Photon is the native vectorized query engine on Databricks, written to be directly compatible with Apache Spark APIs so it works with your existing code. It is developed in C++ to take advantage of modern hardware, and uses the latest techniques in vectorized query processing to capitalize on data- and instruction-level parallelism in CPUs, enhancing performance on real-world data and applications-—all natively on your data lake. Photon is part of a high-performance runtime that runs your existing SQL and DataFrame API calls faster and reduces your total cost per workload. Photon is used by default in Databricks SQL warehouses.

Photon is available for clusters running Databricks Runtime 9.1 LTS and above.

To enable Photon acceleration, select the Use Photon Acceleration checkbox when you create the cluster. If you create the cluster using the clusters API, set runtime\_engine to PHOTON.

Photon supports a number of instance types on the driver and worker nodes. Photon instance types consume DBUs at a different rate than the same instance type running the non-Photon runtime.

The default deployment of Azure Databricks is a fully managed service on Azure: all data plane resources, including a VNet that all clusters will be associated with, are deployed to a locked resource group. If you require network customization, however, you can deploy Azure Databricks data plane resources in your own virtual network (sometimes called VNet injection), enabling you to:

* Connect Azure Databricks to other Azure services (such as Azure Storage) in a more secure manner using service endpoints or private endpoints.
* Connect to on-premises data sources for use with Azure Databricks, taking advantage of user-defined routes.
* Connect Azure Databricks to a network virtual appliance to inspect all outbound traffic and take actions according to allow and deny rules, by using user-defined routes.
* Configure Azure Databricks to use custom DNS.
* Configure network security group (NSG) rules to specify egress traffic restrictions.
* Deploy Azure Databricks clusters in your existing VNet.