
Getting the "Sandbox" up and running.... Connect, Clean Up, Create

Challenges in cloud development: <https://docs.microsoft.com/en-us/azure/architecture/patterns/#challenges-in-cloud-development>

Azure Get Started: <https://docs.microsoft.com/en-us/azure/index#pivot=get-started>

Azure Developer Tools: <https://azure.microsoft.com/en-us/tools/>

The Daily's

1. Login to Azure Portal
2. View Azure Resources
 - a. What do I DELETE or RE-USE?
3. Create SQL database AdventureWorksLT
4. Create storage "containers"
5. Create Virtual Machines
 - a. <https://docs.microsoft.com/en-us/azure/virtual-machines/windows/quick-create-portal>
6. Connect from your "sandbox":
[https://en.wikipedia.org/wiki/Sandbox_\(software_development\)](https://en.wikipedia.org/wiki/Sandbox_(software_development))
 - a. Visual Studio
 - i. SQL Server Explorer
 - ii. Azure Cloud Explorer
 - b. SSMS (SQL Server Management Studio)
 - i. <https://docs.microsoft.com/en-us/azure/sql-database/sql-database-connect-query-ssms>
 - c. Azure Storage Explorer
 - i. <https://azure.microsoft.com/en-us/features/storage-explorer/>
 - ii. <https://docs.microsoft.com/en-us/azure/vs-azure-tools-storage-manage-with-storage-explorer>
 - d. Visual Studio Code
 - i. Azure Storage for Visual Studio Code (Preview)
 - ii. <https://marketplace.visualstudio.com/items?itemName=ms-azuretools.vscode-azurestorage>
 - e. Azure PowerShell
 - i. <https://docs.microsoft.com/en-us/powershell/azure/get-started-azureps?view=azps-1.6.0>
 - f. space

Dev Tools to "Preview" within Azure

7. Azure Query Editor (SQL Database)
 - a. <https://docs.microsoft.com/en-us/azure/sql-database/sql-database-connect-query-portal>
 - b. SELECT * FROM
8. Microsoft Azure CLI & Azure Cloud Shell
 - a. <https://github.com/Azure/azure-cli#microsoft-azure-cli>

Admin/Advanced Dev Tools

9. Azure Resource Manager:
 - a. Allows you to provision your applications using a declarative template. In a single template, you can deploy multiple services along with their dependencies. You use the same template to repeatedly deploy your application during every stage of the application lifecycle.
 - b. <https://azure.microsoft.com/en-us/resources/templates/>
10. Azure Dev Spaces
 - a. <https://docs.microsoft.com/en-us/azure/dev-spaces/>
11. Service Fabric Explorer (SFX)
 - a. An open-source tool for inspecting and managing Azure Service Fabric clusters. Service Fabric Explorer is a desktop application for Windows, macOS and Linux.
 - i. <https://docs.microsoft.com/en-us/azure/service-fabric/service-fabric-visualizing-your-cluster>
 - b. To launch SFX in a web browser, browse to the cluster's HTTP management endpoint from any browser - for example <https://clusterFQDN:19080>.
 - i. <https://docs.microsoft.com/en-us/azure/service-fabric/service-fabric-visualizing-your-cluster#running-service-fabric-explorer-from-the-cluster>

Advanced Azure SQL (4Skwellers)

12. Azure Data Studio is a cross-platform database tool for data professionals using the Microsoft family of on-premises and cloud data platforms on Windows, MacOS, and Linux.
 - a. <https://docs.microsoft.com/en-us/sql/azure-data-studio/what-is?view=sql-server-2017>
13. Use save query results as JSON to test the setCustomer stored procedure
 - a. <https://docs.microsoft.com/en-us/sql/azure-data-studio/tutorial-sql-editor?view=sql-server-2017#use-save-query-results-as-json-to-test-the-setcustomer-stored-procedure>
14. space

Scenario

Automate tasks on the Azure hosting platform.

