Homework Lesson 20

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

Power BI handles large datasets in the Online Service through features such as Import mode data compression, DirectQuery for real-time access, and incremental refresh. However, standard (Pro) capacity has dataset size and performance limitations. Premium Capacity provides higher storage limits, dedicated compute resources, better performance, support for large models above 1GB, and advanced features like XMLA endpoint access and paginated reports.

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

Import Mode: Data is stored inside Power BI. Fast performance but requires dataset refresh.
DirectQuery: Data remains in source. Queries run live against the database. Useful for real-time data but depends on source performance.
Live Connection: Similar to DirectQuery but connects directly to an Analysis Services model or Power BI dataset. No data is stored in Power BI.

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

Deployment pipelines allow version control and controlled releases of content. They include three stages: Development, Test, and Production. Reports and datasets can be promoted from one stage to the next ensuring proper validation before final release.

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

Power BI dashboards and reports can be embedded directly into Microsoft Teams channels using the Power BI tab. They can also be embedded into SharePoint Online pages via the Power BI web part, allowing teams to collaborate and view insights within familiar collaboration platforms.

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 datasets hosted in Power BI Premium. It enables advanced modeling, automation, CI/CD workflows, and external tools like SQL Server Management Studio or Tabular Editor to work with the underlying dataset model.

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

Usage metrics provide insights into report and dashboard usage—such as view counts and user access patterns. Audit logs (accessible via Microsoft 365 compliance center) track detailed events including sharing, report access, dataset refreshes, and workspace operations for security and governance monitoring.

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

Power BI workspaces allow role-based access such as Viewer, Contributor, Member, and Admin. Permissions determine whether users can view, edit, publish, or manage workspace content. Access can be managed inside workspace settings.

How can data governance be enforced in Power BI Service?

Data governance can be enforced through Data Loss Prevention (DLP) policies, classification labels, audit logs, certified datasets, workspace roles, and enforcing Row-Level Security (RLS) to ensure users only see data they are authorized for.

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

Row-Level Security depends on the data source. In Live Connection to Analysis Services, RLS must be defined in the underlying model, not Power BI. For DirectQuery, complex RLS may affect performance because filtering is pushed to the source database.

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

Dataset refresh can be automated using Power Automate flow actions (e.g., refresh dataset) or through REST API calls to trigger refresh operations programmatically. This is often used in scheduling and event-based refresh scenarios.