

Designing and Deploying Dashboards



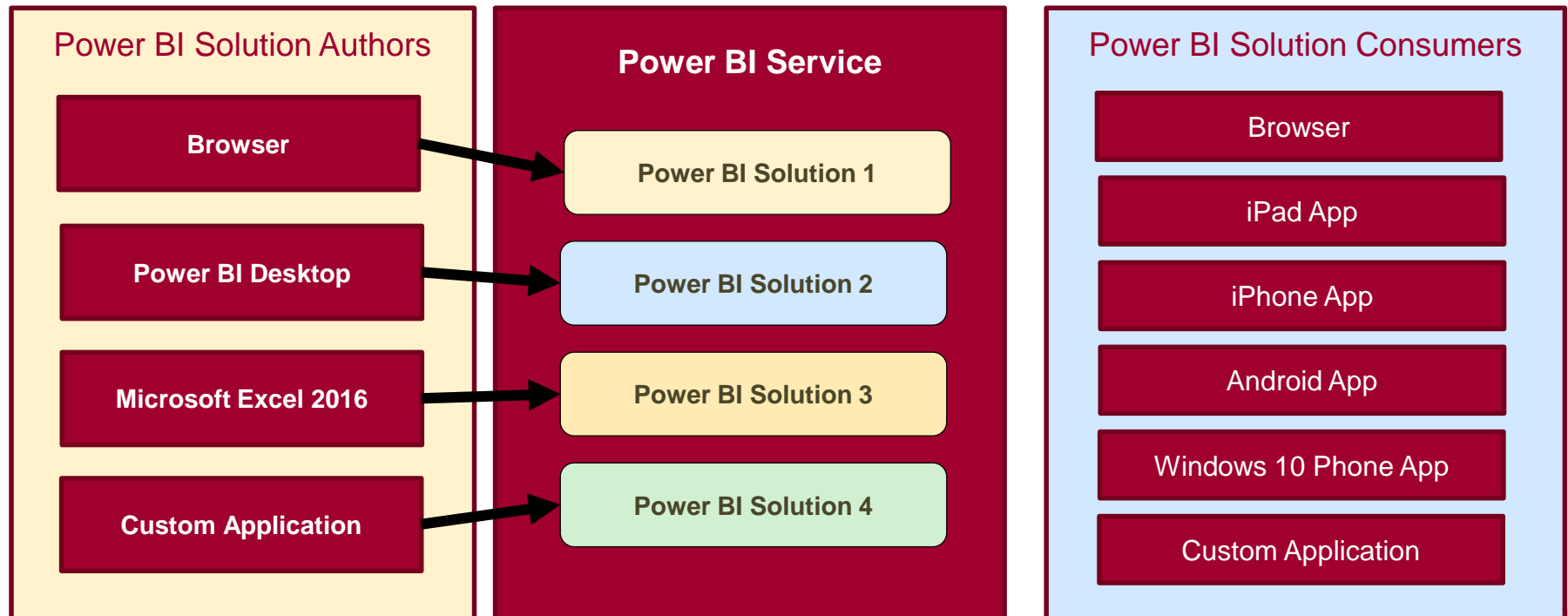
Agenda

- 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



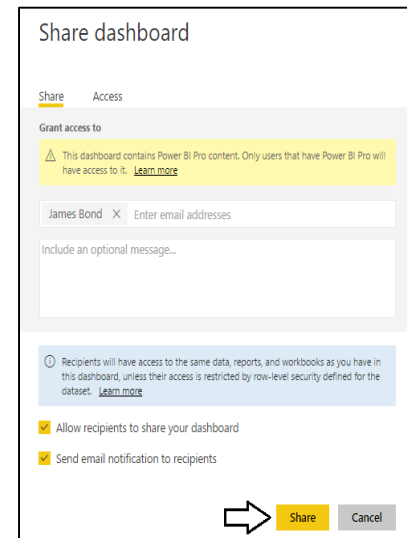
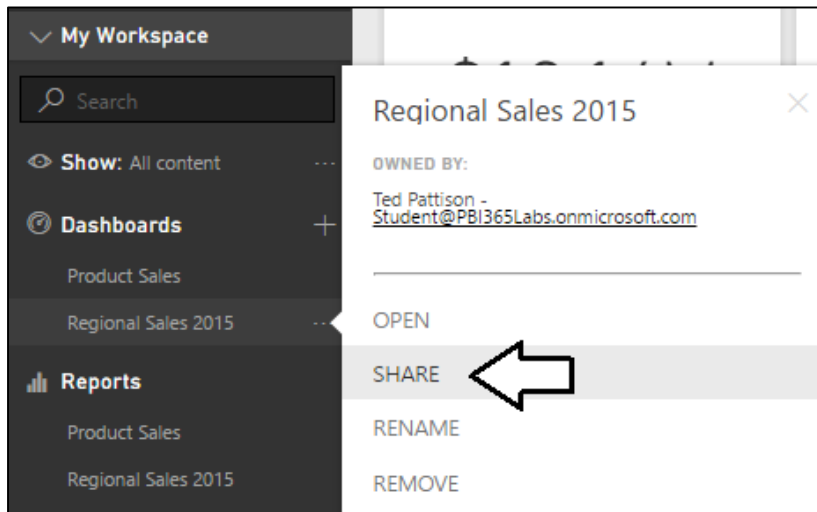
Distributing a Custom Solution

