

Designing and Deploying Dashboards



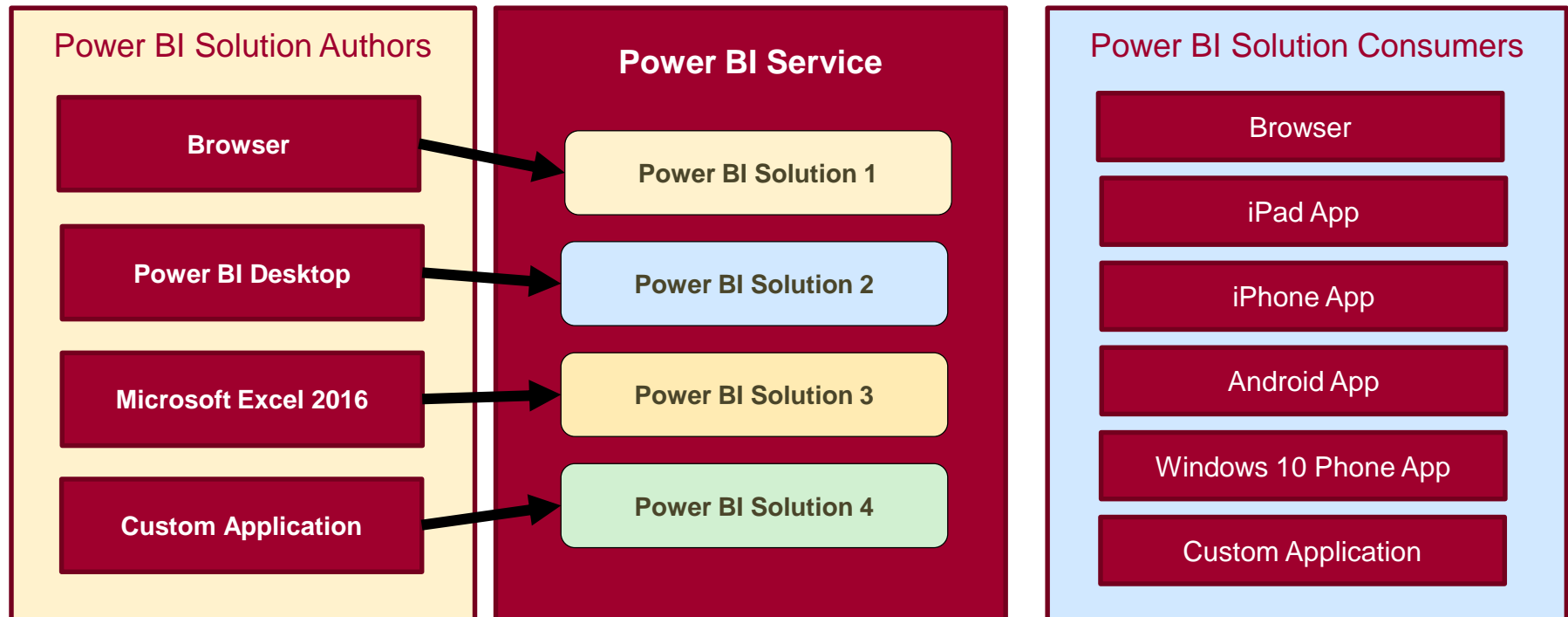
Agenda

- Content Distribution in Power BI
 - App Workspaces
 - Organizational Content Packs
 - Publishing Apps
 - Power BI Premium



Power BI Authors and Consumers

- Power BI support for authors and consumers
 - BI solution authors have a choice in authoring tools
 - BI solutions consumers can use wide range of devices



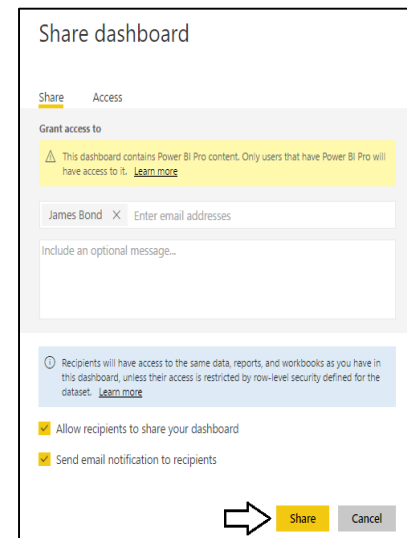
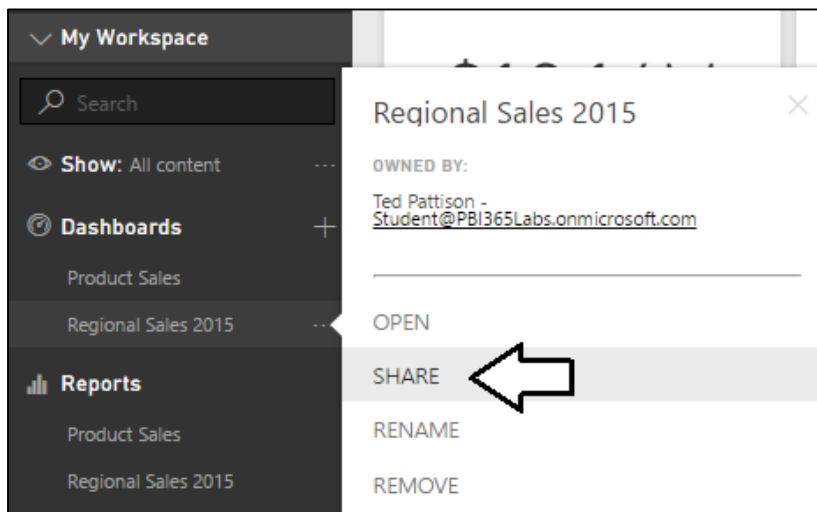
Distributing a Custom Solution

