

# Designing and Deploying Dashboards



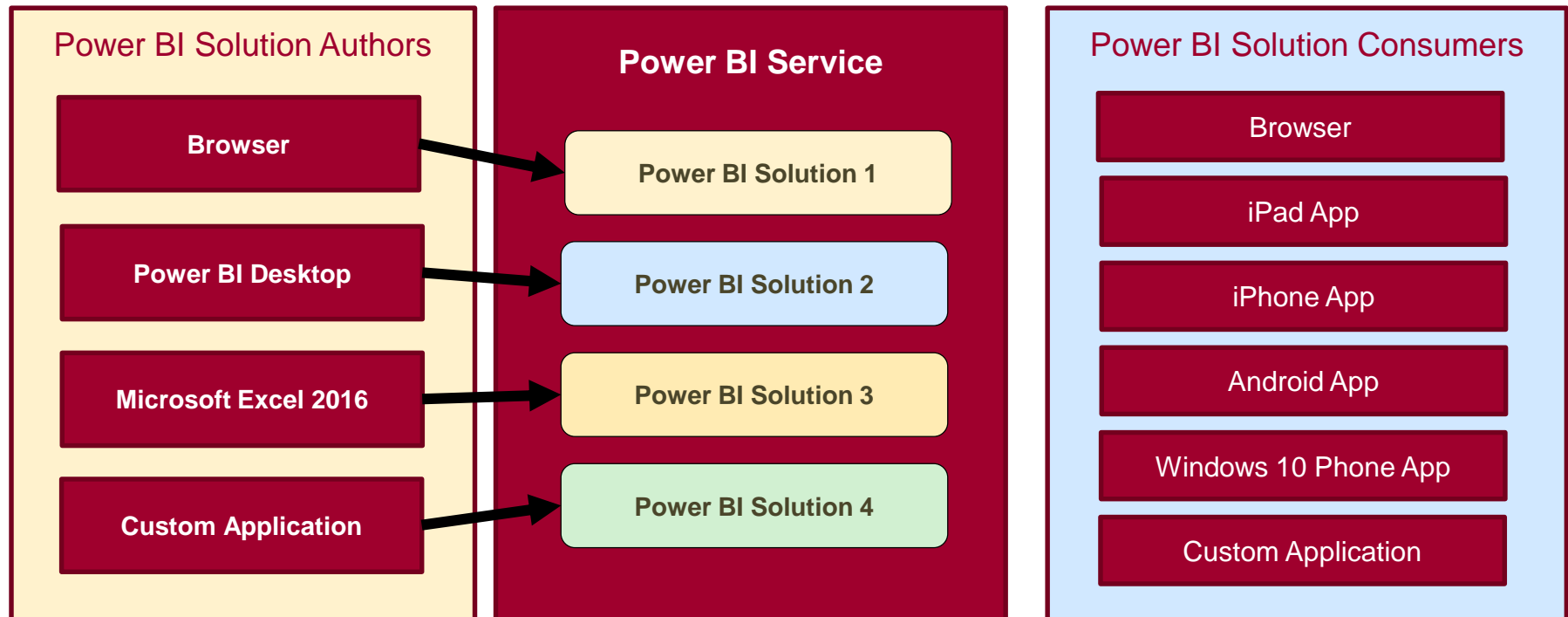
# Agenda

- 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



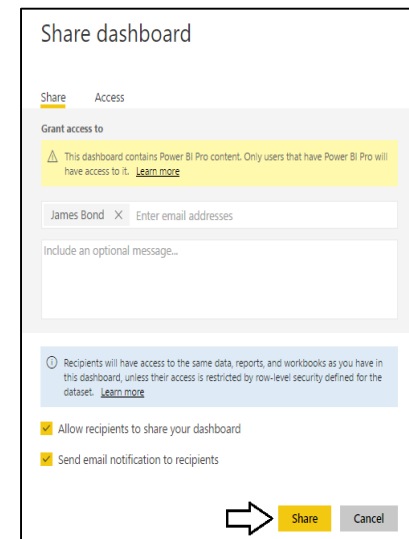
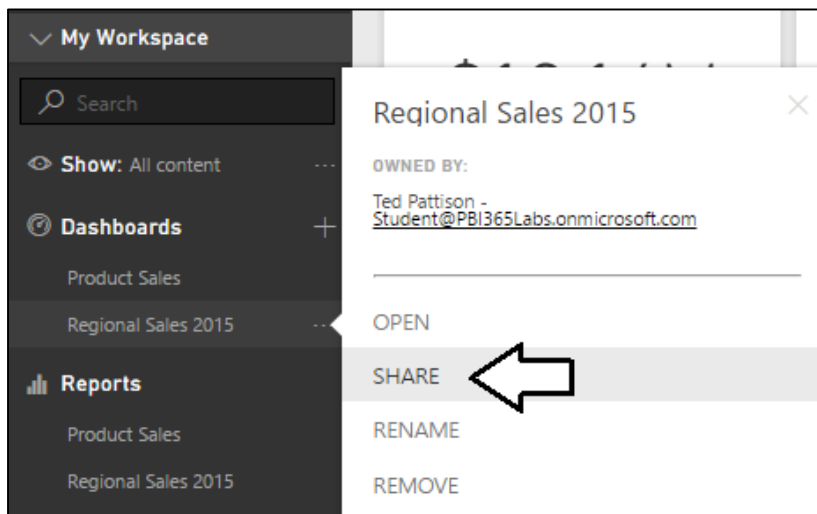
# Distributing a Custom Solution

