

Develop Azure Compute Solutions

└ 1.3 Implement Azure Functions

└ 1.3.3 Implement function triggers by using data operations, timers, and webhooks

1. What are function triggers and how do they differ from bindings?
2. What are the main trigger types?
3. How do you implement an HTTP trigger?
4. How do you implement a Timer trigger and define its schedule?
5. How do you implement a Blob trigger?
6. How do you implement a Queue Storage trigger?
7. How do you implement a Cosmos DB trigger?
8. How do you implement a Service Bus trigger?
9. How do you handle errors and retries in triggered functions?
10. What are best practices for managing trigger configuration?

1. What are function triggers and how do they differ from bindings?

Triggers start the function — only one allowed per function.

Bindings are for data input/output — zero or more allowed.

Example: HttpTrigger, TimerTrigger, BlobTrigger.

2. What are the main trigger types tested on the exam?

- HttpTrigger
- TimerTrigger
- BlobTrigger
- QueueTrigger
- CosmosDBTrigger
- ServiceBusTrigger

3. How do you implement an HTTP trigger?

```
[FunctionName("HttpExample")]
public static IActionResult Run(
    [HttpTrigger(AuthorizationLevel.Function, "get", "post")] HttpRequest req)
{
    return new OkObjectResult("Hello from HTTP trigger");
}
```

Supports get, post, etc. Use AuthorizationLevel to control access.

4. How do you implement a Timer trigger and define its schedule?

```
[FunctionName("TimerExample")]
public static void Run([TimerTrigger("0 */5 * * * *")] TimerInfo myTimer)
{
    // Executes every 5 minutes
}
```

CRON format: "{second} {minute} {hour} {day} {month} {day-of-week}".

5. How do you implement a Blob trigger?

```
[FunctionName("BlobExample")]
public static void Run(
[BlobTrigger("container/{name}", Connection = "AzureWebJobsStorage")] Stream myBlob, string name)
{
    // Reacts to new/updated blobs
}
```

6. How do you implement a Queue Storage trigger?

```
[FunctionName("QueueTriggerExample")]
public static void Run([QueueTrigger("my-queue", Connection = "AzureWebJobsStorage")] string queueItem)
{
    // Processes messages from Azure Queue Storage
}
```

7. How do you implement a Cosmos DB trigger?

```
[FunctionName("CosmosTriggerExample")]
public static void Run(
[CosmosDBTrigger(
    databaseName: "db",
    collectionName: "coll",
    ConnectionStringSetting = "CosmosDBConnection",
    LeaseCollectionName = "leases")] IReadOnlyList<Document> input)
{
    // Reacts to inserts and updates in Cosmos DB
}
```

Leases track change feed progress.

8. How do you implement a Service Bus trigger?

```
[FunctionName("ServiceBusExample")]
public static void Run(
[ServiceBusTrigger("queue-name", Connection = "ServiceBusConnection")] string message)
{
    // Handles messages from Azure Service Bus Queue
}
```

Use "queue-name" or "topic-name", "subscription-name" for topics.

9. How do you handle errors and retries in triggered functions?

- Retry policies can be set in host.json:

```
{
  "retry": {
    "strategy": "fixedDelay",
    "maxRetryCount": 3,
    "delayInterval": "00:00:05"
  }
}
```
 - Unhandled exceptions automatically trigger retries (except for HTTP).
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10. What are best practices for managing trigger configuration?

- Use app settings for all connection strings
- Abstract trigger values (e.g., queue name, CRON) into settings
- Use dependency injection for service management
- Limit execution time (set functionTimeout)
- Avoid long-running or blocking operations