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

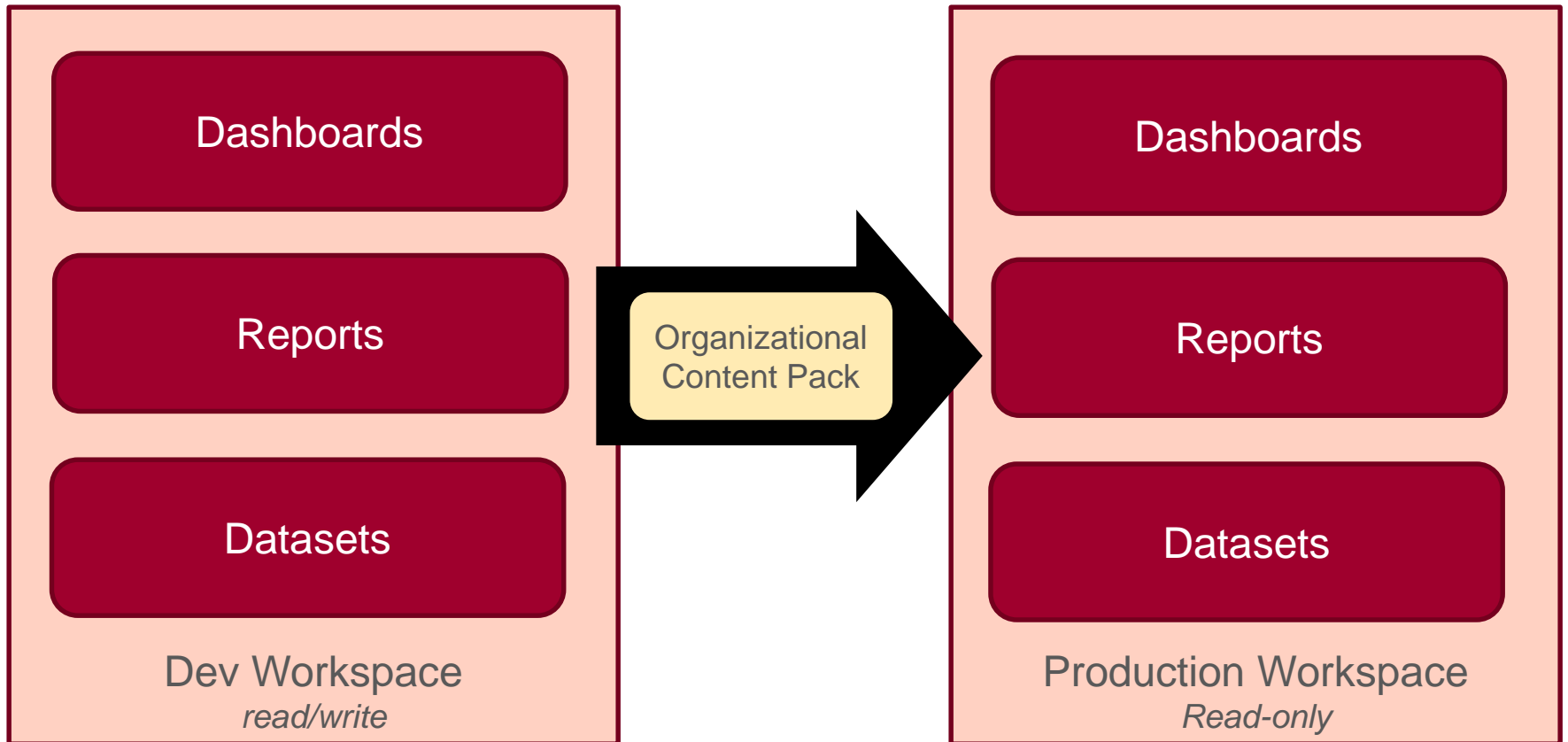


Sharing Dashboards

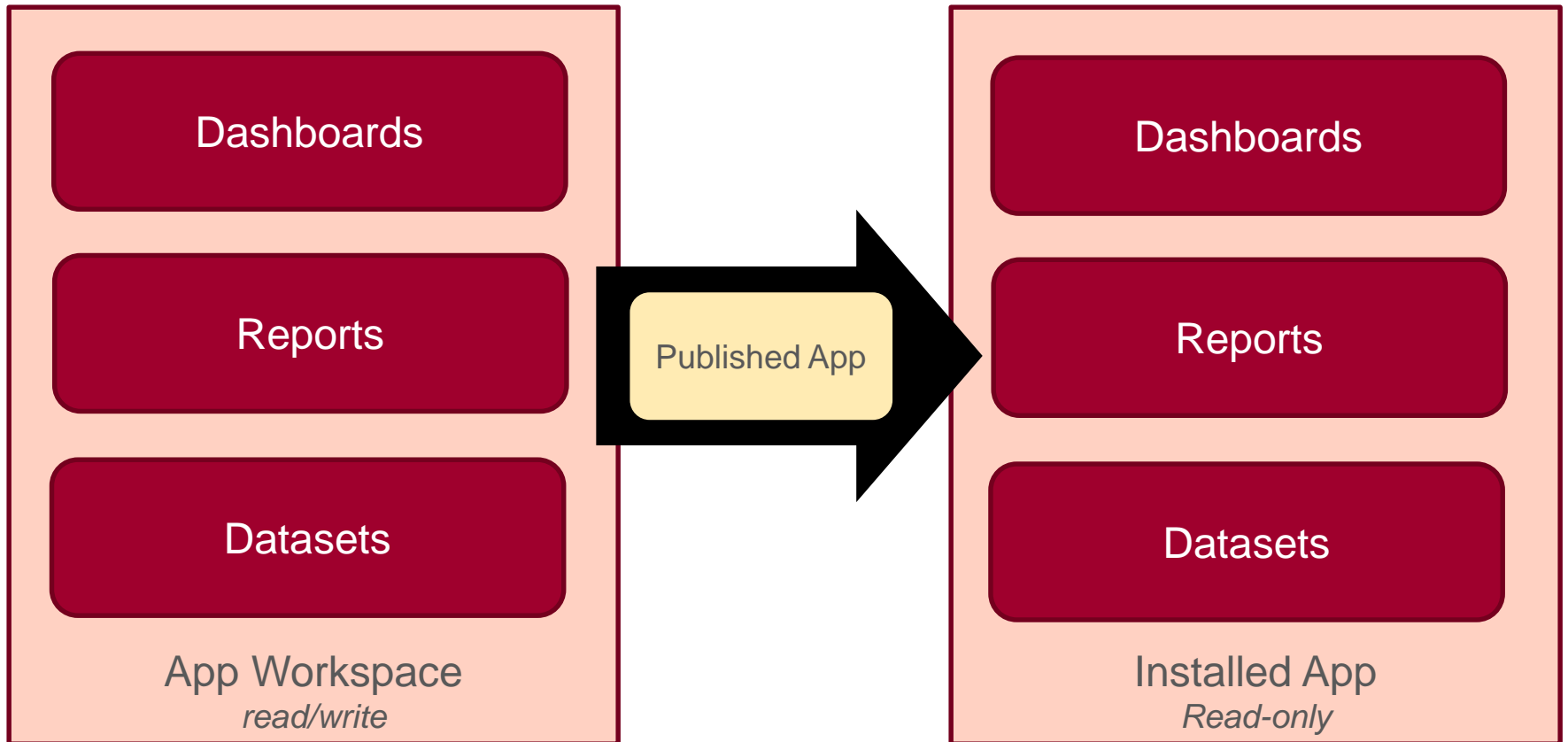
- Used to make dashboard accessible to other users
 - Other users must be within same Office 365 organization
 - Sharing dashboard provides indirect access to reports and datasets
 - Dashboard author must have Pro license to share dashboard
 - Dashboard consumption required Pro license or Power BI Premium



Old Distribution Model



New Distribution Model



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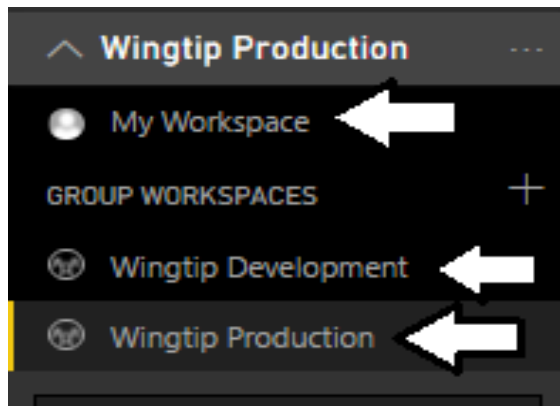
What Exactly is an App Workspace?