- Strategies for sharing reports and dashboards
 - Dashboard sharing
 - Read-only App Workspaces
 - Organization Content Packs (supports staged updates)
 - Power BI Apps (supports staged updates)

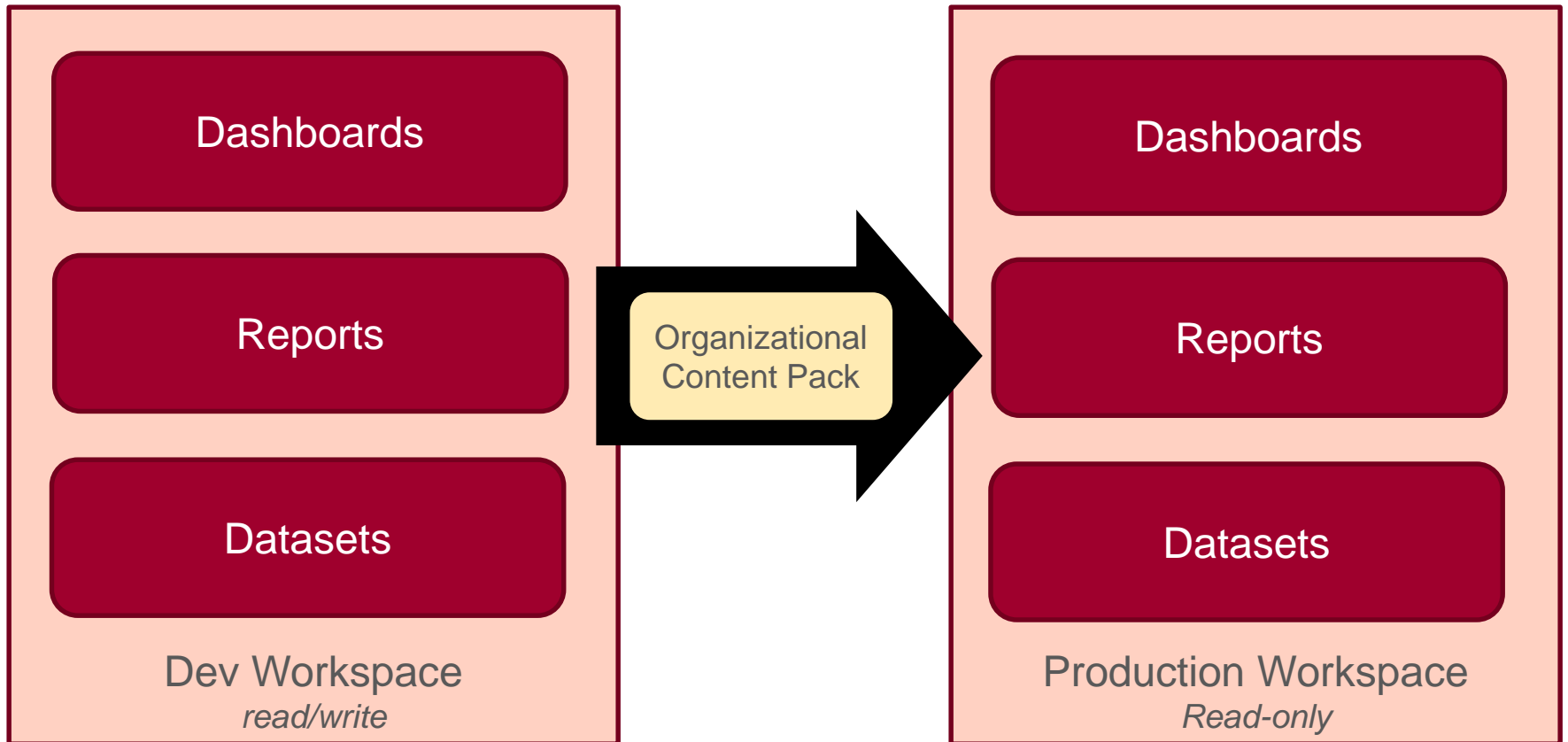


Sharing Dashboards

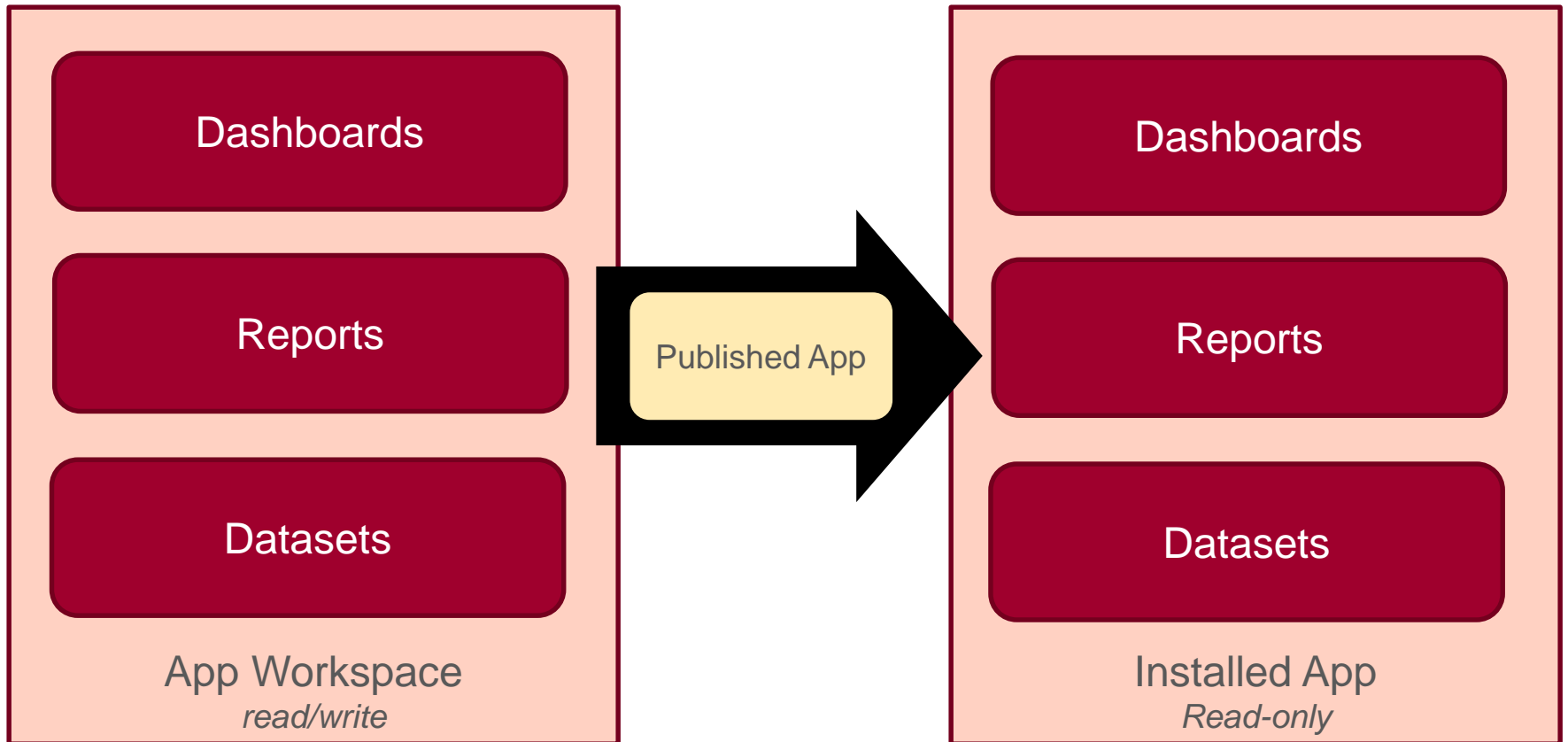
- Used to make dashboard accessible to other users
 - Other users must be within same Office 365 organization
 - Sharing dashboard provides indirect access to reports and datasets
 - Dashboard author must have Pro license to share dashboard
 - Dashboard consumption required Pro license or Power BI Premium