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

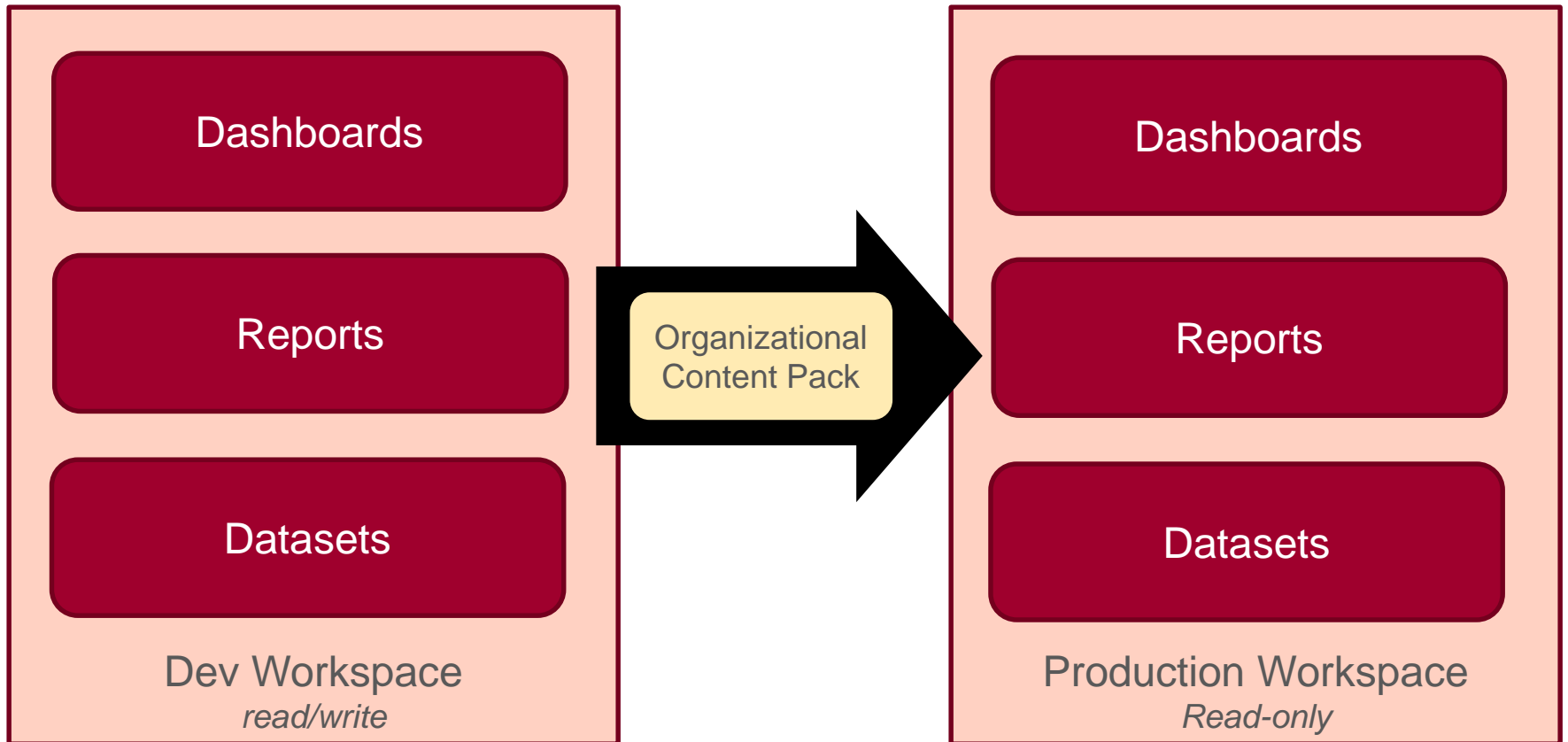


# Sharing Dashboards

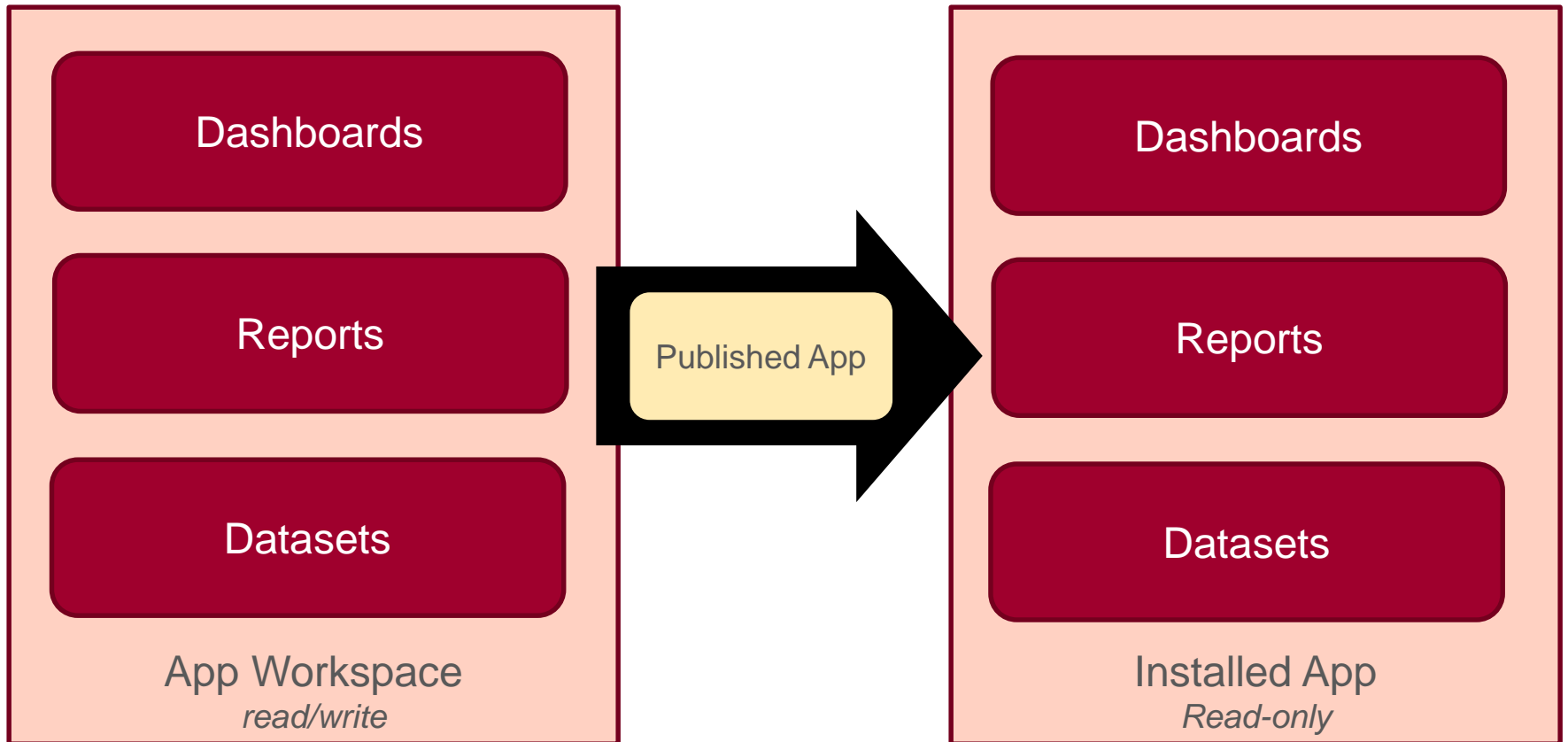
- Used to make dashboard accessible to other users
  - Other users must be within same Office 365 organization
  - Sharing dashboard provides indirect access to reports and datasets
  - Dashboard author must have Pro license to share dashboard
  - Dashboard consumption required Pro license or Power BI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



# Old Distribution Model



# New Distribution Model



# Agenda

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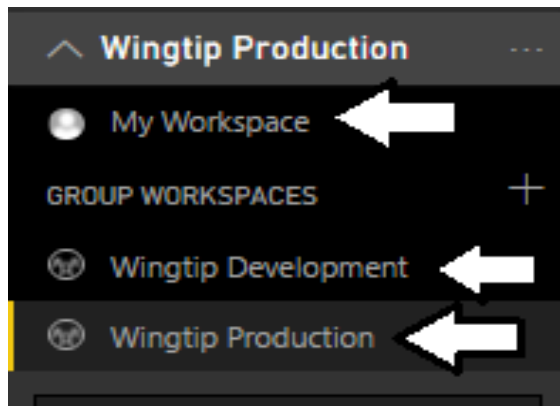
# What Exactly is an App Workspace?

