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

Power BI Online Service supports large datasets through optimized compression techniques and incremental data refresh. However, it has size limits (typically 1 GB in shared capacity). **Premium Capacity** extends this by allowing much larger dataset sizes (up to 400 GB per dataset), more frequent refresh rates, and dedicated resources, ensuring better performance and reliability for enterprise-scale data models.

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

- **Import Mode**: Data is loaded into Power BI and stored in cache. Offers fast performance but requires scheduled refreshes and limited by dataset size.
- **DirectQuery**: Queries the data source in real-time without storing data in Power BI. Lower and slower performance because of dependency on the source system but ensures real-time data.
- **Live Connection**: Used primarily with Analysis Services or Power BI Datasets. It behaves like DirectQuery but keeps the model on the source server, ideal for enterprise-scale semantic models.

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

Deployment pipelines provide a structured way to move Power BI content across development stages:

- **Development**: Where reports and models are built and tested.
- **Test**: Reports are tested with near-production data and reviewed for accuracy.
- **Production**: Finalized content is published and consumed by end users.
  Pipelines help maintain version control and reduce risk when deploying updates.

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

Power BI integrates easily with **Teams** by allowing you to embed reports directly into Teams channels or chats using the Power BI app. This lets team members interact with reports without leaving Teams.

With **SharePoint**, you can embed Power BI reports in a SharePoint Online page using the Power BI web part. This supports better visibility and sharing within your organization without needing everyone to open Power BI separately.

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

The **XMLA (XML for Analysis) endpoint** in Power BI Premium allows access to datasets for advanced modeling and management through tools like SSMS, Tabular Editor, and SQL Server Profiler. It enables read/write access to datasets, supports automation, version control, and integration into enterprise BI workflows.

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

- **Usage Metrics:** These are built-in reports that show how reports and dashboards are being used—like how many views, who viewed them, and when. This helps report owners understand the impact and reach of their content.
- **Audit Logs:** These are available in Microsoft 365 and provide more detailed tracking, such as user sign-ins, sharing activities, and data exports. They are essential for compliance and security auditing.

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

Workspace roles in Power BI include:

- **Admin:** Full control over everything.
- **Member:** Can edit content and publish reports.
- **Contributor:** Can add content but not modify or delete existing items.
- **Viewer:** Can only view content.
  Permissions can also be managed using **Microsoft 365** groups or Active Directory security groups.

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

Data governance is enforced through:

- **Data classification and labeling** using Microsoft Purview or sensitivity labels.
- **Certified/Promoted datasets and reports** to guide users to trusted sources.
- **Tenant settings** to control sharing, export, and publish capabilities.
- **Row-Level Security (RLS)** and **Azure Active Directory** to enforce access rules.

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

- **Performance**: RLS can slow down queries, especially with large datasets.
- **Complex Models**: Implementing RLS across multiple tables or relationships may be difficult.
- **Limited with Live Connection**: RLS is defined in the source model (like Analysis Services) and cannot be managed in Power BI.
- **Debugging**: Harder to test and debug RLS in DirectQuery scenarios due to reliance on real-time queries.

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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"** action in Power BI. This is useful for scheduling refreshes or triggering them after another process (like data loading) completes.
- **REST API**: Developers can use the **Power BI REST API** to programmatically trigger dataset refreshes. This is ideal for automation, integrating with other apps, or building custom workflows.

Both methods help maintain up-to-date data in reports without relying solely on scheduled refreshes.