



# Data Factory Automation

Automating creation and execution of ADF through .NET

Presented by Brian Nolan and Chris Miller



# Overview

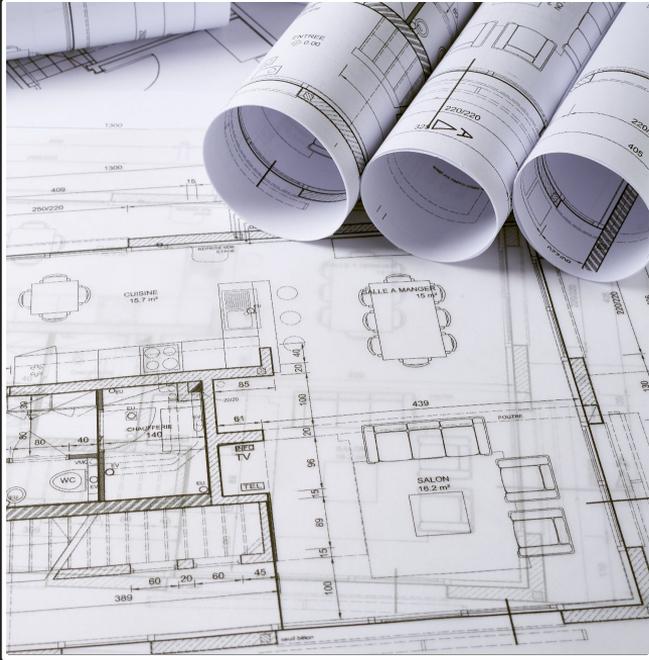
- General Idea
- Architecture
- Code
- Demonstration
- Questions
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# General Idea

- **What is Azure Data Factory?**
  - Tool to create, orchestrate, and manage data movement and enrichment
- **Idea**
  - Create a process to define and execute Azure Data Factory(ADF) pipelines from a .NET application
- **Why do it?**
  - Automate repetitive tasks
  - Reduce bugs
  - Can we save time, money, reduce burnout
  - Because we can
- **Azure Data Factory**
  - Our example factory