- 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



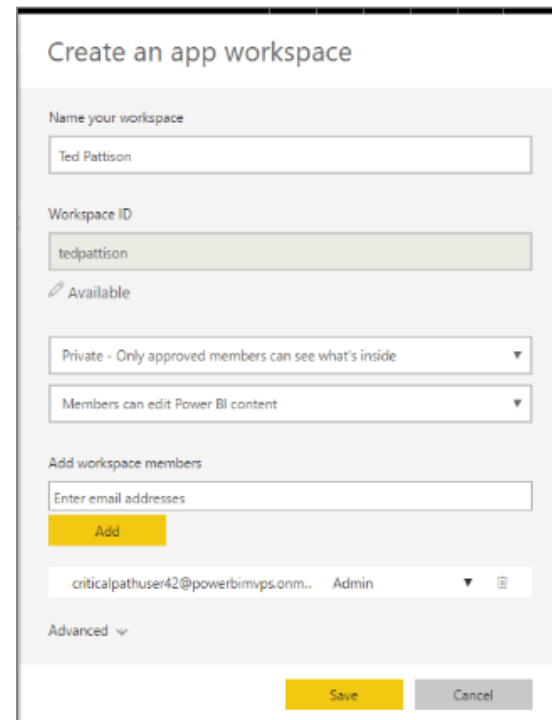
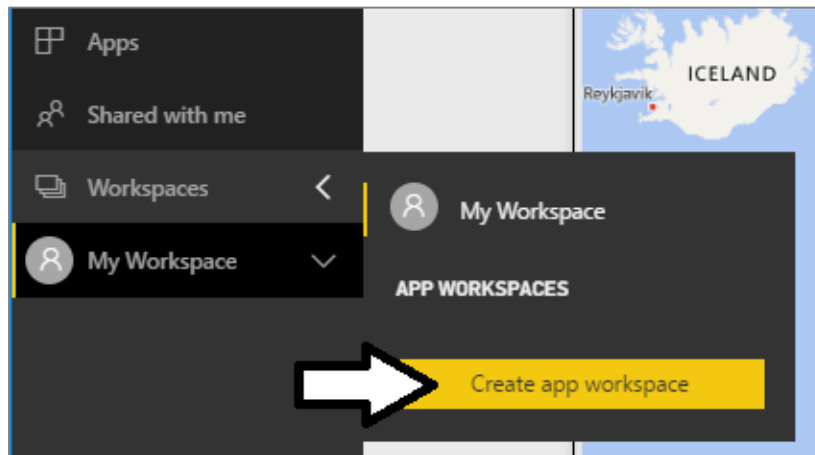
Understanding Group Workspaces

- 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. The title is 'Create an app workspace'. It contains several fields and options: 'Name your workspace' with a text input field containing 'Ted Pattison'; 'Workspace ID' with a text input field containing 'tedpattison'; an 'Available' checkbox; a dropdown menu for 'Private - Only approved members can see what's inside'; another dropdown menu for 'Members can edit Power BI content'; a section 'Add workspace members' with a text input field for 'Enter email addresses', an 'Add' button, and a list of members showing 'criticalpathuser42@powerbimvps.onm...' with the role 'Admin'; an 'Advanced' section with a dropdown arrow; and 'Save' and 'Cancel' buttons at the bottom.

