

SQL SATURDAY IOWA CITY
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AZURE DATA STUDIO, NOTEBOOKS, AND DOCKER CONTAINERS

ABOUT ME

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WHAT WE WILL COVER

Azure Data Studio

Jupyter Notebooks

Containers

Docker



AZURE DATA STUDIO – WHAT IT ISN'T

A replacement for SQL Server Management Studio

A tool for administrative tasks

Only for Azure

AZURE DATA STUDIO – WHAT IT IS

Introduced in preview in November 2017

Generally available in September 2018

Branch of the VSCode project

Supports Jupyter Notebooks

Contains an integrated terminal

Connectivity to any instance of SQL Server, Azure or on prem

AZURE DATA STUDIO – WHAT IT IS

Runs on Windows, Mac, and Linux

Support for source control

Source code available on GitHub

Extensible by users

Can export results to CSV, Excel, JSON, XML

Can visualize result sets



AZURE DATA STUDIO DEMO



JUPYTER NOTEBOOKS

Open-source web application

Allows combination of formatted text, code, and results

Text formatted using Markdown

Provides support for T-SQL, PowerShell, Python, and Spark



JUPYTER NOTEBOOK DEMO



CONTAINERS

Platform as a Service

Provides OS-level Virtualization

Allow bundling of software, libraries, and configuration files



VIRTUAL MACHINES VS. CONTAINERS

VIRTUAL MACHINES

Virtual Machine

Арр А

Guest Operating System **Virtual Machine**

App B

Guest Operating System **Virtual Machine**

App C

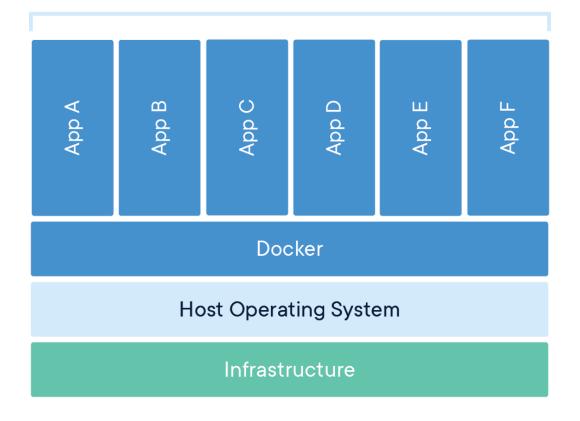
Guest Operating System

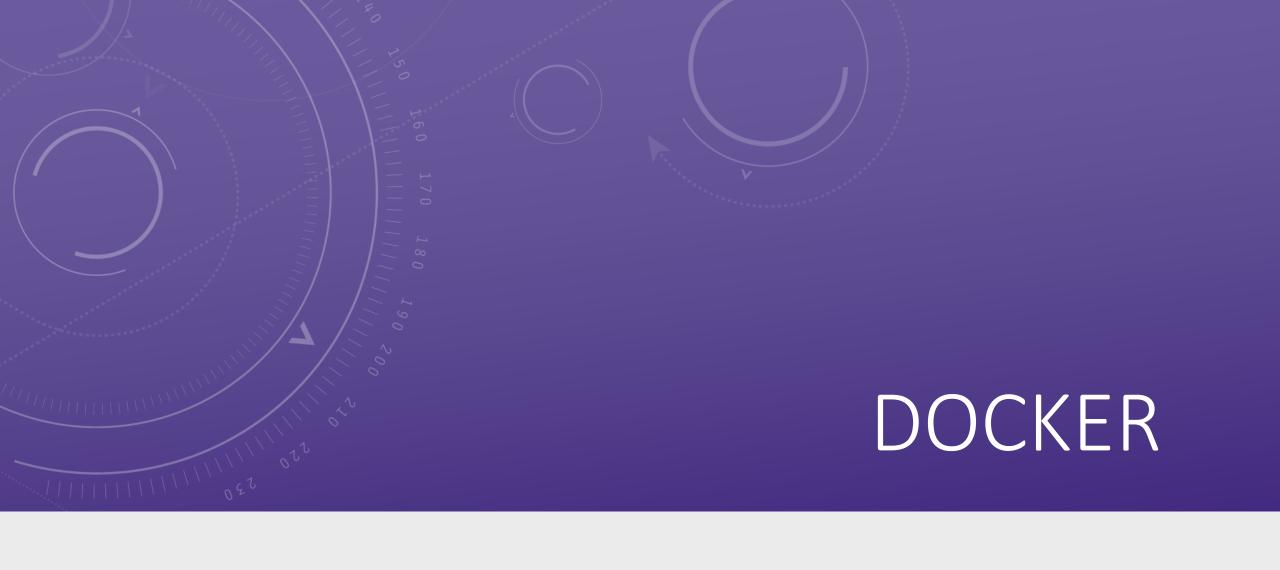
Hypervisor

Infrastructure

CONTAINERS







DOCKER

Container management system

Docker Desktop available for Windows

Images available for download from Docker Hub

DOCKER AND SQL SERVER

SQL Server images for SQL Server 2017 and 2019 are available

Versions from GA through the latest CU

These images run on Linux

https://hub.docker.com/ /microsoft-mssql-server

DOCKER AND SQL SERVER

Allows quick build of a SQL Server instance

The container is accessible in seconds

Different version images can be created for testing

Persistent storage can be mounted



DOCKER CONTAINER DEMO



RESOURCES

RESOURCES

Download Azure Data Studio

Download Docker for Windows

Docker Hub for SQL Server

Jupyter Notebooks and Azure Data Studio

SQL Workshops GitHub Repository - Contains scripts and notebooks from Microsoft for both SQL Server and Machine Learning