- 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



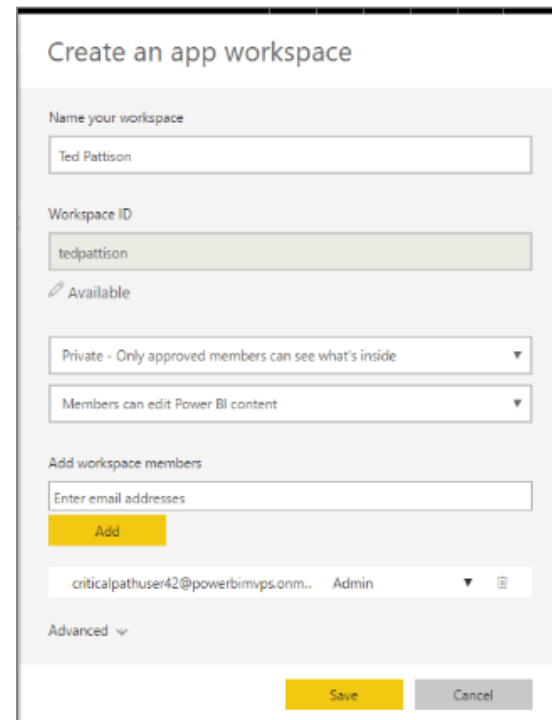
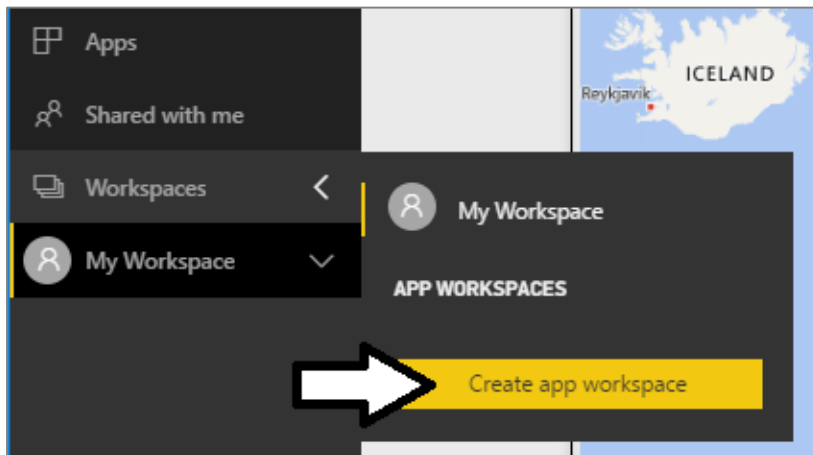
# Understanding Group Workspaces

- 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 with 'Ted Pattison' entered.
- Workspace ID:** A text input field with 'tedpattison' entered.
- 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

Add

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

Public - Anyone can see what's inside

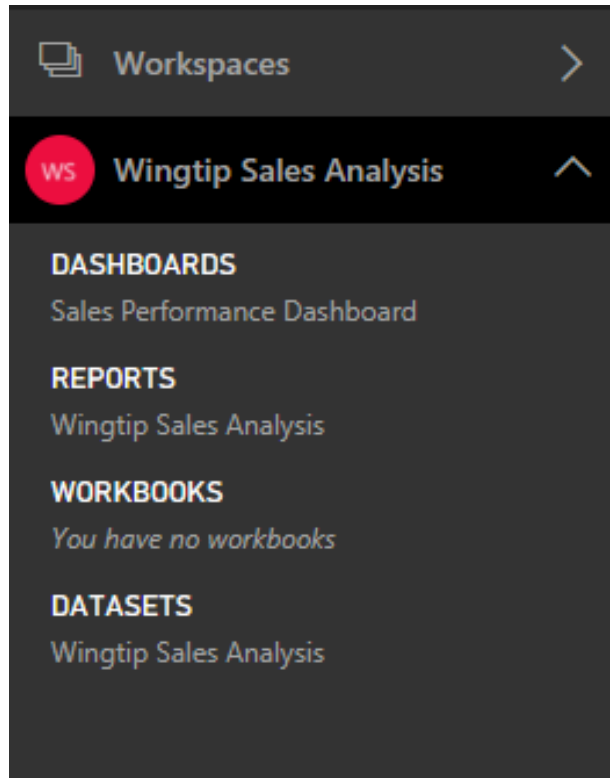
Private - Only approved members can see what's inside