Old Distribution Model



New Distribution Model



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What Exactly is an App Workspace?

- App Workspace is Power BI resource container
 - Provides storage for datasets, reports and dashboards
- App Workspace created as Office 365 Group
 - Acts as both a security group and distribution list
 - Requires provisioning SharePoint team site
- On the Power BI Roadmap
 - Creating workspace without SharePoint provisioning



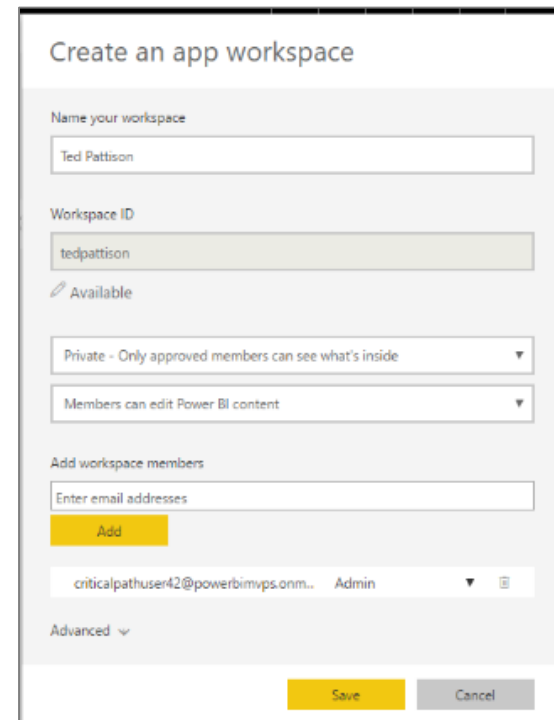
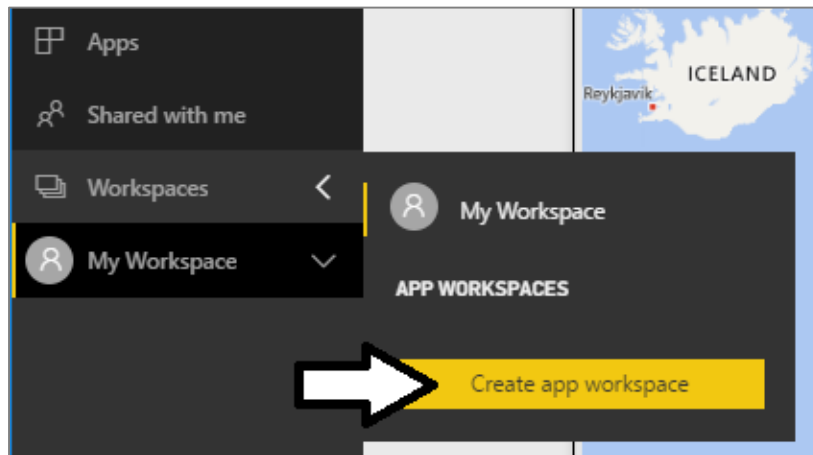
Understanding Group Workspaces

