

# Integrating Microsoft Flow into a Power BI Solution



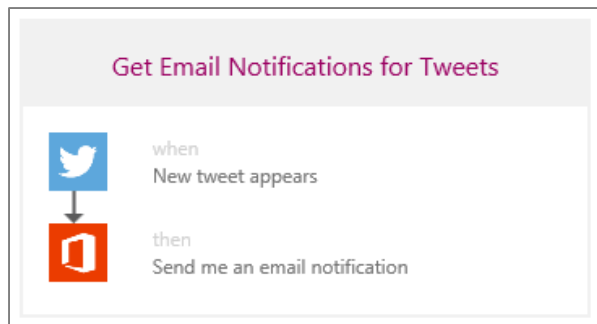
# Agenda

- Microsoft Flow
- PowerApps
- Common Data Model



# Microsoft Flow

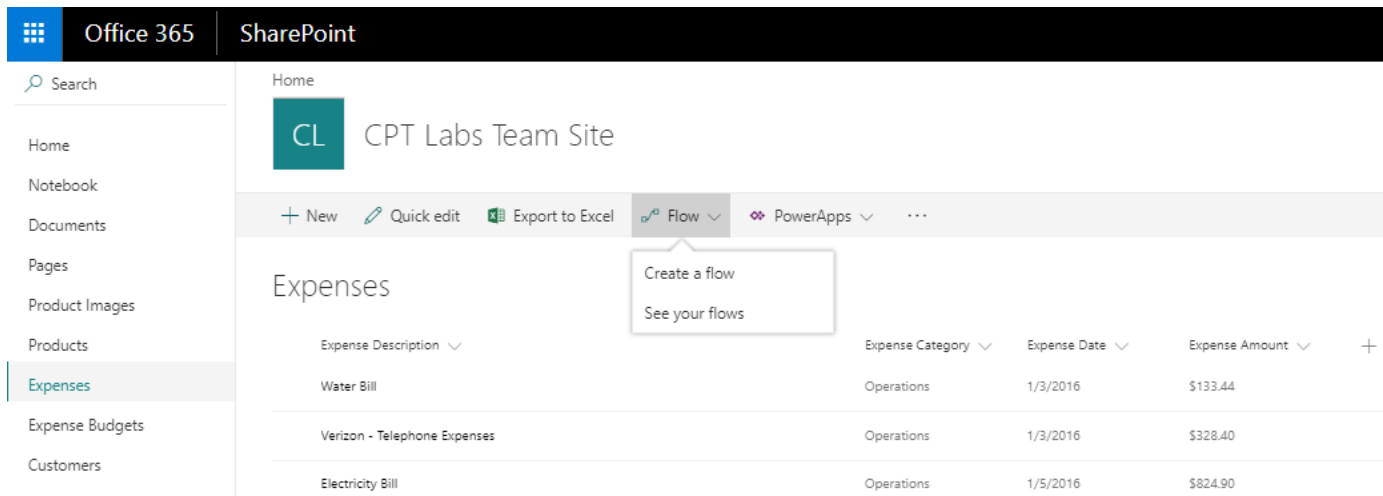
- Previously called Logic Flows
  - Rich workflows connected to services
  - Built using actions and conditions
  - No-code approach to building interconnected systems
  - Flows built from Templates -or- from scratch
- Simplified version of Azure Logic Apps



# Microsoft Flow

## SharePoint Integration

- Connect to a SharePoint List



The screenshot shows the SharePoint interface for the 'CPT Labs Team Site'. The left sidebar contains a search bar and a list of site sections: Home, Notebook, Documents, Pages, Product Images, Products, Expenses (highlighted), Expense Budgets, and Customers. The main content area displays the 'Expenses' list. Above the list is a toolbar with buttons for '+ New', 'Quick edit', 'Export to Excel', 'Flow' (highlighted), 'PowerApps', and a menu icon. A tooltip for the 'Flow' button shows 'Create a flow' and 'See your flows'. The 'Expenses' list table has columns for 'Expense Description', 'Expense Category', 'Expense Date', and 'Expense Amount'.