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



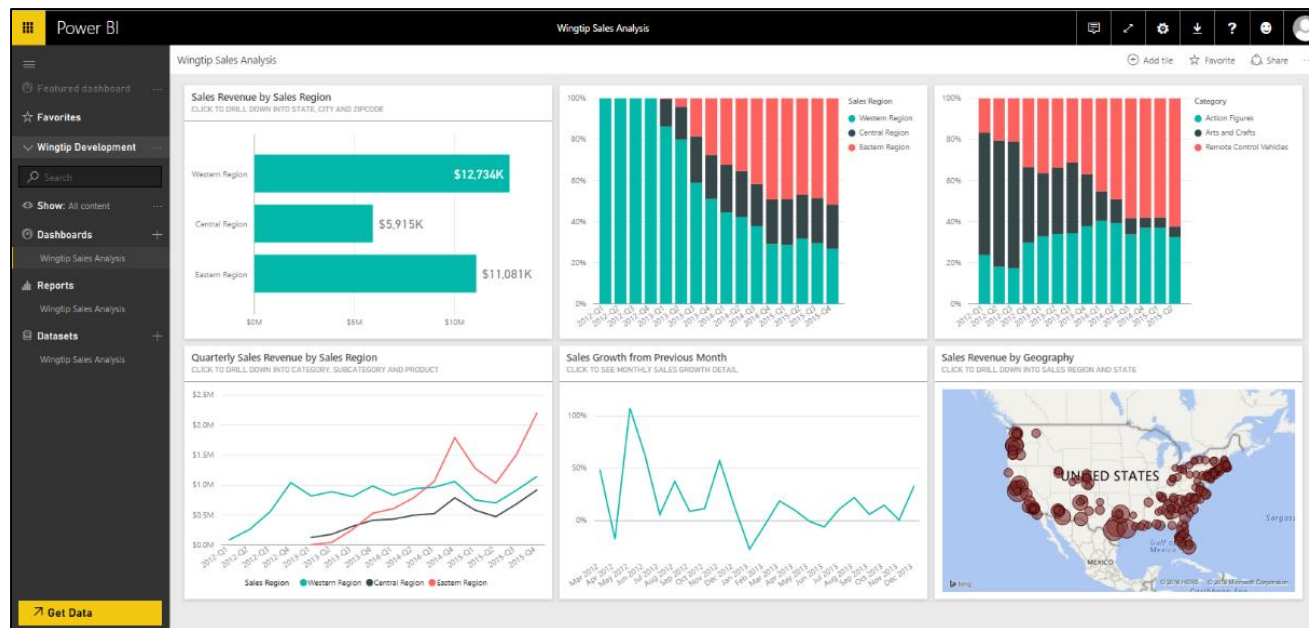
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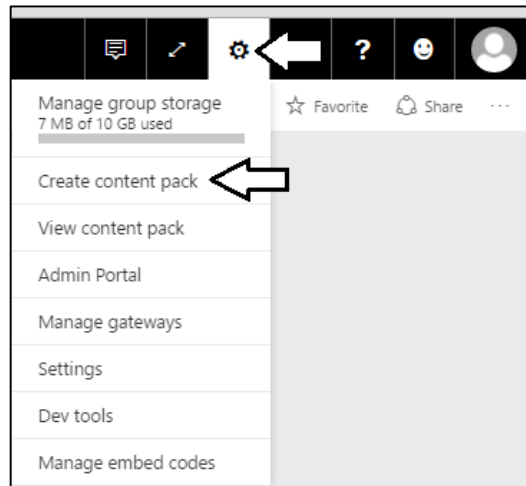
# Building Solutions in a Development Workspace

- 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 the Wingtip Development environment. The form has a title 'Wingtip Development' and a section 'Create content pack'. Below this, it asks 'Choose who will have access to this content pack:' with two radio buttons: 'Specific groups' and 'My entire organization' (selected). There is a 'Title' field with the value 'Wingtip Sales Analysis' and 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 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. It is divided into three columns: 'Dashboards', 'Reports', and 'Datasets'. Each column has a checkbox and the text 'Wingtip Sales Analysis'. All three checkboxes are checked.

