Lesson 20: Advanced Publishing and Sharing in Power BI

1. How does Power BI handle large datasets in the Online Service, and what is the role of Premium Capacity?

Large Datasets in Power BI Service:

Standard (Pro License): Limited to 1 GB per dataset (compressed).

Premium Capacity: Supports up to 400 GB datasets (Enterprise SKUs).

Role of Premium Capacity:

Enables larger datasets, higher refresh rates, and better performance.

Allows Free users to access shared content (bypassing Pro license requirements).

Provides dedicated cloud resources (no shared compute with other tenants).

2. Differences Between Import Mode, DirectQuery, and Live Connection

Mode	How It Works	Pros	Cons	Best For
Import	Data is copied into Power BI.	Fast visuals, full DAX/Power Query support.	Limited by dataset size, refresh delays.	Small/medium datasets needing complex transformations.
DirectQuery	Queries source directly (no data stored).	Real-time data, no storage limits.	Slower performance, limited transformations.	Large datasets (SQL, Big Data) needing live updates.
Live Connection	Direct link to Analysis Services.	Uses existing semantic models (SSAS, Power BI datasets).	No Power Query, limited editing.	Enterprises using SSAS or shared datasets.

3. Deployment Pipelines in Power BI Online

Purpose: Automate moving content (reports, datasets) from Dev → Test → Prod.

Stages:

Development (where reports are built).

Test (validation/UAT).

Production (final user-facing version).

How It Works:

Deploy with one click between stages.

Compare changes (e.g., missing datasets).

Requires Premium capacity or PPU.

4. Power BI Integration with Microsoft Teams/SharePoint
Microsoft Teams:

Embed Power BI tabs in Teams channels.

Chat/collaborate on reports without leaving Teams.

SharePoint:

Embed reports via "Power BI Web Part".

Users view dashboards without opening Power BI.

5. XMLA Endpoint in Premium
What It Is: A programmatic gateway to Power BI datasets (uses Tabular Object Model).

Benefits:

Advanced developers can manage datasets via SSMS, DAX Studio, or scripts.

Enables enterprise CI/CD (Azure DevOps integration).

Real-time dataset updates (bypass UI).

6. Usage Metrics & Audit Logs
Usage Metrics:

Tracks report views, user engagement, and performance.

Accessed via Settings → Usage Metrics.

Audit Logs (Admin-only):

Logs user actions (exports, shares, logins).

Accessed via Microsoft 365 Admin Center.

7. Managing Workspace Access & Permissions
Roles:

Admin: Full control (add users, delete content).

Member: Edit reports, but can’t manage access.

Contributor: Add content, but not delete.

Viewer: Read-only (Premium-only role).

How to Assign:

Go to Workspace → Access → Add users/groups.

8. Data Governance in Power BI Service
Key Controls:

Sensitivity Labels (encrypt data, restrict sharing).

Tenant Settings (disable exports, public sharing).

Power BI Admin Portal (monitor usage, set policies).

9. Limitations of RLS with DirectQuery/Live Connection
DirectQuery/Live Connection RLS:

Must define roles in the source (SQL Server, SSAS).

Power BI cannot apply RLS if the source lacks support.

Dynamic RLS (USERNAME()) may slow performance.

10. Refreshing Datasets via Power Automate/REST API
Power Automate:

Use the "Refresh a dataset" action.

Trigger refreshes on schedules, emails, or events.

REST API:

Call the Power BI API programmatically (Python, PowerShell).

Example:

powershell
Invoke-PowerBIRestMethod -Url
"groups/{workspaceId}/datasets/{datasetId}/refreshes" -Method Post