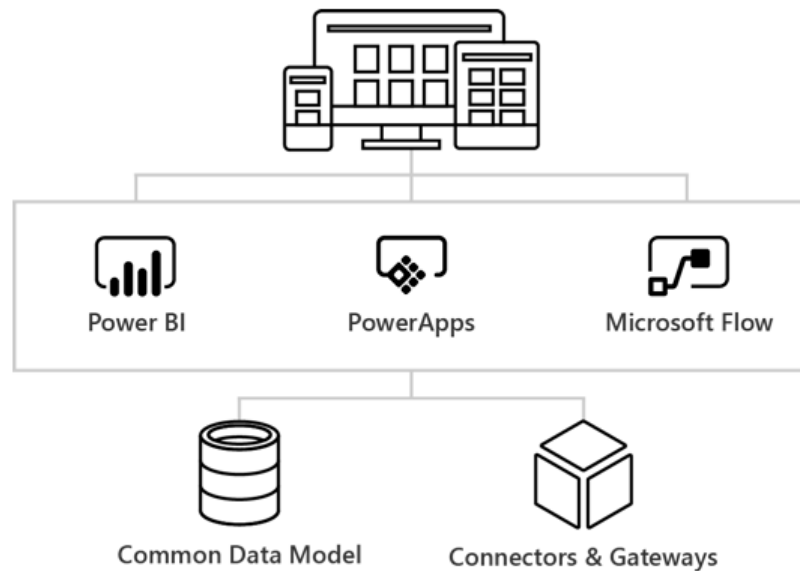
Expense Description	Expense Category	Expense Date	Expense Amount
Water Bill	Operations	1/3/2016	\$133.44
Verizon - Telephone Expenses	Operations	1/3/2016	\$328.40
Electricity Bill	Operations	1/5/2016	\$824.90



# On-Premises Data Gateway

## Connect to on-prem data

- Same technology used by Power BI, PowerApps, and MS Flow



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# PowerApps Fundamentals

- PowerApps build on top of data
  - SharePoint Lists
  - SQL database
  - Excel workbook in cloud storage
  - Salesforce Data
  - Dynamics 365
  - Common Data Service



# Building PowerApps

- PowerApps IDEs
  - PowerApps Studio for web
  - PowerApps Studio for Windows
- Distribution of apps
  - Apps shared using Microsoft AppSource





# Working with PowerApps

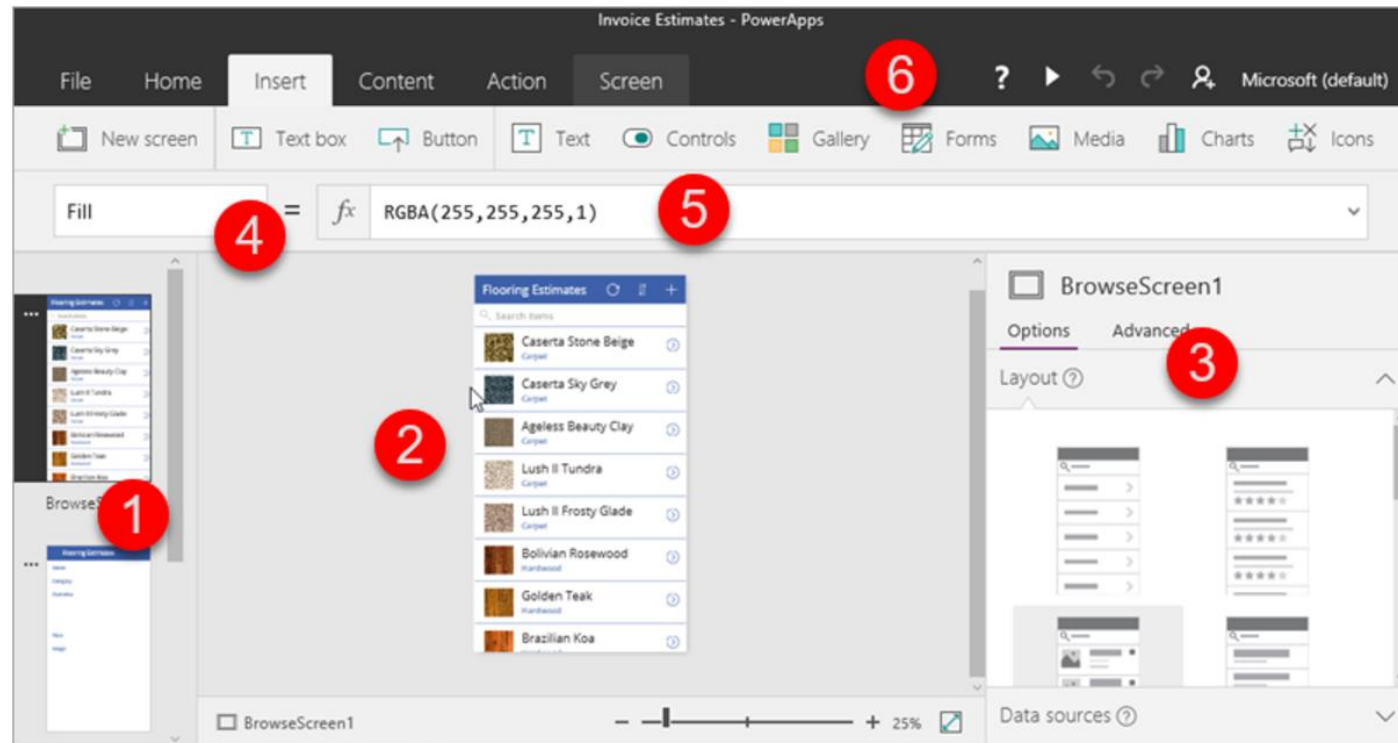
- [web.powerapps.com](https://web.powerapps.com)
  - manage and share the apps you build
- PowerApps Studio
  - build powerful apps with easy to use visual tools
- PowerApps Mobile
  - run apps on Windows, iOS, and Android devices
- PowerApps admin center
  - administer PowerApps environments and other components