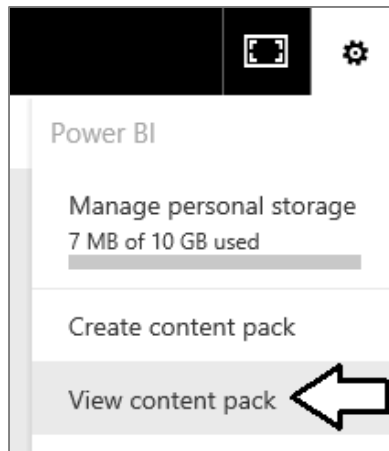
| Dashboards   | Reports  | Datasets   |
|--|--|--|
| <input checked="" type="checkbox"/> Wingtip Sales Analysis | <input checked="" type="checkbox"/> Wingtip Sales Analysis | <input checked="" type="checkbox"/> Wingtip Sales Analysis |





# Viewing Content Packs

- You can view/edit content pack in workspace

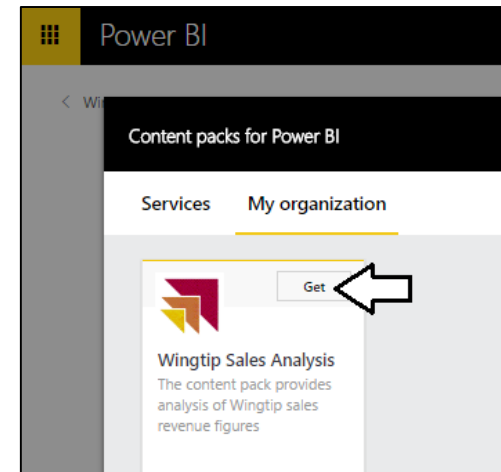
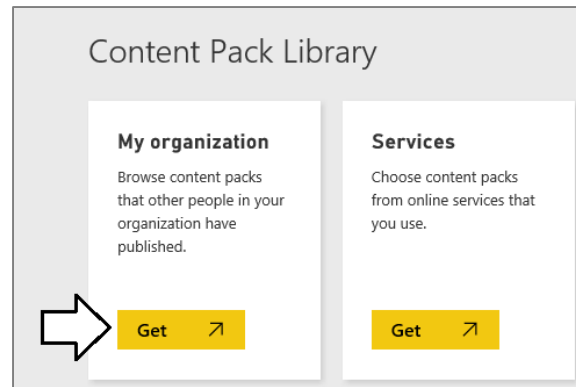
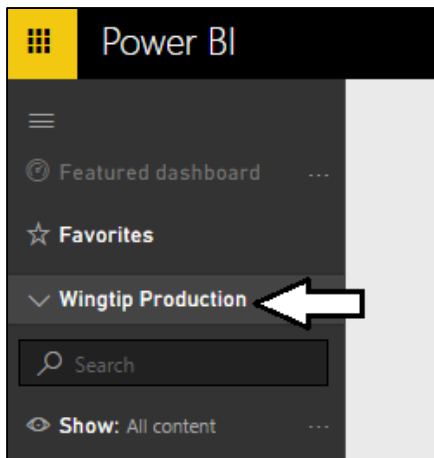


| Wingtip Development      |                 |                |   |
|--------------------------|-----------------|----------------|---|
| Name                     | Published To    | Date published | Actions                                       |
| → Wingtip Sales Analysis | My Organization | Aug 09, 2016   | <a href="#">Edit</a>   <a href="#">Delete</a> |