- Group workspaces required for team-based development
 - Assets in personal workspaces can only be edited by one person
 - Assets in group workspace can be edited by team members
- Group workspaces provide secure, updatable deployment
 - Group workspace can be secured using private membership
 - Group workspace usually created in read-only mode for production
 - Content pack used to deploy custom solution to group workspace
 - Content pack used to update custom solution in group workspace



Solution Deployment using App Workspaces

- App workspaces used to deploy custom solutions
 - App workspaces required for team-based development
 - App workspace can be secured using private membership
 - App workspace used to publish apps for licensed users

A screenshot of the 'Create an app workspace' dialog box. It contains the following fields and options:

- Name your workspace:** A text input field containing 'Ted Pattison'.
- Workspace ID:** A text input field containing 'tedpattison'.
- Available:** A checkbox that is checked.
- Privacy:** A dropdown menu set to 'Private - Only approved members can see what's inside'.
- Members can edit Power BI content:** A dropdown menu set to 'Members can edit Power BI content'.
- Add workspace members:** A section with a text input field 'Enter email addresses', an 'Add' button, and a list of members. One member is listed: 'criticalpathuser42@powerbimvps.onm...' with the role 'Admin'.
- Advanced:** A dropdown arrow.
- Buttons:** 'Save' and 'Cancel' buttons at the bottom right.




Creating an App Workspace

Create an app workspace

Name your workspace

Workspace ID



 Available

☐ Public - Anyone can see what's inside

☒ Private - Only approved members can see what's inside

☐ Members can only view Power BI content

Add workspace members

maxwells@cpt0926.onmicrosoft.com	Admin	▼	
austinp@cpt0926.onmicrosoft.com	Member	▼	

Public - Anyone can see what's inside

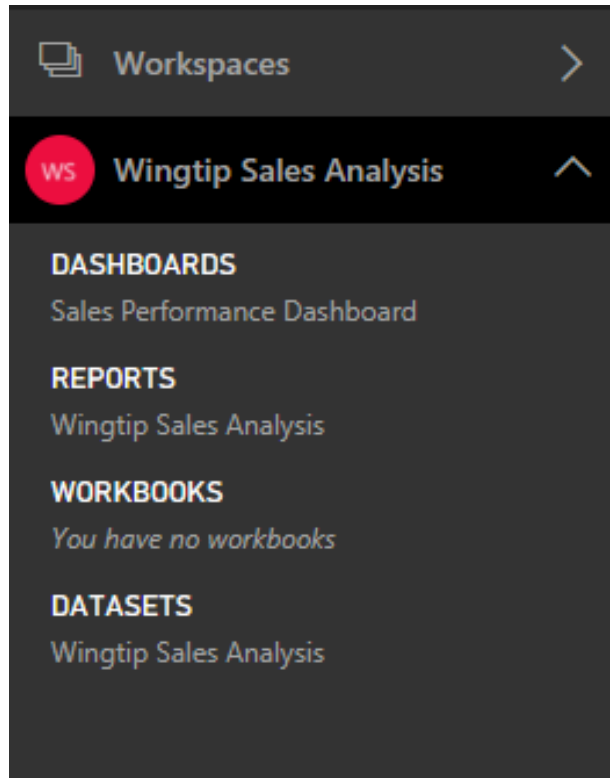
Private - Only approved members can see what's inside

Members can edit Power BI content

Members can only view Power BI content



Central Power BI Concepts



- **Workspace**
 - Provides user context and asset container
 - Every user has personal workspace
 - Team development requires app workspaces
- **Dashboard**
 - Consolidated view into reports and datasets
 - Custom solution entry point for mobile users
- **Report**
 - Collection of pages with tables & visualizations
 - Provides interactive control of filtering
- **Dataset**
 - Data model containing one or more tables
 - Can be very simple or very complex