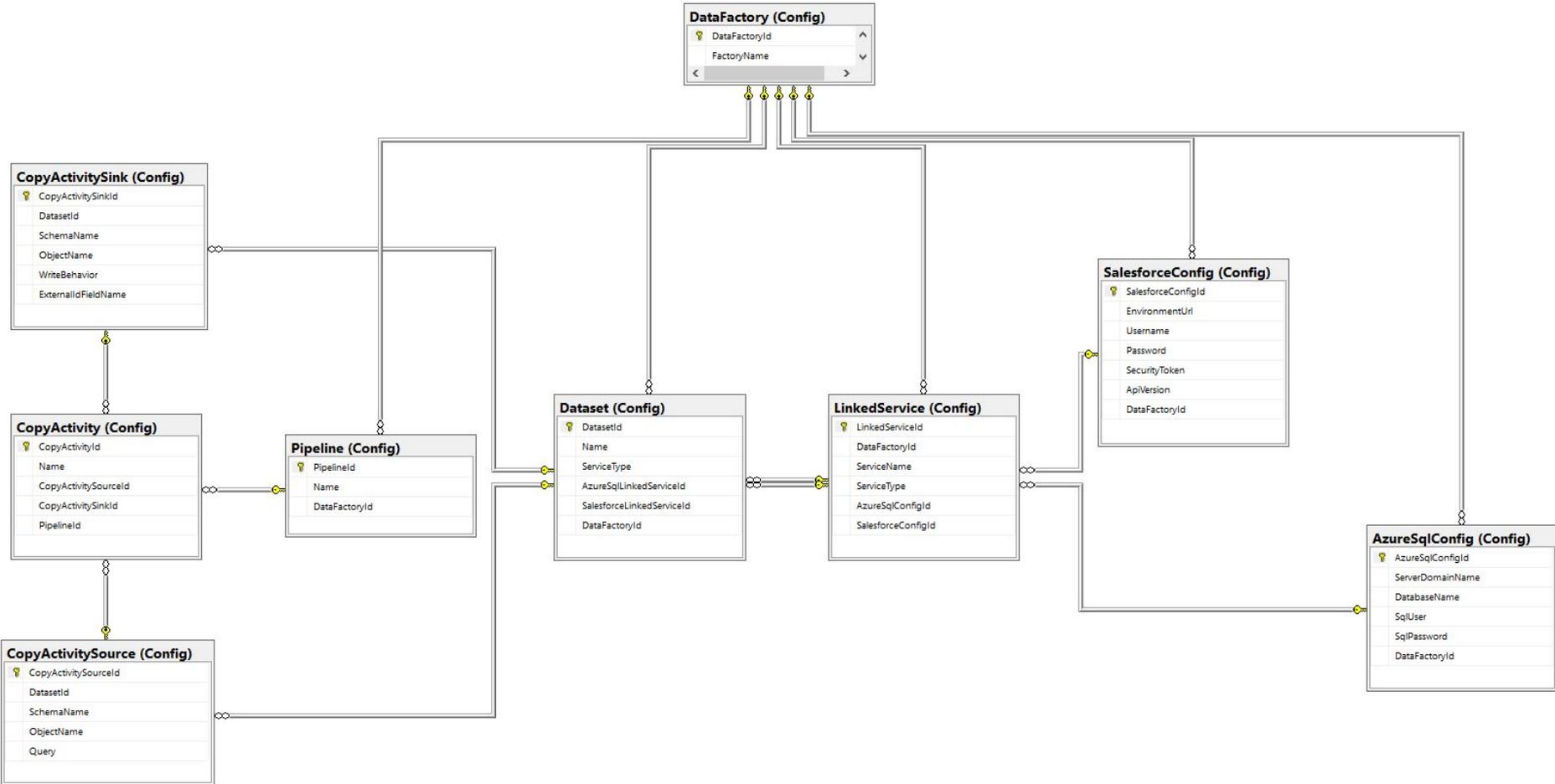


# Architecture

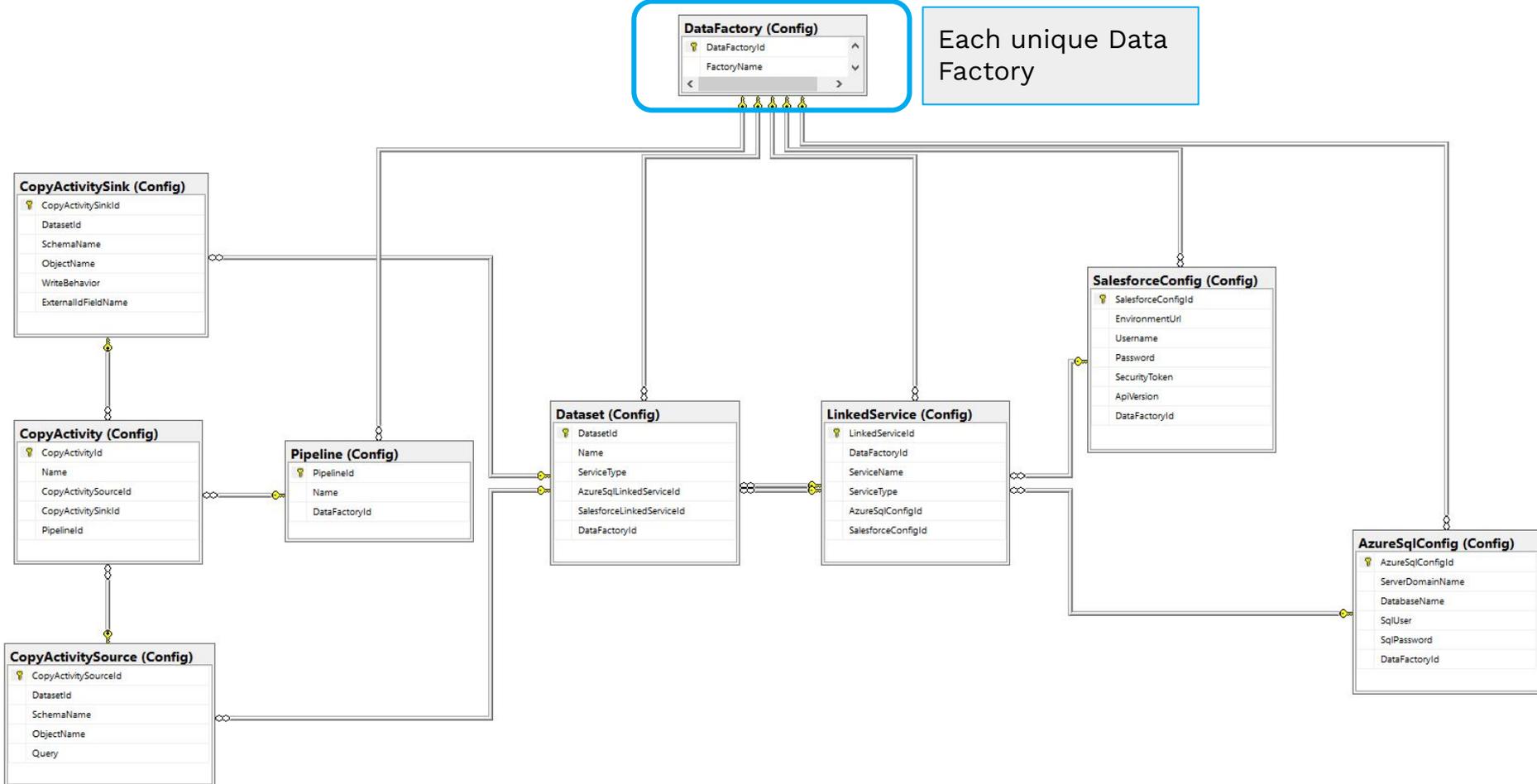
- Database
- .NET Application



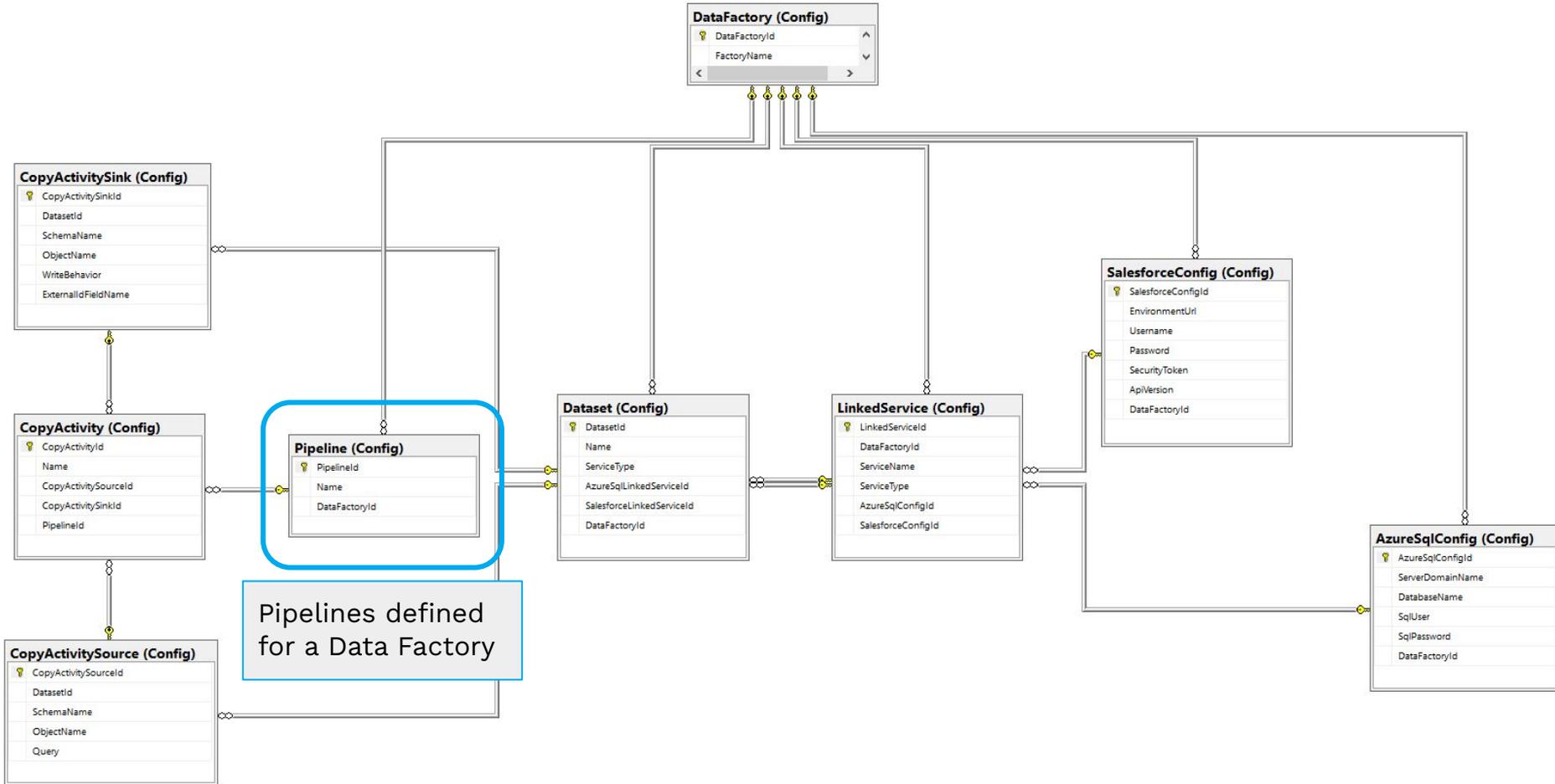
