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

- **Power BI Free/Pro** users have strict dataset size limits (1 GB compressed per dataset).
- **Premium Capacity** allows:
    - Much larger datasets (up to **400 GB per dataset**, depending on SKU).
    - **Incremental refresh** and **hybrid tables**, so only recent data loads dynamically.
    - **More refreshes per day** (up to 48 vs 8).
    - Dedicated compute and memory for performance.

Premium Capacity = dedicated resources + larger model limits + faster performance.

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

Mode	Data Storage	Performance	Refresh	Use Case
Import	Data loaded into Power BI model	Very fast	Needs scheduled refresh	Small to medium datasets
DirectQuery	Queries data source live	Depends on source speed	Always real-time	Large or secured databases (SQL, Synapse)
Live Connection	Connects to pre-built Analysis Services / Power BI dataset	Controlled by source	No refresh needed	Enterprise semantic models

Import = copy; DirectQuery = query; Live = connect to existing model.

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

- **Deployment pipelines** automate report lifecycle (Dev → Test → Prod).
  Stages:
- **Development** – Build and design reports/datasets.
- **Test** – Validate, QA, and apply RLS/security testing.
- **Production** – Final, published version for end-users.

Each stage can have **different workspaces**, and changes can be **compared, deployed, or rolled back** easily.

Think of it as CI/CD for Power BI.

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

1. **Microsoft Teams**:
    - Use the **Power BI app for Teams** to embed reports in channels or chats.
    - Users can view, discuss, and collaborate without leaving Teams.
2. **SharePoint**:
    - Use **Power BI Web Part** to embed reports in SharePoint Online pages.
    - View interactive reports with secure authentication.

Goal: Bring analytics into where people already work.

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

- The **XMLA endpoint** exposes Power BI datasets as **tabular models**, allowing:
    - Connection from **SSMS, DAX Studio, Excel, Tabular Editor**.
    - Advanced operations like **automated deployments, partitions, and scripting**.
    - Integration with **CI/CD pipelines**.

Available only in **Premium** (workspace must be in Premium or PPU).
It makes Power BI behave like a full Analysis Services server.

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

- **Usage Metrics**:
  - Built-in reports show **views, shares, and performance** per report or dashboard.
  - Found under each report → **Settings → View Usage Metrics Report**.
- **Audit Logs**:
  - Managed via **Microsoft 365 Compliance Center**.
  - Track activities like **publishing, sharing, viewing, exporting**.
  - Useful for governance, security, and compliance audits.

Usage Metrics = content activity; Audit Logs = user actions.

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

- Workspace roles:

Role	Permissions
Viewer	Read-only access
Contributor	Edit content, publish reports
Member	Manage content and permissions
Admin	Full control, manage access and settings

- Manage via **Workspace → Access → Add people/groups**.
- Integrate with **Microsoft 365 groups or Azure AD security groups** for scalable management.

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

Methods:

1. **Row-Level Security (RLS)** and **Object-Level Security (OLS)**.
2. **Sensitivity labels** (from Microsoft Purview) → classify/confidential data.
3. **Data lineage view** → track data source and usage.
4. **Tenant settings** → control export/sharing permissions.
5. **Usage monitoring and audit logs** for compliance.

Governance = visibility + control + compliance.

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

Scenario	Limitation
DirectQuery	Security filtering happens in the source, may cause slow performance.
Live Connection	RLS must be defined at the **data source (Analysis Services)**, not in Power BI.
Cross-models	RLS not applied across composite models easily.

RLS behavior depends on where the model actually lives.

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

Option 1: Power Automate (No-code)

- Use the **"Refresh a dataset"** action.
- Select workspace → dataset → schedule automatic refresh after a trigger (e.g., data upload, file change, or Teams message).

Option 2: REST API

- Endpoint:
- POST https://api.powerbi.com/v1.0/myorg/datasets/{datasetId}/refreshes
- Requires **Azure AD authentication**.
- Can be used for **DevOps pipelines, external automation, or monitoring**.

Both enable automated, event-driven refreshes outside Power BI's normal schedule.