

Develop Azure Compute Solutions

└ 1.3 Implement Azure Functions

└ 1.3.2 Implement input and output bindings

1. What are input and output bindings in Azure Functions?
2. What types of bindings are most commonly used?
3. How do you define bindings in function.json?
4. How are bindings configured in C# using attributes?
5. What is the difference between trigger and input bindings?
6. How do you bind to Azure Blob Storage?
7. How do you bind to Azure Queue Storage?
8. How do you bind to Azure Cosmos DB?
9. How do you use output bindings to return data from a function?
10. How do you manage binding configuration via app settings?

1. What are input and output bindings in Azure Functions?

Bindings abstract external data sources into declarative configurations.

- Input bindings: Bring external data into the function.
- Output bindings: Send function output to an external service.

2. What types of bindings are most commonly used?

- Azure Blob Storage
- Azure Queue Storage
- Azure Cosmos DB
- HTTP (Trigger + Output)
- Azure Table Storage

3. How do you define bindings in function.json?

Bindings are defined as JSON objects. Example:

```
{
  "bindings": [
    {
      "name": "myBlob",
      "type": "blobTrigger",
      "direction": "in",
      "path": "samples/{name}",
      "connection": "AzureWebJobsStorage"
    }
  ]
}
```

4. How are bindings configured in C# using attributes?

Example (Queue input, Blob output):

```
public static void Run(
    [QueueTrigger("queue-name")] string input,
    [Blob("output-container/{rand-guid}", FileAccess.Write)] out string outputBlob)
{
    outputBlob = input.ToUpper();
}
```

Use specific attributes like [BlobTrigger], [Queue], [CosmosDB] .

5. What is the difference between trigger and input bindings?

- Trigger: Initiates function execution (only one per function).
 - Input: Supplies data for processing (can have multiple).
- Example: A blobTrigger starts the function; a Cosmos DB input binding provides extra data.
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6. How do you bind to Azure Blob Storage?

Input (read):

```
[BlobTrigger("input-container/{name}", Connection = "AzureWebJobsStorage")] Stream inputBlob
```

Output (write):

```
[Blob("output-container/{name}", FileAccess.Write, Connection = "AzureWebJobsStorage")] Stream outputBlob
```

7. How do you bind to Azure Queue Storage?

Trigger:

```
[QueueTrigger("queue-name", Connection = "AzureWebJobsStorage")] string msg
```

Output:

```
[Queue("output-queue", Connection = "AzureWebJobsStorage")] out string outputQueueMsg
```

8. How do you bind to Azure Cosmos DB?

Input (read):

```
[CosmosDB(  
    databaseName: "db",  
    collectionName: "coll",  
    Id = "id",  
    PartitionKey = "key",  
    Connection = "CosmosDBConnection")] dynamic item
```

Output (write):

```
[CosmosDB(  
    databaseName: "db",  
    collectionName: "coll",  
    Connection = "CosmosDBConnection")] out dynamic outputItem
```

9. How do you use output bindings to return data from a function?

- Use the return statement for HTTP output or single output bindings:

```
[FunctionName("HttpExample")]  
public static IActionResult Run([HttpTrigger(...)] HttpRequest req, [Queue("myqueue")] out string msg)  
{  
    msg = "Queue message";  
    return new OkObjectResult("Success");  
}
```
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10. How do you manage binding configuration via app settings?

- Use placeholders in function.json or attribute Connection:
"connection": "AzureWebJobsStorage"
- Then define the value in Configuration > Application settings in the portal or via:
az functionapp config appsettings set --name <app-name> --settings AzureWebJobsStorage=<conn-string>