**5. Connect to and consume Azure services and third-party services**
  └ **5.1 Implement API Management**
      └ **5.1.1 Create an Azure API Management instance**

1.  What is Azure API Management (APIM) and when should it be used?
2.  What are the components of an APIM instance?
3.  What are the pricing tiers of APIM and their core differences?
4.  How do you provision an APIM instance using Azure CLI?
5.  What are the networking options when creating an APIM instance (public vs. internal)?
6.  How do you configure a custom domain during APIM creation?
7.  What is the default management and developer portal behavior post-deployment?
8.  What is the purpose of the publisher email and name fields?
9.  What RBAC roles are relevant for managing APIM instances?
10. What are the prerequisites for deploying APIM in a VNET?

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**1. What is Azure API Management (APIM) and when should it be used?**
A fully managed service to publish, secure, transform, and monitor APIs. Use APIM to expose internal or third-party services via a unified gateway with rate limiting, authentication, logging, and analytics.

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**2. What are the components of an APIM instance?**
- **API Gateway** – Handles API calls, policies, and traffic.
- **Developer Portal** – Auto-generated site for API consumers.
- **Management Plane** – For configuring APIs and policies.
- **Publisher Portal** – Admin UI in Azure Portal.

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**3. What are the pricing tiers of APIM and their core differences?**
- **Developer** – Non-production use, low-cost, no SLA.
- **Basic** – Entry-level prod tier, no VNET support.
- **Standard** – VNET support, SLA-backed, scalable.
- **Premium** – Multi-region, zone redundancy, higher throughput.
- **Consumption** – Serverless, pay-per-call, no custom domain/VNET.

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**4. How do you provision an APIM instance using Azure CLI?**
```
az apim create \
   --name myapim \
   --resource-group myrg \
   --publisher-email admin@contoso.com \
   --publisher-name Contoso \
   --location eastus \
   --sku-name Developer
```

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**5. What are the networking options when creating an APIM instance (public vs. internal)?**
- **External** (default): Public endpoint for API gateway and portals.
- **Internal**: Requires Premium tier, deploys into a VNET with private endpoints for secure access.

**6. How do you configure a custom domain during APIM creation?**
Use Azure CLI or Portal after deployment. Requires a valid certificate (Key Vault or PFX). Configure for gateway, developer portal, and management endpoints separately.

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**7. What is the default management and developer portal behavior post-deployment?**
Both portals are enabled with default subdomains. Developer portal is public and customizable. Management portal is accessed via Azure Portal and not intended for external users.

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**8. What is the purpose of the publisher email and name fields?**
Used in developer portal metadata and system-generated emails (e.g., confirmation, invitations). Must be valid to ensure email-based features work correctly.

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**9. What RBAC roles are relevant for managing APIM instances?**
- **API Management Service Contributor** – Full management access.
- **Reader** – View-only access.
- **Developer Portal Administrator** – Limited to developer portal customization.

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**10. What are the prerequisites for deploying APIM in a VNET?**
- Must use **Premium tier**.
- Requires subnet with enough IPs and correct NSG/UdR settings.
- DNS resolution must be in place for Azure services used by APIM.