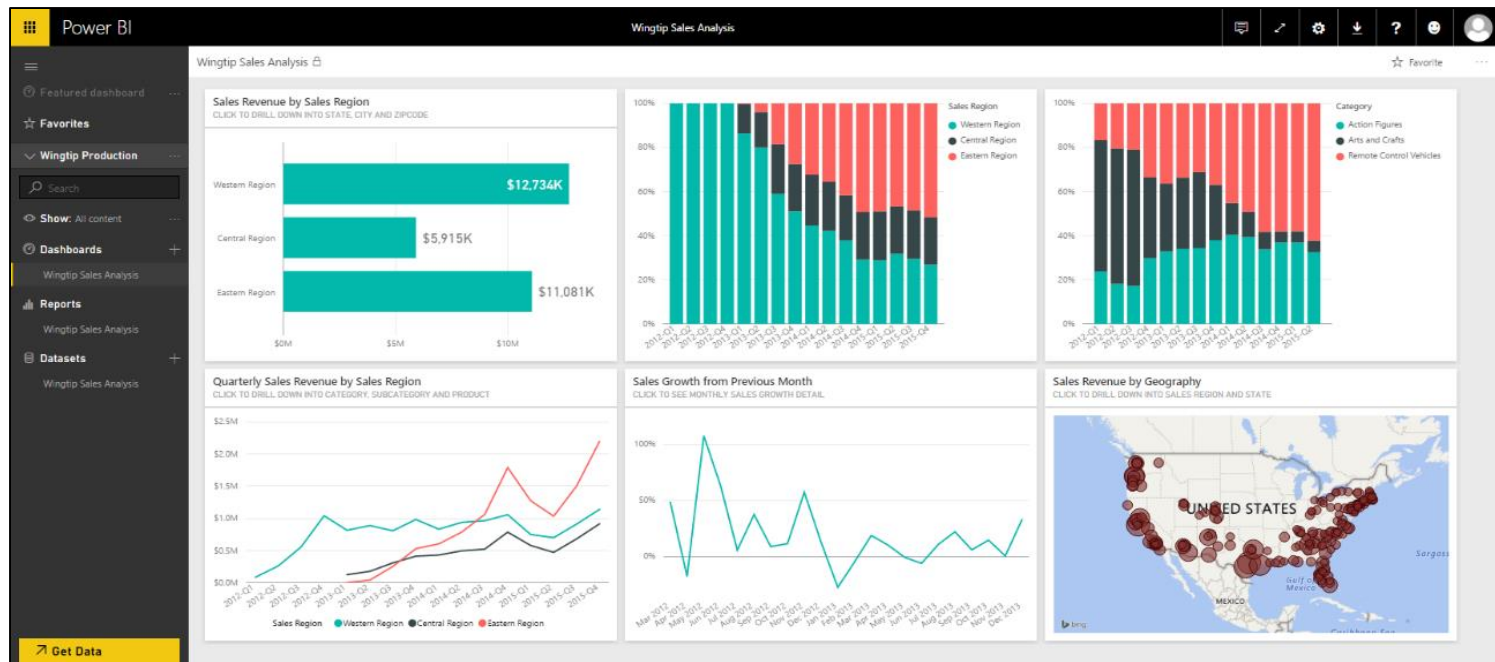
# Deploying a Content Pack

- 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**

# Agenda

- ✓ Content Distribution in Power BI
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- ✓ Organizational Content Packs
- Publishing Apps
  - Power BI Premium







**DEMO**

# **Publishing an App Workspace and Installing a Power BI App**

# Agenda

- ✓ Content Distribution in Power BI
- ✓ App Workspaces
- ✓ Organizational Content Packs
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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

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

- Capacity-based Licensing

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



# 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

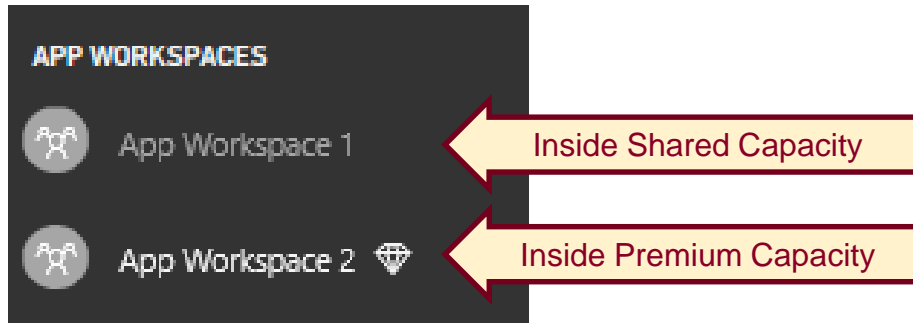
The screenshot displays the Power BI Admin portal interface. On the left is a dark sidebar with navigation options: Favorites, Recent, Apps, Shared with me, Workspaces, and My Workspace (selected). The main content area is titled 'Admin portal' and contains a left-hand menu with 'Usage Metrics', 'Users', '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 to 'Learn more about capacity sizes' and a 'Set up new capacity' button 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 |