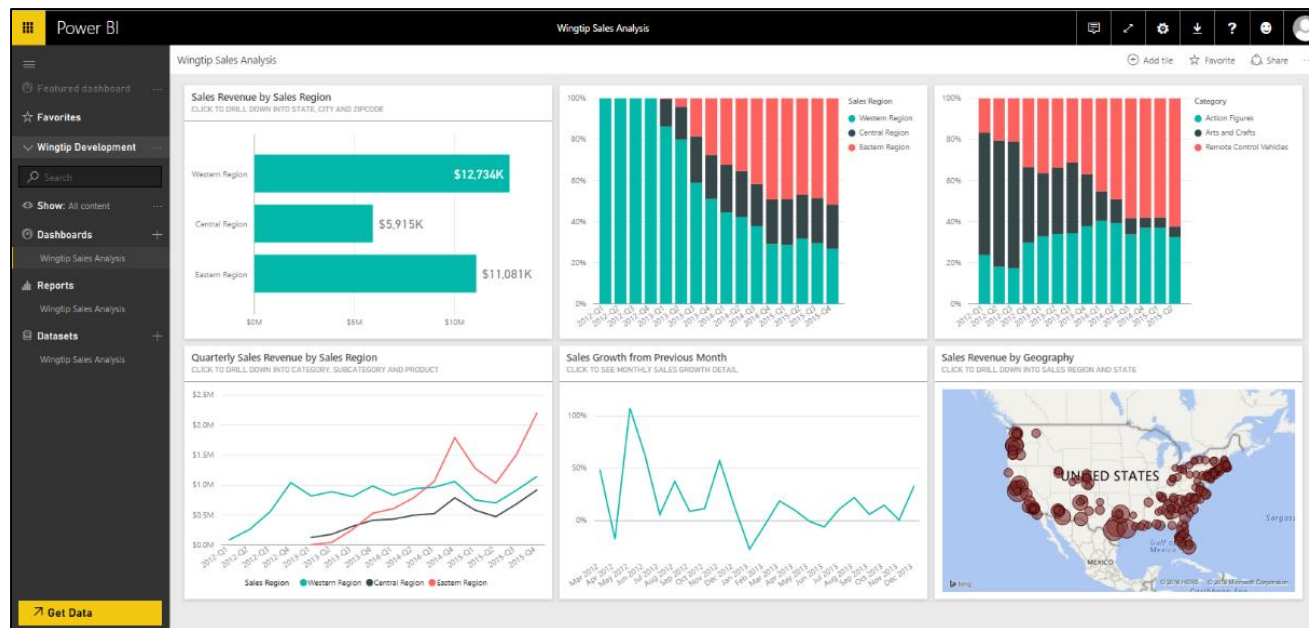
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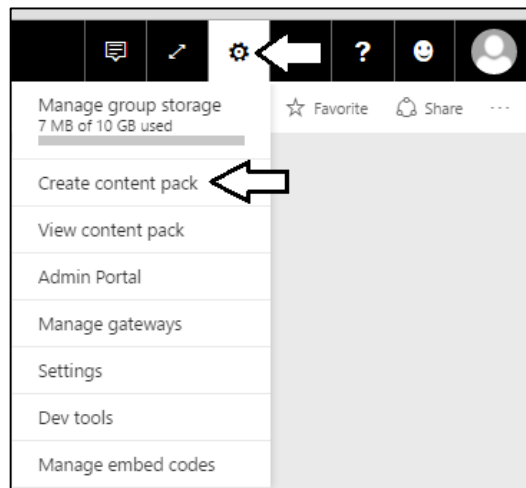
Building Solutions in a Development Workspace

- Steps to Building a Custom Solution
 - Import Power BI Desktop project into workspace
 - Design dashboard(s)
 - Deploy to production using Organizational Content Pack



Creating a Content Pack

- Best Practice Deployment uses Organization Content Packs
 - Used to copy custom solution from development to production
 - Content pack copies dashboards, reports and datasets
 - Content packs support updating assets after initial deployment



A screenshot of the 'Create content pack' form in the Wingtip Development application. The form is titled 'Wingtip Development' and 'Create content pack'. It includes a section for 'Choose who will have access to this content pack:' with two radio buttons: 'Specific groups' and 'My entire organization' (which is selected). Below this is a 'Title' field with the text 'Wingtip Sales Analysis'. There is also a 'Description' field with the text 'The content pack provides analysis of Wingtip sales revenue figures'. At the bottom, there is a section for uploading a logo, with a note: 'Upload an image or company logo. Image size: 45 KB or less, 4:3 aspect ratio, JPG or PNG format. Use default'.

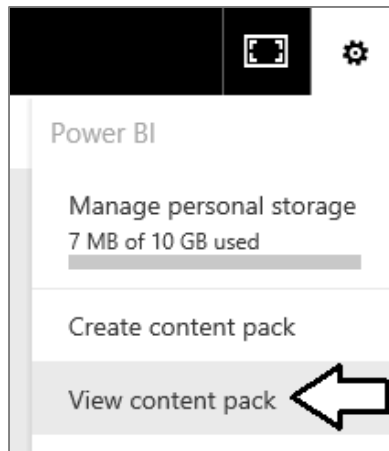
A screenshot of the 'Select items to publish' section in the Wingtip Development application. It is divided into three columns: 'Dashboards', 'Reports', and 'Datasets'. Each column has a checkbox next to the item 'Wingtip Sales Analysis', which is checked in all three columns.

Dashboards	Reports	Datasets
<input checked="" type="checkbox"/> Wingtip Sales Analysis	<input checked="" type="checkbox"/> Wingtip Sales Analysis	<input checked="" type="checkbox"/> Wingtip Sales Analysis



Viewing Content Packs

- You can view/edit content pack in workspace

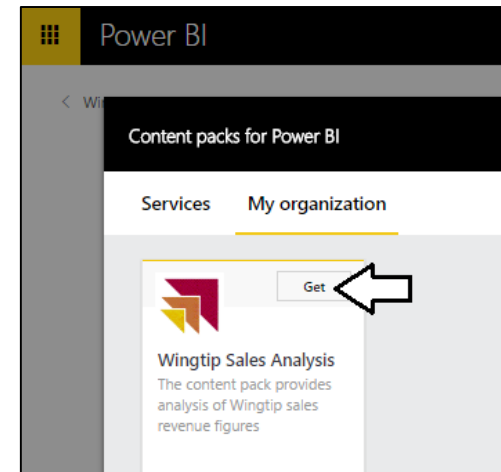
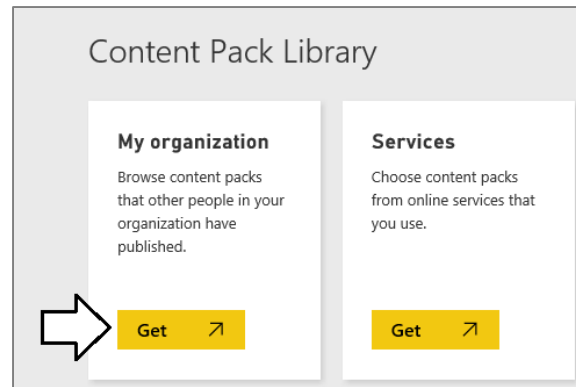
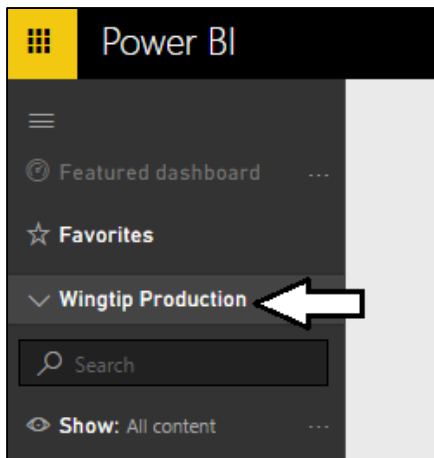


