**Part 4: Azure Pricing and Cost Management**

Azure offers a variety of pricing models depending on the services you use, but with the right tools and practices, you can **manage your budget effectively**.

**📊 Azure Pricing Models**

Azure follows different pricing models for its services:

1. **Pay-As-You-Go (PAYG)**:  
   You pay only for the resources you use. This is **flexible** and commonly used for general-purpose workloads.
2. **Reserved Instances**:  
   For services like **Virtual Machines**, you can commit to a one- or three-year plan and get **significant discounts**.
3. **Spot Pricing**:  
   Azure allows you to purchase unused capacity at **lower prices**, but availability is not guaranteed.
4. **Free Services**:  
   Azure offers **free-tier services** for beginners (like **5 GB of Blob storage** or **250 GB SQL database**).

**🧮 Azure Pricing Calculator**

The **Azure Pricing Calculator** allows you to estimate costs for different Azure services based on your usage.

1. **How to Use the Pricing Calculator**:
   * Go to the **Azure Pricing Calculator**: <https://azure.microsoft.com/en-us/pricing/calculator>.
   * **Select Services**: Choose the services (like **Storage**, **VMs**, **Databases**) you want to estimate.
   * **Adjust Parameters**: Modify settings such as **region**, **usage hours**, and **performance** to get accurate pricing.
   * **See Estimated Costs**: The calculator provides a **monthly cost estimate** for your selected configuration.

**💳 Azure Cost Management and Billing**

Once you start using Azure, you'll need to manage and monitor your **spending**. Azure provides several tools to track and control costs:

**1. Cost Management + Billing:**

* **Cost Analysis**: View your **spending** over time, categorized by service, region, and resource.
* **Budgets**: Set **spending limits** or **alerts** to notify you when your usage reaches a certain threshold.
* **Recommendations**: Azure provides suggestions on how to **optimize costs** based on your usage patterns.

**2. Azure Cost Alerts:**

* You can set up **alerts** to notify you when your costs approach a predefined budget.
* Go to **Cost Management + Billing** > **Budgets** > **Create Budget** to configure this.

**3. Resource Tags:**

* **Tagging** helps you categorize and organize resources for better **cost allocation**.
* For example, you can tag resources by **department** or **project** to track costs more effectively.

**🔒 Azure Cost Control Best Practices**

Here are some best practices to keep your Azure costs under control:

1. **Delete Unused Resources**:  
   Always **deallocate or delete** resources like virtual machines or databases that you're not using.
2. **Right-Size Your Resources**:  
   Review and adjust your resources to match the actual **demand** (e.g., scaling down Virtual Machines during off-peak hours).
3. **Use the Free Tier**:  
   Take advantage of the **free services** Azure offers, especially when starting out or experimenting.
4. **Set Budgets and Alerts**:  
   Set **cost alerts** to monitor spending and avoid overshooting your budget.

**🛠 Hands-On Task: Set a Budget and Alert**

1. Go to **Cost Management + Billing** in the Azure Portal.
2. Click **Budgets** > **+ Add** to create a new budget.
3. Set the **budget amount** (e.g., $10/month).
4. **Configure Alerts** to notify you when your usage reaches 80%, 90%, or 100% of your budget.
5. Click **Create**.

This will help you **stay on top of your Azure spending** and avoid unexpected charges!

**🧩 Summary of Key Concepts in Part 4:**

* **Azure Pricing Models**: Pay-As-You-Go, Reserved Instances, Spot Pricing, and Free Tier.
* **Azure Pricing Calculator**: Estimate costs based on your usage.
* **Cost Management Tools**: Set budgets, view cost analysis, and receive alerts.

**Cost Control Best Practices**: Delete unused resources, right-size your services, and use tags for better cost allocation.