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

Add

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

Public - Anyone can see what's inside

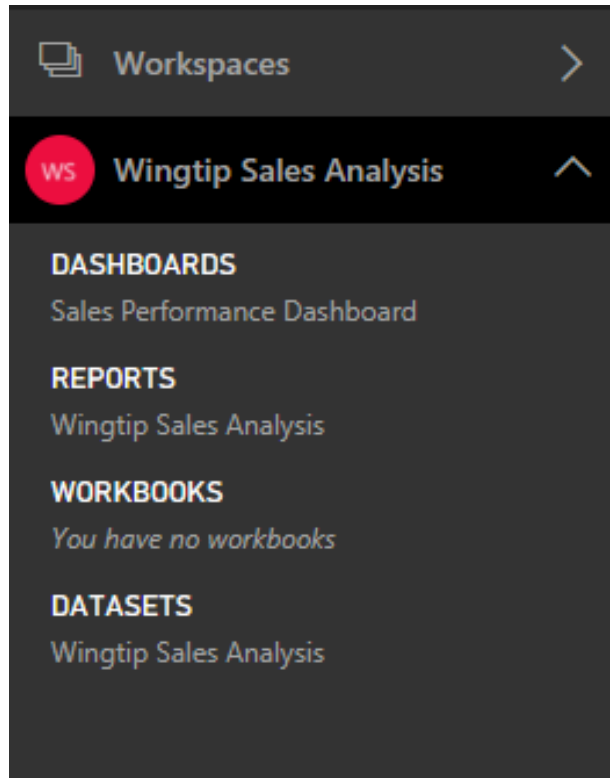
Private - Only approved members can see what's inside

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



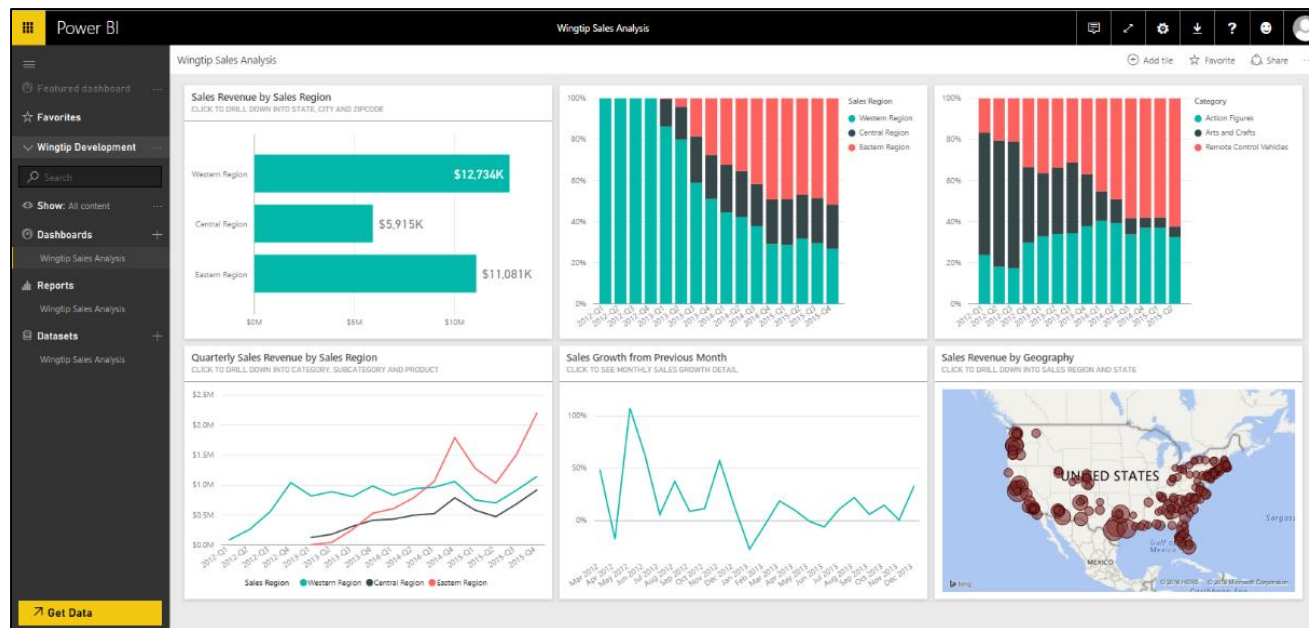
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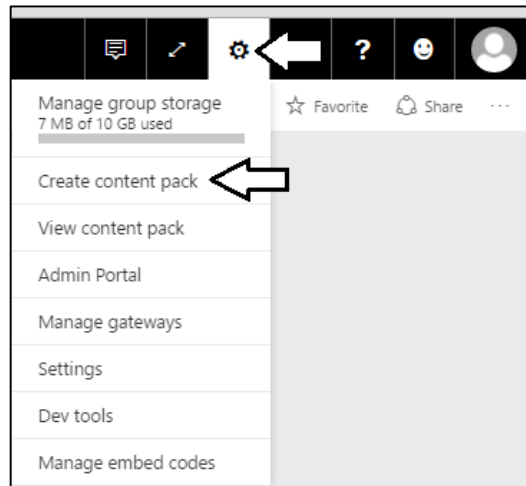
Building Solutions in a Development Workspace

- 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 Wingtip Development. The form has a title field with 'Wingtip Sales Analysis' and a description field with 'The content pack provides analysis of Wingtip sales revenue figures'. Below the form is a section for uploading an image or company 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'.