- Browser-based environment



1. Left navigation bar
2. Middle pane
3. Right-hand pane
4. Property drop-down list
5. Formula bar
6. Ribbon



# Environments

- Provides context for apps and flows
  - Space to store, manage, and share data, apps & flows
  - containers to separate target audiences for security
  - Environment provides scope for CDS database
- Environment created in Azure AD tenant
  - Environment lives in a specific Azure data center
  - Only accessible to users within that tenant
- Examples environments for a large organization
  - Dev environment
  - Production Environment 1
  - Production Environment 2 (more secure)



# Environment Roles

- Admin role
  - Add or remove a user or group from roles
  - Provision a Common Data Service database
  - View and manage all resources
  - Set data loss prevention policies
- Maker role
  - create resources including apps, connections, custom connectors, gateways and flows
  - distribute apps by sharing them with users and groups



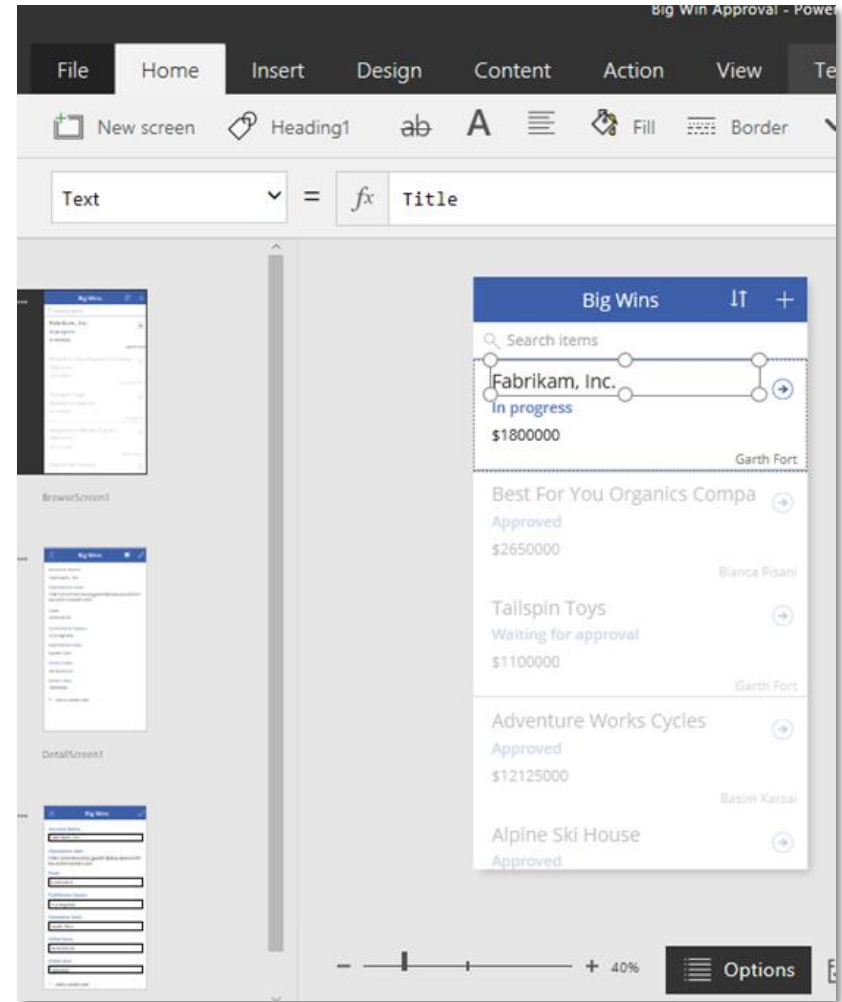
# PowerApps background

- Extension of Project Sienna
- Cloud-based apps for range of mobile devices
- Authentication through Azure Active Directory
- Built in connectors for some popular data sources
- Extensibility through custom managed APIs
  - (Azure Functions, Azure API Apps...) and Microsoft Azure