Wingtip Development			
Name	Published To	Date published	Actions
Wingtip Sales Analysis	My Organization	Aug 09, 2016	Edit Delete



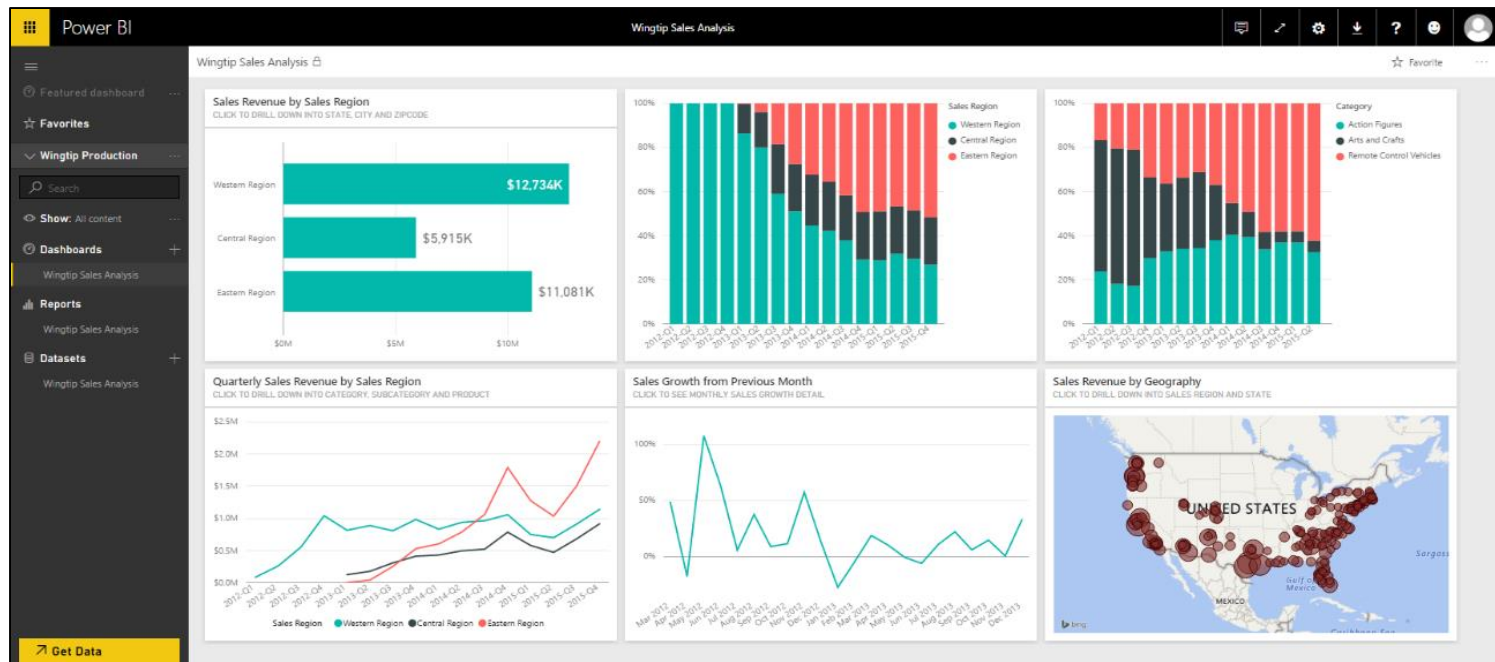
Deploying a Content Pack

- Content pack can be activated in other workspace



Read-only Workspaces

- Read-only workspace work well in production
 - Users cannot edit any dashboards or reports
 - Updates must be made to underlying content pack
 - Republishing content pack pushes changes to production





DEMO

Deploying a Dashboard using an Organizational Content Pack

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- ✓ Organizational Content Packs
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 - Power BI Premium





DEMO

Publishing an App Workspace and Installing a Power BI App

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Premium Capacities

- Power BI workspaces run in two possible environments
 - Shared Capacities
 - Premium Capacities (*formerly known as dedicated capacities*)
- Premium capacity acts as dedicated resource
 - Premium capacity only used by single organization
 - PBIX file uploads not limited to 1GB
 - Data refresh frequency can exceed 8 times per day
 - Each premium capacity defines its own set of admins
 - *Premium capacity required to share with users without pro license*