# Database Architecture



# Database Architecture

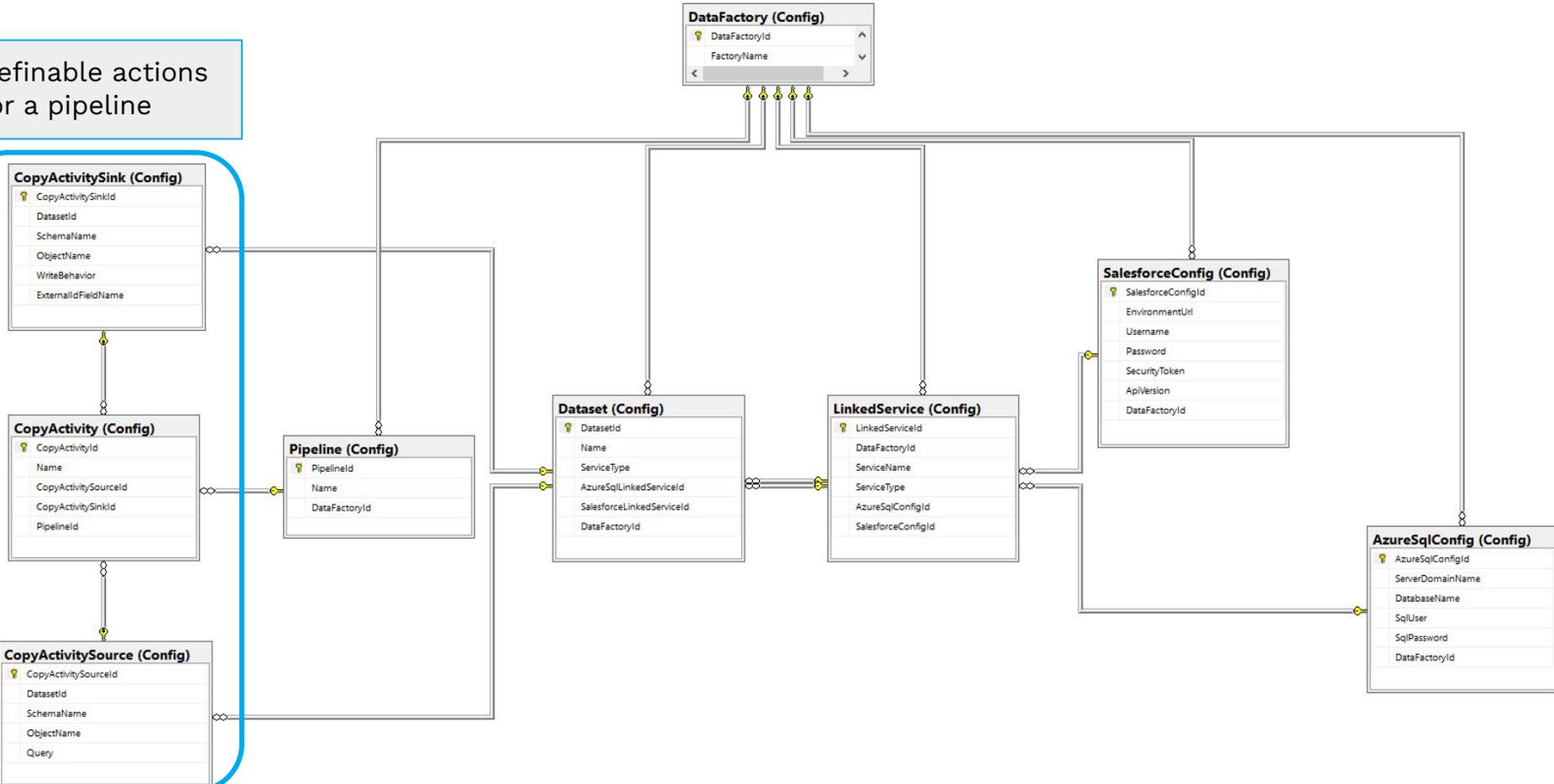


# Database Architecture

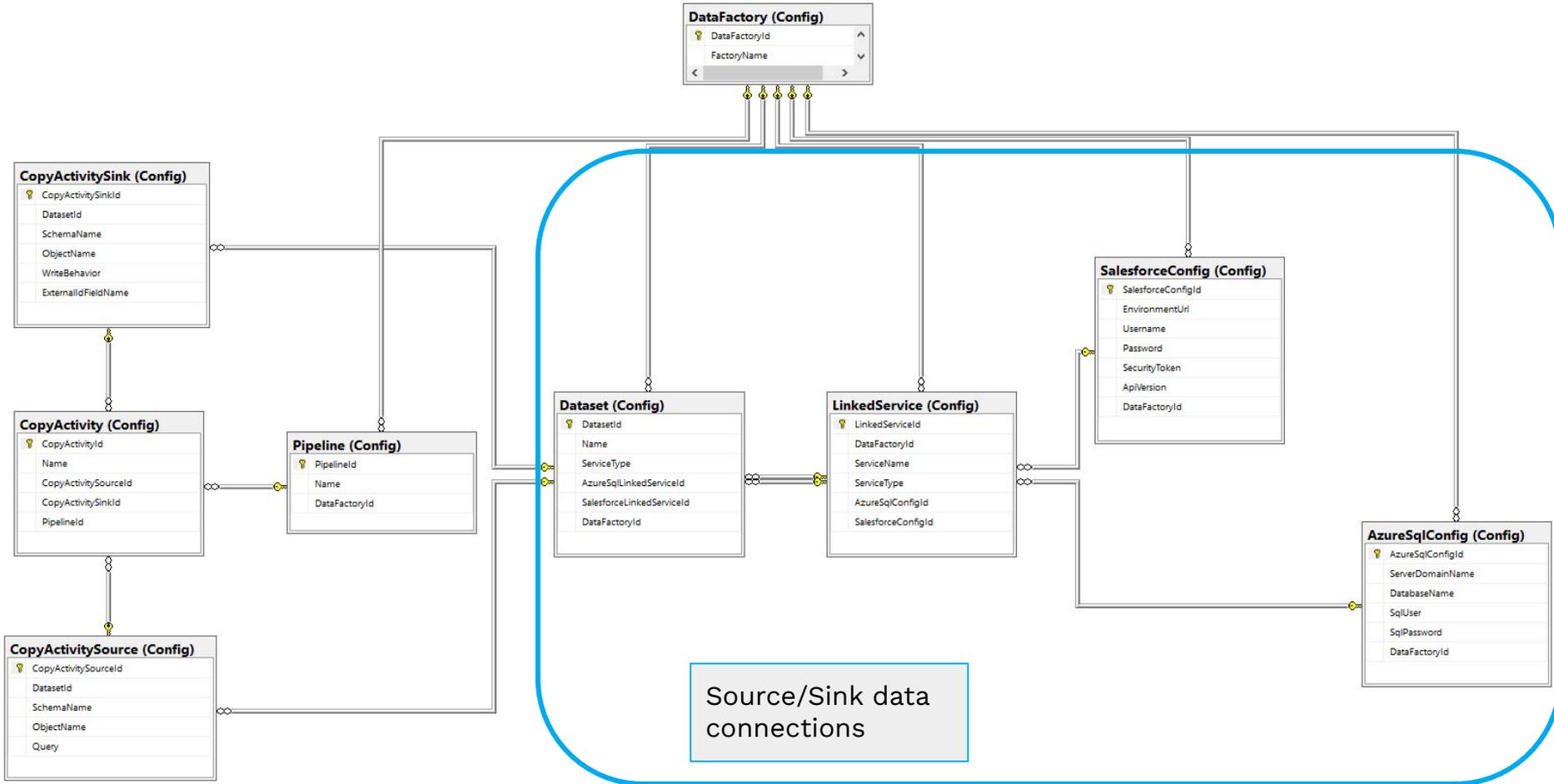


# Database Architecture

Definable actions for a pipeline



# Database Architecture



# Application Architecture

- .NET API
- Initializes database on startup
- Four endpoints
  - Get all Data Factories defined in the database
  - Create Data Factory in Azure from database model
  - Trigger pipeline execution in Azure
  - Get pipeline execution status
- Business class handles ADF creation process