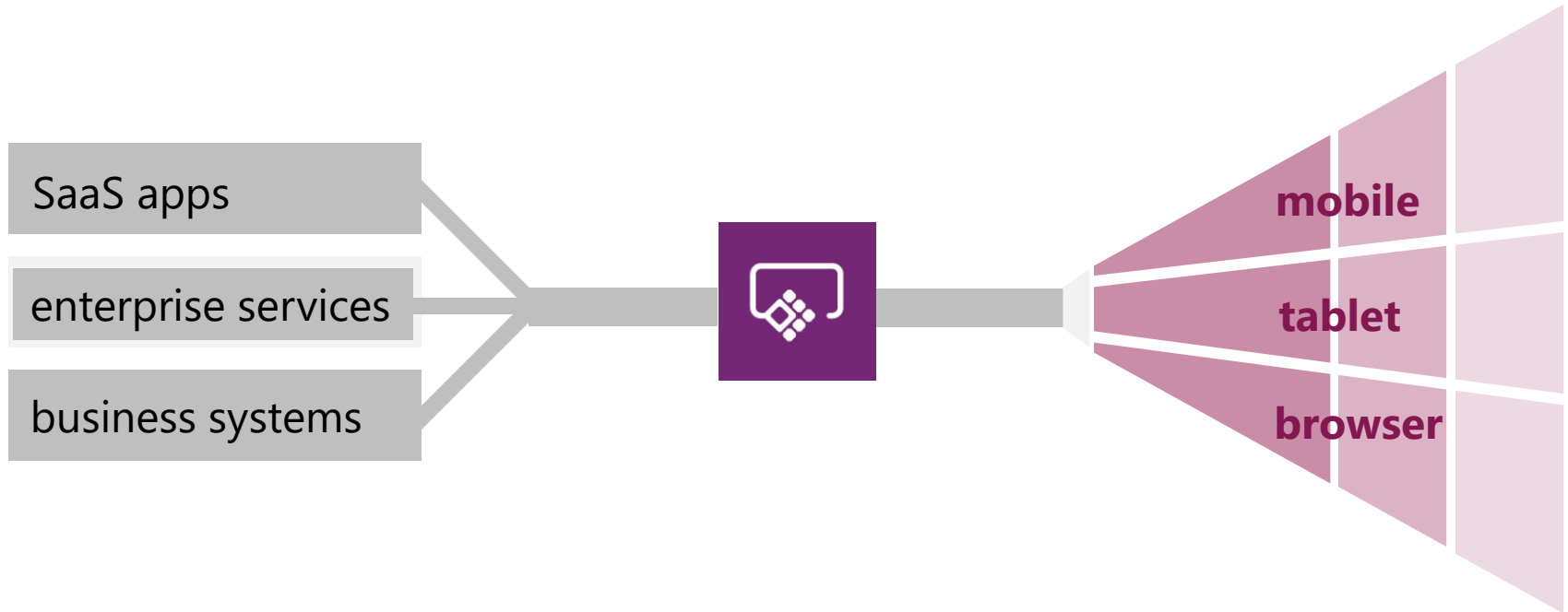


# What can I build with PowerApps?

- Apps based on data
  - SharePoint\*, SQL, but also DropBox and Google Drive
- One-dimensional, form-based apps
- Simple, single-task apps
- Microphone, camera, GPS coordinates. Ink and pen support.
- Multiple data sources in one app
- Multiple screens



# High-level architecture





# PowerApps Architecture Overview

PowerApps  
clients

Web  
clients

Mobile  
clients

Desktop  
clients, etc.

APIs



App Service Environment



Web app



Mobile app



API app



Logic app

Your existing backend



Other SaaS and cloud systems



On-Prem systems



# PowerApps Pricing Tiers

FREE	STANDARD	ENTERPRISE
\$0	\$	\$
For anyone who wants to try and use PowerApps	Free during preview	
Includes everything in Free, plus unlimited SaaS connections		For enterprise with IT and developer capabilities
Create and use an unlimited number of apps	Create and use an unlimited number of apps	Create and use an unlimited number of apps
2 connections to SaaS data sources per user	Unlimited connections to SaaS data sources	Unlimited connections to SaaS and on-premises data sources as well as custom APIs
Shared Infrastructure	Shared Infrastructure	Dedicated infrastructure (Azure App Service Environment)
		App governance, secure access control, and usage reporting
		API management



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# Common Data Model

## Organizational database in the cloud

- Entities define domain language
  - People = Employee, Team, Contractor...
  - Sales = Customer, Contact, Sales Order...
- Able to define custom entities
- Create relationships between entities

Id	Title	CustomerId	OrderId



CustomerName	Locale	CustomerId

OrderId	OrderDate	Price



# Summary

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