Power BI Licensing

- User-based licensing

<p>Power BI (free)</p> <p>\$0.00 user/month</p> <p>A cloud-based business analytics service that enables anyone to visualize and analyze data with greater speed, efficiency, and understanding. It ...</p> <p>Office 2016 desktop & mobile apps Not included</p> <p>Office 365 services </p> <p>...</p>	<p>Power BI Pro</p> <p>\$9.99 user/month</p> <p>A cloud-based business analytics service that enables anyone to visualize and analyze data with greater speed, efficiency, and understanding. Power ...</p> <p>Office 2016 desktop & mobile apps Not included</p> <p>Office 365 services </p> <p>...</p>	<p>Office 365 Enterprise E5</p> <p>\$35.00 user/month</p> <p>The Office suite, plus email, instant messaging, HD video conferencing, 1 TB personal file storage and sharing, and advanced security, analytics and PSTN ...</p> <p>Office 2016 desktop & mobile apps </p> <p>Office 365 services </p> <p>...</p>
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- Capacity-based Licensing

<p>Power BI Premium P1</p> <p>\$4,995.00 instance/month</p> <p>Power BI capacity dedicated to your organization, unlocking unlimited content distribution and dependable performance. P1 offers 8 virtual cores ...</p> <p>Office 2016 desktop & mobile apps Not included</p> <p>Office 365 services </p> <p>...</p>	<p>Power BI Premium P2</p> <p>\$9,995.00 instance/month</p> <p>Power BI capacity dedicated to your organization, unlocking unlimited content distribution and dependable performance. P1 offers 16 virtual cores ...</p> <p>Office 2016 desktop & mobile apps Not included</p> <p>Office 365 services </p> <p>...</p>	<p>Power BI Premium P3</p> <p>\$19,995.00 instance/month</p> <p>Power BI capacity dedicated to your organization, unlocking unlimited content distribution and dependable performance. P1 offers 32 virtual cores ...</p> <p>Office 2016 desktop & mobile apps Not included</p> <p>Office 365 services </p> <p>...</p>	<p>Power BI Premium EM3 (Month to Month)</p> <p>\$2,495.00 instance/month</p> <p>Embed Power BI content in your custom application, powered by 4 virtual cores of dedicated capacity. Some Premium features are disabled ...</p> <p>Office 2016 desktop & mobile apps Not included</p> <p>Office 365 services </p> <p>...</p>
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Premium Capacity Nodes

- Power BI Premium Purchased using Nodes
 - Node type defines v-core and RAM capabilities
 - P nodes used for embedded or service deployments
 - EM nodes used only for embedded deployments

Capacity Node	Total cores	Backend Cores	Frontend Cores	Direct Query Limits	Page renders/hour
EM1	1 v-cores	.5 cores, 3GB RAM	.5 cores		1-300
EM2	2 v-cores	1 core, 5GB RAM	1 core		301-600
EM3	4 v-cores	2 cores, 10GB RAM	2 cores		601-1,200
P1	8 v-cores	4 cores, 25GB RAM	4 cores	30 per second	1,201-2,400
P2	16 v-cores	8 cores, 50GB RAM	8 cores	60 per second	2,401-4,800
P3	32 v-cores	16 cores, 100GB RAM	16 cores	120 per second	4,801-9600



Managing Premium Capacities

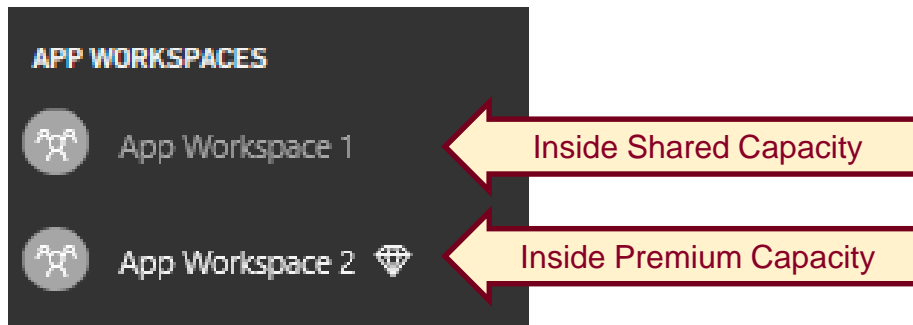
The screenshot displays the Power BI Admin portal interface. On the left is a dark sidebar with navigation options: Favorites, Recent, Apps, Shared with me, Workspaces, and My Workspace (selected). The main content area is titled 'Admin portal' and contains a sub-menu with 'Usage Metrics', 'Users', 'Audit logs', 'Tenant settings', and 'Capacity settings' (highlighted). The 'Capacity settings' section shows tabs for 'Power BI Premium' (active) and 'Power BI Embedded'. Under 'Power BI Premium', a 'V-CORES' section shows a progress bar for '8 of 8 used' out of '8 v-cores' available, with '0 available' remaining. A link 'Learn more about capacity sizes' and a button 'Set up new capacity' are present. Below this is a table titled 'PREMIUM CAPACITIES'.