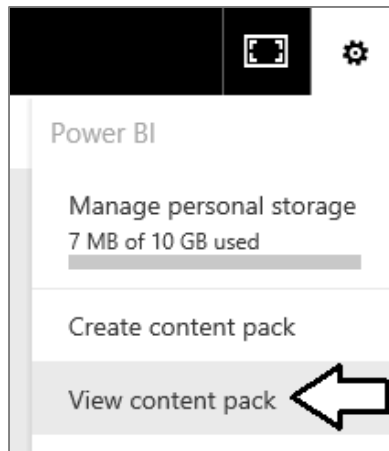
A screenshot of the 'Select items to publish' section in Wingtip Development. It shows three columns: 'Dashboards', 'Reports', and 'Datasets'. Each column has a checkbox and the text 'Wingtip Sales Analysis'. All three checkboxes are checked.

| 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

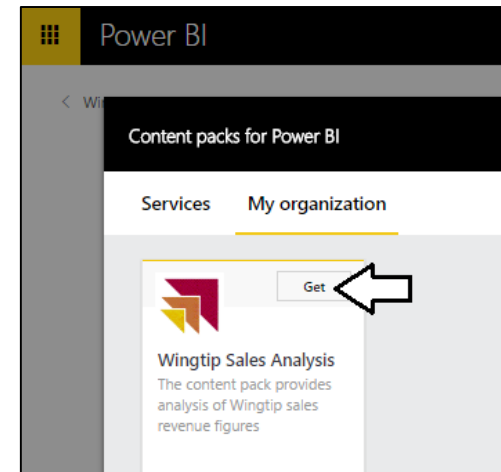
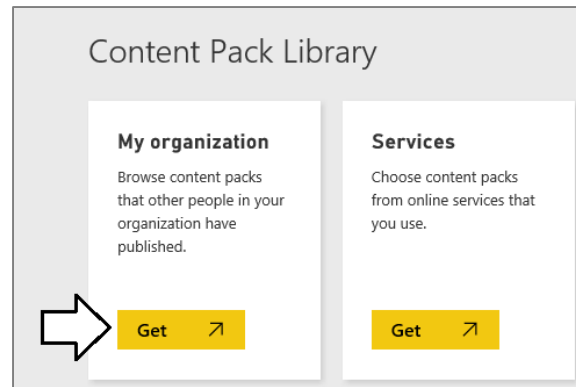
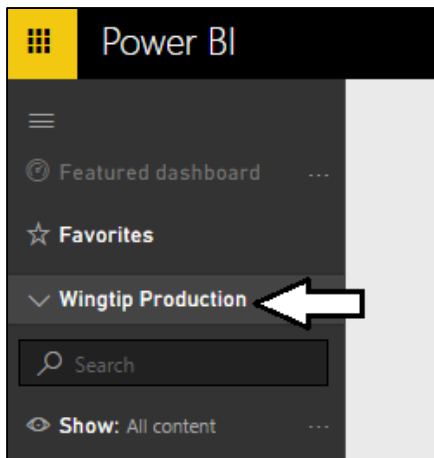


| Wingtip Development | | | |
|--------------------------|-----------------|----------------|---|
| Name | Published To | Date published | Actions |
| ➡ Wingtip Sales Analysis | My Organization | Aug 09, 2016 | Edit Delete |