1. Azure Automation.

- a. This feature gives administrators the ability to create an **Azure runbook** to manage cloud resources more easily.
- b. **Azure Automation** is a native Microsoft tool to run Windows PowerShell platform as a service (PaaS).
- c. A runbook is a compilation of routine procedures and operations that the system administrator or operator carries out.
- d. Create & Manage Runbooks
 - i. <https://docs.microsoft.com/en-us/azure/automation/manage-runbooks>
- e. Create a standalone Azure Automation account
 - i. To evaluate and learn about Automation without using additional management solutions or integration with Azure Monitor logs.
 - ii. <https://docs.microsoft.com/en-us/azure/automation/automation-create-standalone-account>
- f. Graphical Authoring
 - i. Visually create runbooks for Azure Automation without the complexities of the underlying Windows PowerShell or PowerShell Workflow code.
 - ii. <https://docs.microsoft.com/en-us/azure/automation/automation-graphical-authoring-intro>

What are Microsoft Flow, Logic Apps, Functions, and WebJobs? <https://docs.microsoft.com/en-us/azure/azure-functions/functions-compare-logic-apps-ms-flow-webjobs>

2. **WebJobs** is a feature of **Azure App Service** that enables you to run a program or script in the same context as a web app, API app, or mobile app. ... The **Azure WebJobs SDK** can be used with **WebJobs** to simplify many programming tasks. For more information, see What is the **WebJobs SDK**.
 - a. Run Background tasks with WebJobs in Azure App Service
 - i. <https://docs.microsoft.com/en-us/azure/app-service/webjobs-create>
3. Azure Functions Documentation
 - a. <https://docs.microsoft.com/en-us/azure/azure-functions/>
 - b. Create a function triggered by Azure Blob storage
 - i. <https://docs.microsoft.com/en-us/azure/azure-functions/functions-create-storage-blob-triggered-function>
4. Azure Active Directory Documentation
 - a. <https://docs.microsoft.com/en-us/azure/active-directory/>
5. space

More things to build

1. Tutorial: Real-time chat with SignalR 2 and MVC 5
 - a. <https://docs.microsoft.com/en-us/aspnet/signalr/overview/getting-started/tutorial-getting-started-with-signalr-and-mvc>
2. "MvcAuth" - Create an ASP.NET MVC 5 App with Facebook, Twitter, LinkedIn and Google OAuth2 Sign-on (C#)
 - a. <https://docs.microsoft.com/en-us/aspnet/mvc/overview/security/create-an-aspnet-mvc-5-app-with-facebook-and-google-oauth2-and-openid-sign-on>
3. "ProductsApp" - create a web API that returns a list of products. The front-end web page uses jQuery to display the results.
 - a. <https://docs.microsoft.com/en-us/aspnet/web-api/overview/getting-started-with-aspnet-web-api/tutorial-your-first-web-api>
4. "ContactManager" - Create an ASP.NET Core app with user data protected by authorization
 - a. <https://docs.microsoft.com/en-us/aspnet/core/security/authorization/secure-data?view=aspnetcore-2.2#create-the-starter-app>
5. "BookService" - Entity Framework 6 for the data layer, and Knockout.js for the client-side JavaScript application - deploy the app to Azure App Service Web Apps.
 - a. <https://docs.microsoft.com/en-us/aspnet/web-api/overview/data/using-web-api-with-entity-framework/part-1>
6. space

References

1. SQL Tools and Utilities for SQL Server, Azure SQL Database, and Azure SQL Data Warehouse
 - a. <https://docs.microsoft.com/en-us/sql/tools/overview-sql-tools?view=sql-server-2017>
2. Nuget Packages:
 - a. <https://www.nuget.org/packages>
3. Kubernetes:
 - a. An open-source container orchestration system for automating application deployment, scaling, and management.[4] It was originally designed by Google, and is now maintained by the Cloud Native Computing Foundation.
 - i. <https://en.wikipedia.org/wiki/Kubernetes>
 - b. Quickstart: Develop with .NET Core on Kubernetes with Azure Dev Spaces (Visual Studio 2017)
 - i. <https://docs.microsoft.com/en-us/azure/dev-spaces/quickstart-netcore-visualstudio>
4. Service Fabric:
 - a. An open source project and it powers core Azure infrastructure as well as other Microsoft services such as Skype for Business, Intune, Azure Event Hubs, Azure Data Factory, Azure Cosmos DB, Azure SQL Database, Dynamics 365, and Cortana.
 - i. <https://azure.microsoft.com/en-us/services/service-fabric/>
 - b. Tutorial: Create a voting application with an ASP.NET Core web front-end that saves voting results in a stateful back-end service in the cluster.

- i. <https://docs.microsoft.com/en-us/azure/service-fabric/service-fabric-tutorial-create-dotnet-app>
- 5. Reliable Services APIs
 - a. <https://docs.microsoft.com/en-us/azure/service-fabric/service-fabric-reliable-services-introduction#when-to-use-reliable-services-apis>
- 6. Reliable Actors API
 - a. <https://docs.microsoft.com/en-us/azure/service-fabric/service-fabric-reliable-actors-introduction#when-to-use-reliable-actors>
- 7. Space

