

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

- **Handling large datasets:** In Power BI Service, the dataset size limit depends on the license. Pro licenses typically support datasets up to **1 GB** per dataset in Import mode. Premium Capacity lifts this limit—allowing up to **400 GB per dataset** and leveraging **large model support**. Premium also offers better refresh performance and dedicated resources.
 - **Premium Capacity's role:**
 - Provides **dedicated compute resources** (not shared with other tenants).
 - Supports **more frequent refreshes** (up to 48/day vs. 8/day in Pro).
 - Enables **Paginated Reports**, **AI features**, and **incremental refresh** for big data scenarios.
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2. Differences between Import mode, DirectQuery, and Live Connection in Power BI Service:

Mode	Data Storage	Performance	Pros	Cons
Import	Data is copied into Power BI's in-memory model	Very fast for analysis	Offline capability, high performance	Large data = big file size; refresh needed
DirectQuery	Data stays in source, queries run live	Slower (depends on source)	Real-time data, no storage limits	Source load, limited DAX features
Live Connection	No dataset in Power BI; connected to SSAS or Azure Analysis Services	Source-dependent	Centralized model governance	No data shaping in Power BI

3. Deployment pipelines in Power BI Online – stages:

Deployment pipelines help move content through controlled environments.

- **Development** – build and test reports/datasets privately.
 - **Test** – validate with selected users, simulate production environment.
 - **Production** – publish final approved content for end-users.
Premium or Premium per User (PPU) is required for deployment pipelines.
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4. Integration with Microsoft Teams or SharePoint for collaboration:

- **Microsoft Teams:**
 - Add Power BI tabs in Teams channels.
 - Share and discuss reports directly in Teams chat.
 - **SharePoint Online:**
 - Embed reports using the *Power BI web part* for SharePoint.
 - Keeps reports interactive within the SharePoint page.
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5. XMLA endpoint in Premium – benefits:

- XMLA (XML for Analysis) endpoint allows read/write access to Power BI datasets in Premium workspaces using tools like SQL Server Management Studio (SSMS) or Tabular Editor.
 - **Benefits for developers/enterprise teams:**
 - Enables advanced scripting, automation, and metadata management.
 - Supports external processing of large datasets.
 - Facilitates version control and CI/CD for models.
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6. Usage metrics and audit logs in Power BI Service:

- **Usage metrics:** Built-in dashboard showing report views, active users, and usage trends.
 - **Audit logs:** Accessible via Microsoft 365 Compliance Center; track actions like view, share, export, dataset refresh—useful for governance and compliance.
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7. Managing workspace access and permissions:

- Workspace roles: **Admin, Member, Contributor, Viewer.**
 - Assign users/groups to roles in the workspace settings.
 - Control sharing, publishing, and editing rights per role.
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8. Enforcing data governance in Power BI Service:

- Use **sensitivity labels** (integrated with Microsoft Purview Information Protection).
 - Enable **RLS (Row-Level Security)** and **Object-Level Security** in datasets.
 - Apply **dataset endorsement** (Promoted / Certified) to guide users to trusted content.
 - Enforce policies through **tenant settings** (e.g., block Publish to Web).
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9. Limitations of RLS with DirectQuery or Live Connection:

- RLS logic may depend on the data source supporting it (e.g., SQL Server supports, but some others don't).
 - In **Live Connection** to SSAS, RLS must be configured in SSAS, not Power BI.
 - DirectQuery performance can degrade if RLS filters generate complex queries.
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10. Refreshing a dataset via Power Automate or REST API:

- **Power Automate:** Use the “Refresh a dataset” action in the Power BI connector, schedule or trigger on events.
- **REST API:** Send a POST request to

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```
POST https://api.powerbi.com/v1.0/myorg/datasets/{datasetId}/refreshes
```

Include an access token in the header for authentication.