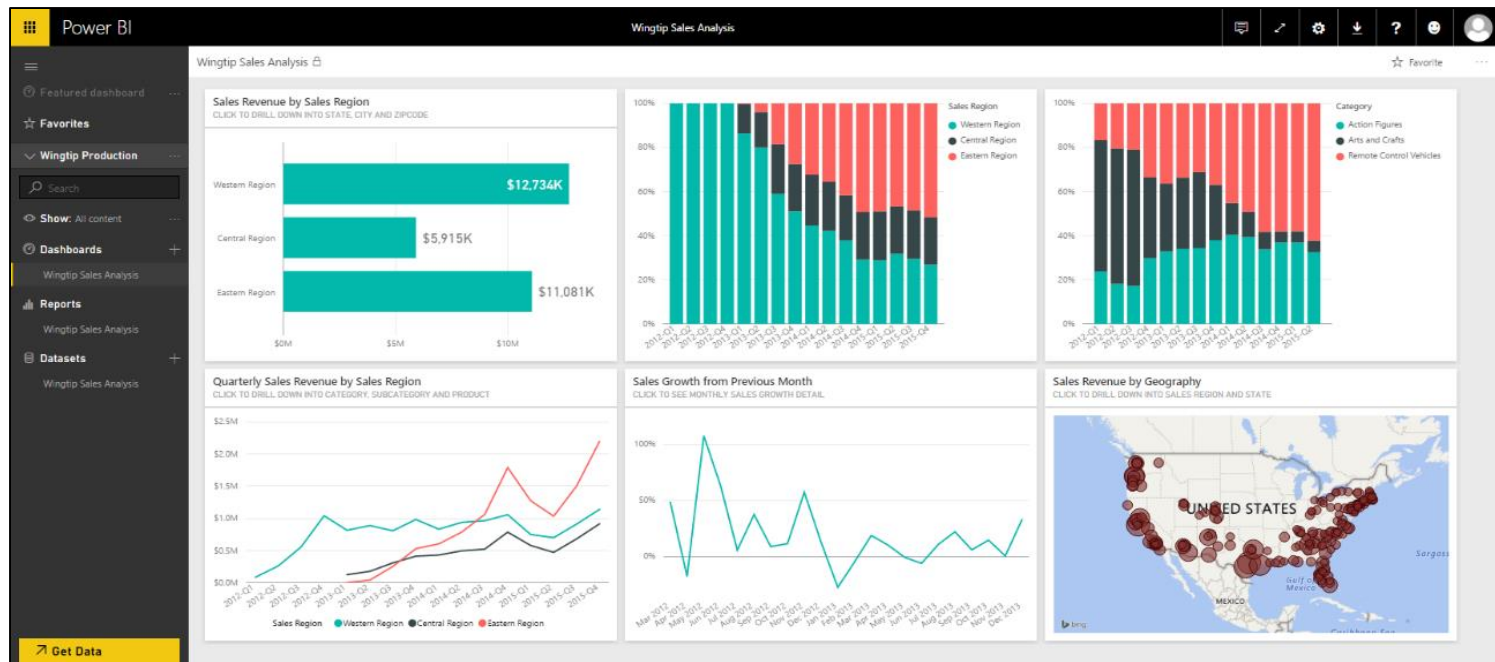
Deploying a Content Pack

- 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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- ✓ Content Distribution in Power BI
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- ✓ Organizational Content Packs
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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> |
|---|---|---|

- 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> |
|---|--|---|--|



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

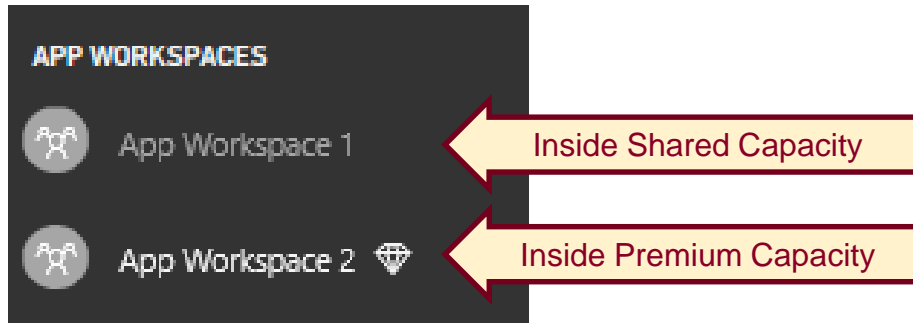
The screenshot displays the Power BI Admin portal interface. On the left is a dark sidebar with navigation options: Favorites, Recent, Apps, Shared with me, Workspaces, and My Workspace (selected). The main content area is titled 'Admin portal' and contains a sub-menu on the left with options: Usage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

