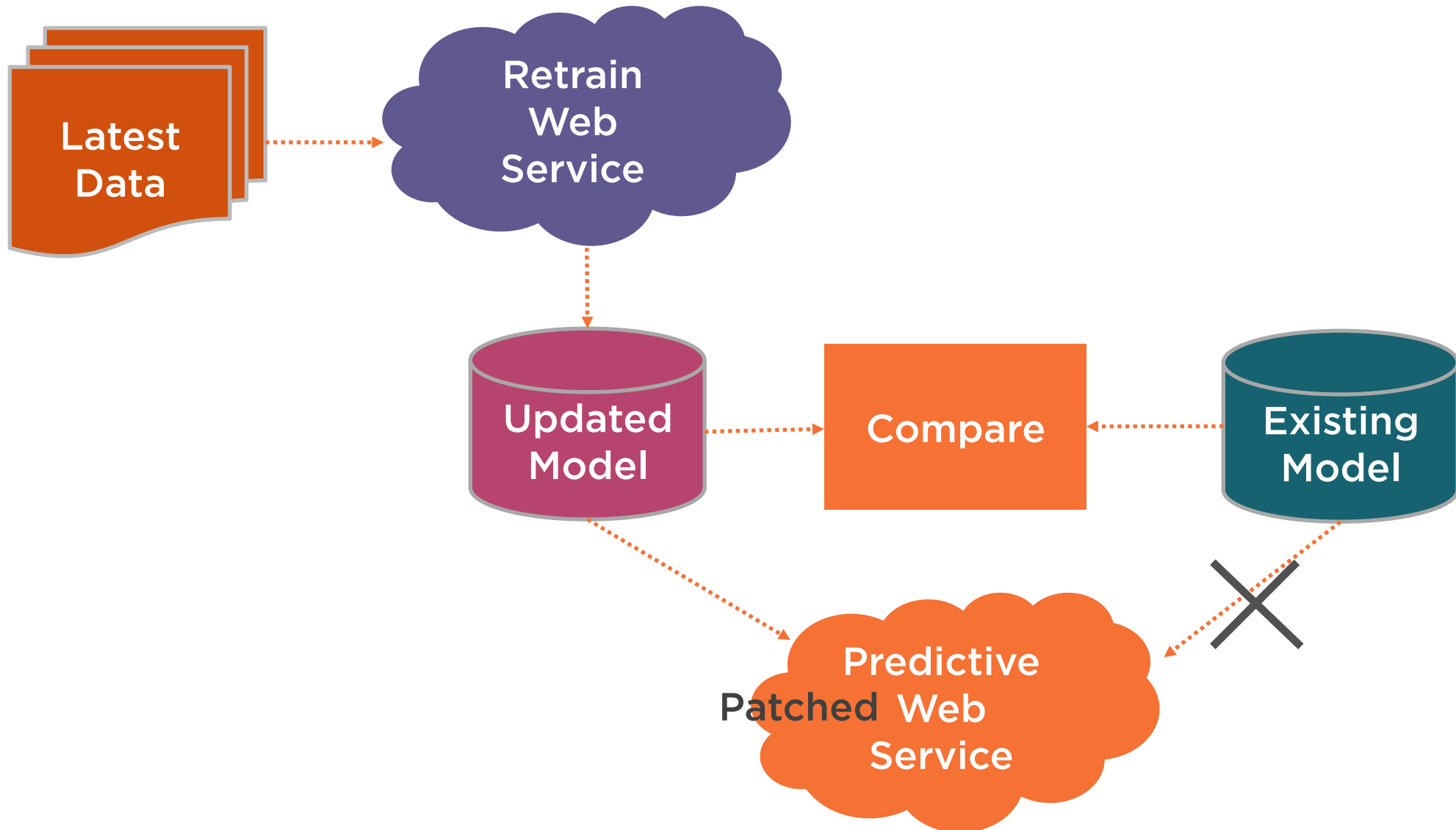
Update BES to point to storage

Evaluate results

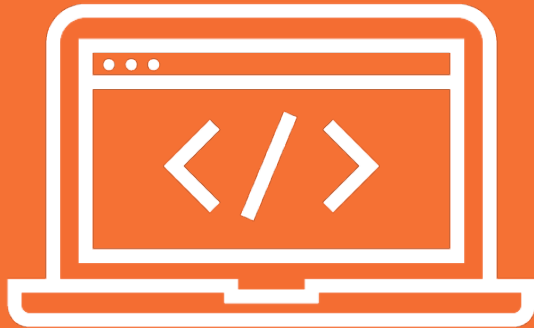
If results better, update Predictive web  
service to use end point pointing to new  
trained model



# Maintaining Predictive Model Workflow



# Retrain Web Service Help



## Retrain ML Models Programmatically

[\*https://azure.microsoft.com/en-us/documentation/articles/machine-learning-retrain-models-programmatically/\*](https://azure.microsoft.com/en-us/documentation/articles/machine-learning-retrain-models-programmatically/)

## Troubleshooting Retraining Azure ML Web Service

[\*https://azure.microsoft.com/en-us/documentation/articles/machine-learning-troubleshooting-retraining-models/\*](https://azure.microsoft.com/en-us/documentation/articles/machine-learning-troubleshooting-retraining-models/)



# Summary



**Data change over time**

**Retraining is a necessary maintenance procedure**

**Azure makes Retraining relatively simple**