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

Power BI Online uses **cloud-based storage and processing** to handle large datasets efficiently. However, dataset size and refresh frequency are **limited in Pro licenses**.
**Premium Capacity** removes most of these limits — it provides **dedicated cloud resources**, allows **larger datasets (up to hundreds of GBs)**, **faster refresh rates**, and **advanced AI and governance features** for enterprise-scale analytics.

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## 2. What are the differences between Import mode, DirectQuery, and Live Connection in Power BI Service?

| Mode | Description | Pros | Cons |
|---|---|---|---|
| **Import** | Data is copied into Power BI. | Fast performance, offline use. | Dataset refresh needed, uses storage. |
| **DirectQuery** | Queries the source database live. | Real-time data access. | Slower, depends on source performance. |
| **Live Connection** | Connects directly to a pre-built model (e.g., SSAS, Power BI Dataset). | Centralized model, consistent data. | No local modeling or data transformation. |

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## 3. Explain deployment pipelines in Power BI Online. What stages do they include?

Deployment pipelines help manage **report lifecycle** from development to production.
They include **three stages**:

- **Development (Dev)** – build and test reports.
- **Test** – validate and review results.
- **Production (Prod)** – publish final reports to end users.

This ensures **version control**, **quality checks**, and **smooth deployment** across environments.

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## 4. How can Power BI Service integrate with Microsoft Teams or SharePoint for collaboration?

Power BI integrates seamlessly with both:

- In **Microsoft Teams**, users can **embed dashboards** or **chat about reports** directly within Teams channels.
- In **SharePoint Online**, Power BI reports can be **embedded via the Power BI web part**, allowing viewers to interact with reports without leaving the site.

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## 5. What is the XMLA endpoint in Premium and how does it benefit developers or enterprise BI teams?

The **XMLA endpoint** allows **read/write access to Power BI datasets** using standard Analysis Services tools (like SSMS or Visual Studio).
It benefits developers by enabling:

- **Advanced modeling** and **automation**.
- **Integration with enterprise BI tools**.
- **Programmatic management** of datasets, roles, and refreshes.

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## 6. Describe how usage metrics and audit logs work in Power BI Service.

- **Usage metrics** provide insights into how often reports or dashboards are viewed and by whom — helping measure adoption.
- **Audit logs** (available via Microsoft 365 compliance center) record detailed user actions such as sharing, exporting, or deleting — helping track governance and security compliance.

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## 7. How do you manage workspace access and permissions for different users?

In Power BI Service, workspace access is managed via **roles**:

- **Admin** – full control.
- **Member** – edit and publish content.
- **Contributor** – edit reports but not manage settings.
- **Viewer** – view-only access.
  Permissions can also be managed through **Microsoft Entra ID (Azure AD)** groups for better control.

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## 8. How can data governance be enforced in Power BI Service?

Data governance is enforced through:

- **Sensitivity labels** (e.g., Confidential, Public).
- **Row-Level Security (RLS)**.
- **Data lineage and impact analysis** tools.
- **Audit logs and usage metrics**.
- **Centralized datasets** and **workspace roles** for controlled access.

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## 9. What are the limitations of Row-Level Security when using DirectQuery or Live Connection?

- **Performance impact:** RLS filters are applied at query time, which can slow performance.
- **Limited control:** In **Live Connection**, RLS must be defined at the **source model** (e.g., SSAS), not in Power BI.
- **No cross-dataset RLS:** Can't apply RLS across multiple connected datasets.

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## 10. Explain how you can refresh a dataset via Power Automate or REST API.

- **Power Automate:** You can create a flow that uses the **"Refresh a dataset"** Power BI connector to trigger refreshes automatically (e.g., after data upload).
- **REST API:** Developers can call the **Power BI REST API (POST /refreshes)** endpoint to trigger a dataset refresh programmatically — useful for integration with other systems or scheduling custom workflows.