CAPACITY NAME	CAPACITY ADMINS	ACTIONS	SKU	V-CORES	STATUS
Capacity P1 #1 8GB model	datachant, djeepy1, gastoncruz, h... + 1 more		P1	8	Active

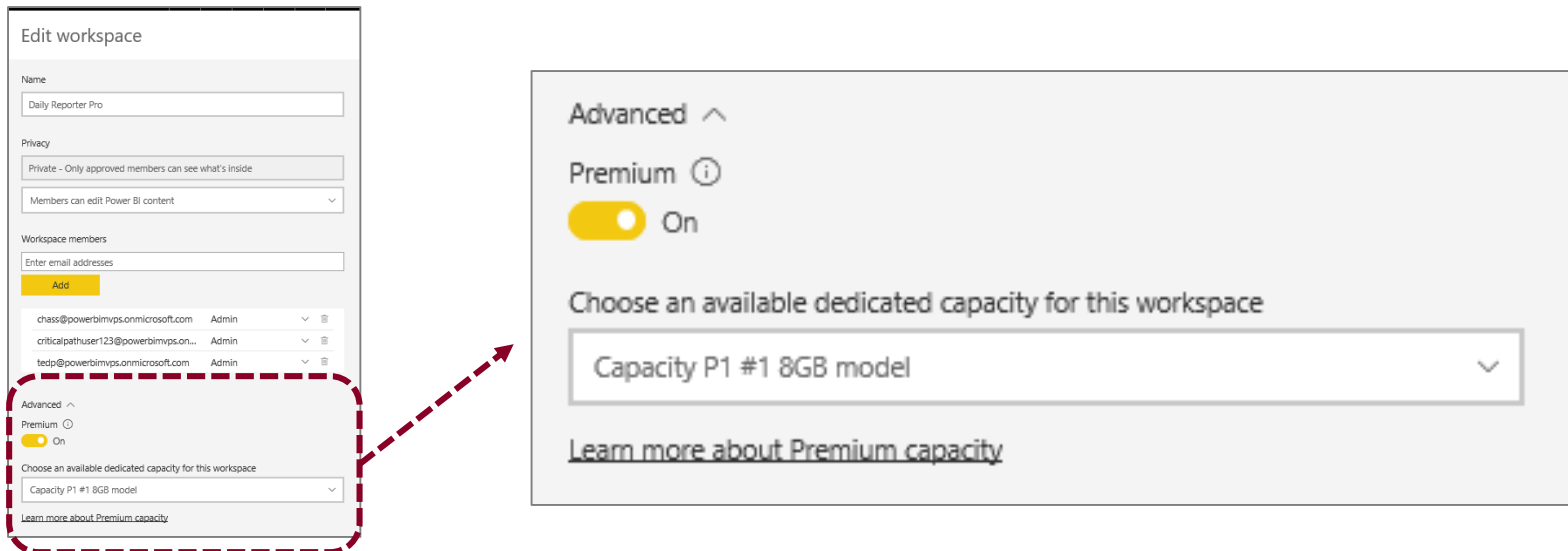


Managing Capacities and App Workspaces

- App Workspace in Premium Capacity has diamond icon



- App workspace moved into Premium capacity in Advanced settings



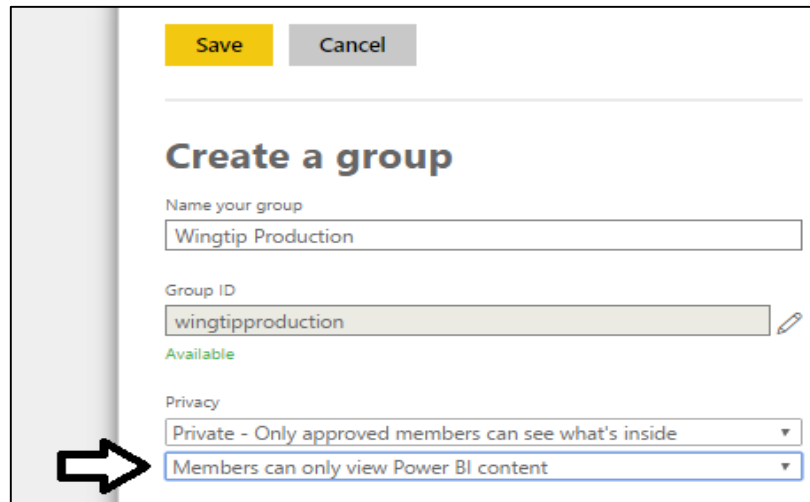
Summary

- ✓ Content Distribution in Power BI
- ✓ App Workspaces
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Creating Group Workspaces for Production

- Create Editable Workspace for Development
 - Configure as **Members can only view Power BI content**



Save Cancel

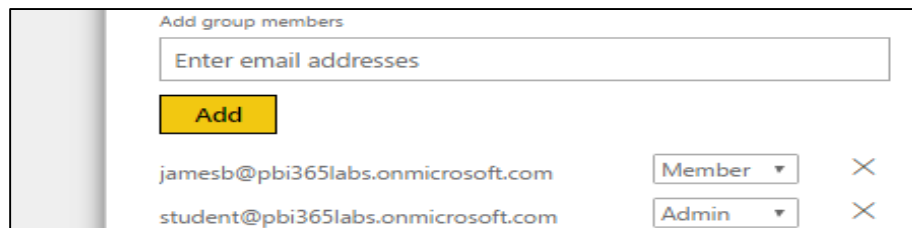
Create a group

Name your group
Wingtip Production

Group ID
wingtipproduction Available

Privacy
Private - Only approved members can see what's inside
Members can only view Power BI content

- Add users as standard members or as admin



Add group members

Enter email addresses

Add

jamesb@pbi365labs.onmicrosoft.com	Member	X
student@pbi365labs.onmicrosoft.com	Admin	X



Agenda

- ✓ Designing Dashboards for Power BI
- ✓ Executing Queries with Natural Language Q&A
- ✓ Sharing Dashboards with Other Office 365 Users
- ✓ Staging & Deployment using Group Workspaces
- Working with Organizational Content Packs



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