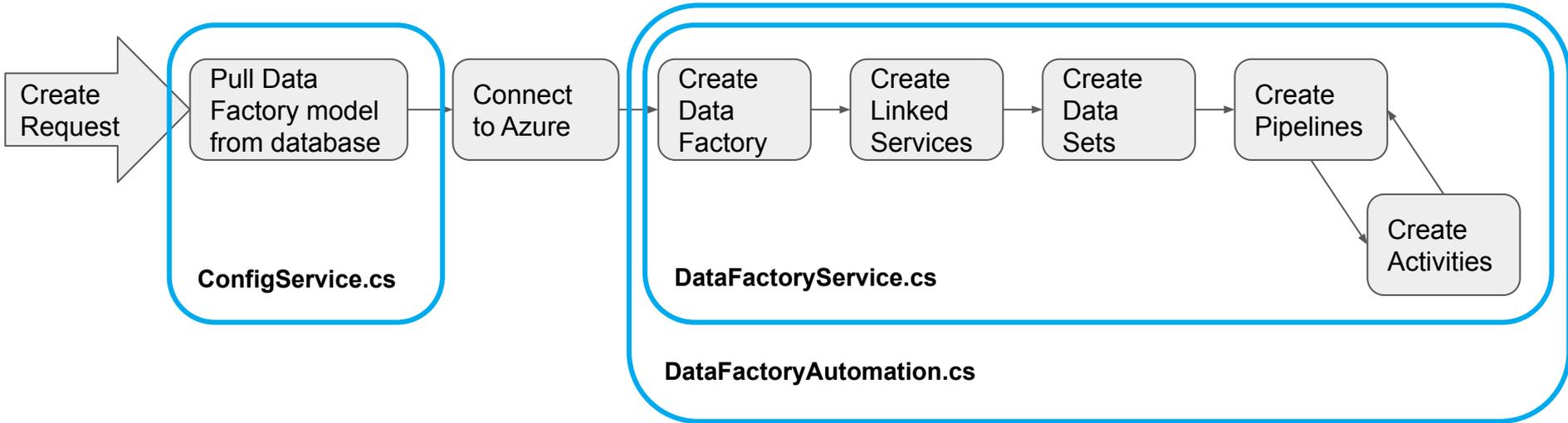


# Azure Tenant Setup

- Register application in Azure AD
- Note the ApplicationID, TenantID and Client Secret
- Assign Contributor role to the service principal



# Application Architecture



# Code Primary Classes

- ConfigService.cs - database model interaction
- DataFactoryService.cs - abstraction layer over .NET Azure library
- DataFactoryAutomation.cs - Data Factory creation processor



# Demonstration

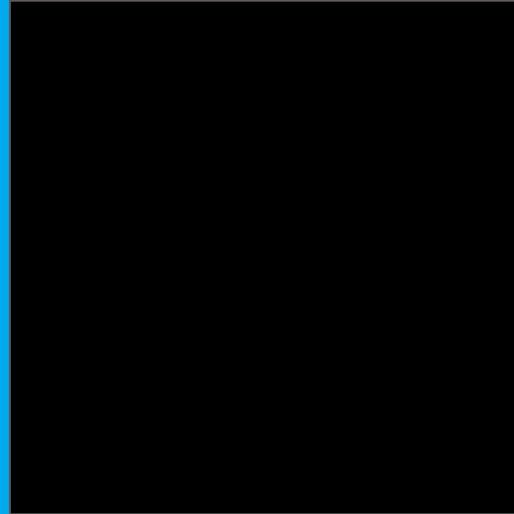
- Salesforce Demo Data
- Create a new Data Factory in Azure
- Execute the pipelines
- Check the status
- Verify data moved between systems



# References

- **Quickstart: Create a data factory and pipeline using .NET SDK**  
<https://learn.microsoft.com/en-us/azure/data-factory/quickstart-create-data-factory-dot-net>
- **Azure SDK for .NET**  
<https://github.com/Azure/azure-sdk-for-net>
- **Azure Portal**  
<https://portal.azure.com/#home>

**Questions?**



**DOWNLOAD THE PRESENTATION**





# Contact Information

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