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

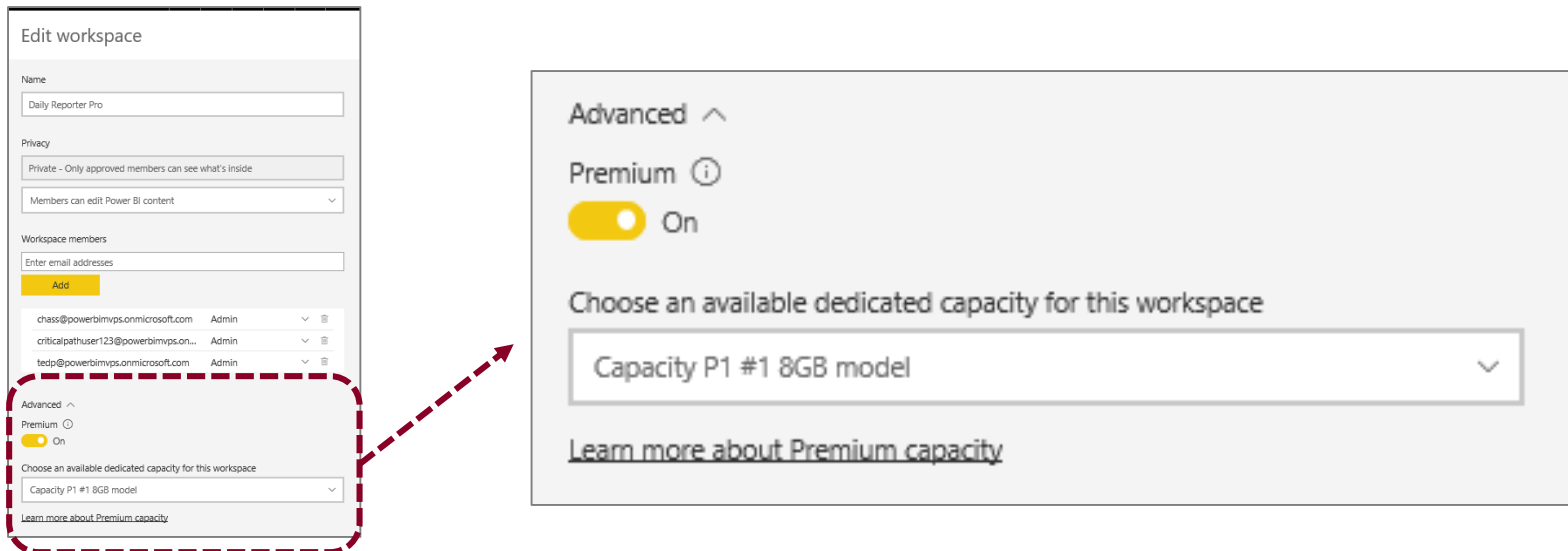


Managing Capacities and App Workspaces

- App Workspace in Premium Capacity has diamond icon



- App workspace moved into Premium capacity in Advanced settings



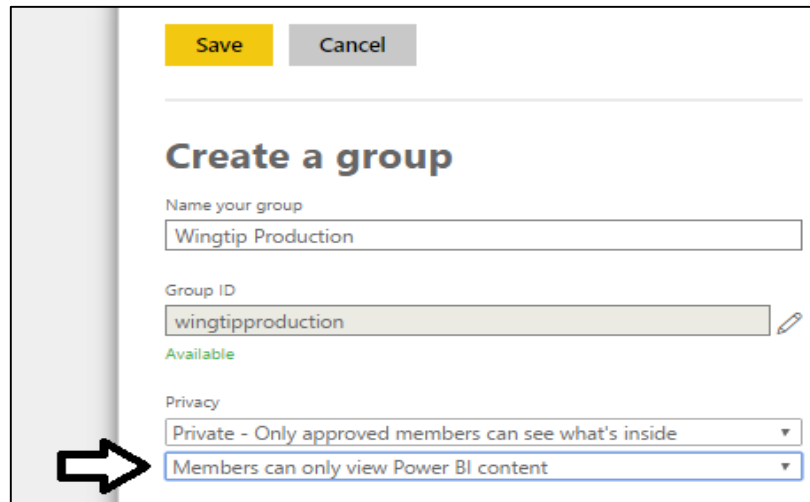
Summary

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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

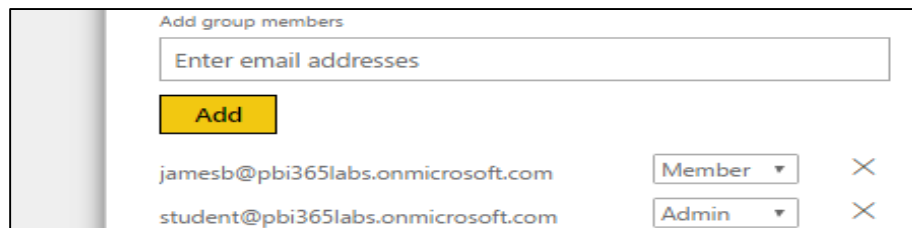
Create a group

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 | × |
| student@pbi365labs.onmicrosoft.com | Admin | × |



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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