

# Data Science Essentials

## Data Science Technologies

Data scientists use a range of technologies to work with data. From common productivity tools like Excel to highly specialized statistical tools and languages.

Microsoft Azure Machine Learning (Azure ML) is a cloud-based service from Microsoft in which you can create and run data science experiments, and publish them as web services. It provides an easy to use, drag and drop interface for creating data science experiments, and can significantly reduce the time it takes to build a solution. Azure ML experiments are based on data flows that include datasets, which define sources of data, and modules that operate on the data.

In addition to tools like Azure ML, most data scientists rely heavily on programming languages that enable them to ingest, manipulate, aggregate, and visualize data. Most data scientists have some familiarity with Structured Query Language (SQL), which is a standards-based language for querying databases and retrieving data. Additionally, most data scientists are proficient in R or Python (or both!)

You can extend the built-in capabilities of Azure ML by including script modules that run R, Python, or SQL code.

For more information about Azure ML, see the following links:

- Azure ML Documentation: <http://azure.microsoft.com/documentation/services/machine-learning>
- Microsoft Azure Essentials: Azure Machine Learning (free e-book): <http://www.microsoftvirtualacademy.com/ebooks#9780735698178>