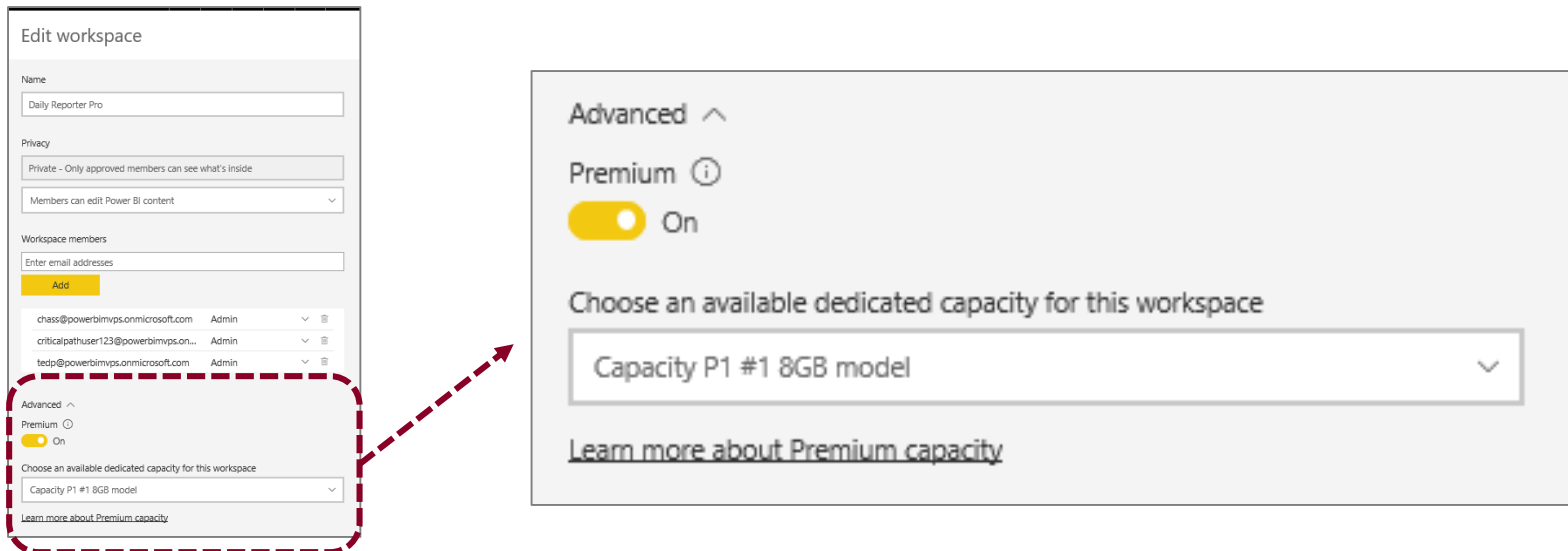


# Managing Capacities and App Workspaces

- App Workspace in Premium Capacity has diamond icon



- App workspace moved into Premium capacity in Advanced settings



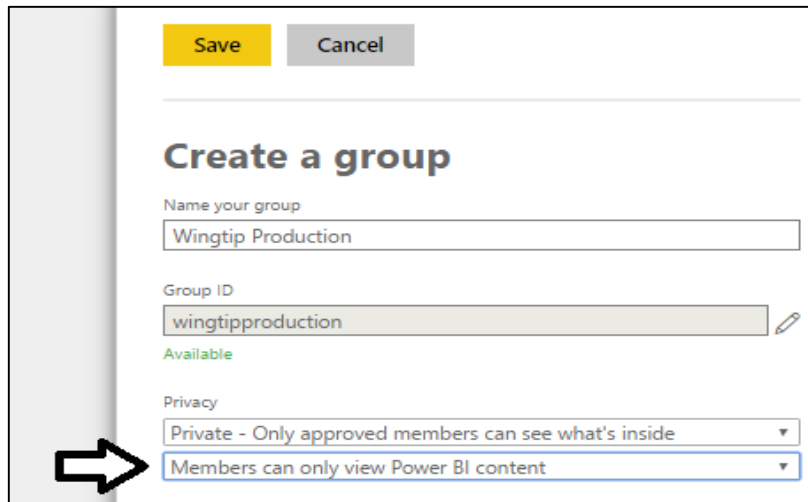
# Summary

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



# Creating Group Workspaces for Production

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



Save Cancel

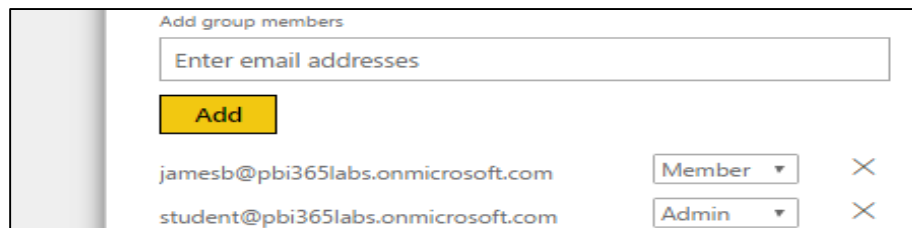
### Create a group

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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