Azure

- [Azure Functions] Detected invalid time interval input
- Azure RBAC
- Azure ARM
- Azure Functions Java pom.xml

[Azure Functions] Detected invalid time interval input

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- Azure Functions Time Trigger, Golang 🔲🔲 🔲🔲
- Java `client.queryResourceWithResponse(...)` 🔲🔲 🔲🔲 🔲🔲🔲🔲
- HttpTrigger 🔲 🔲🔲🔲 🔲🔲🔲 🔲🔲🔲🔲 🔲🔲 🔲🔲
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```
    ...🔲🔲


    OffsetDateTime now = OffsetDateTime.now();
    QueryTimeInterval timeInterval = new QueryTimeInterval(now.minusMinutes(1), now);
    MetricsQueryOptions options = new MetricsQueryOptions()
            .setMetricNamespace("Microsoft.DBforMySQL/flexibleServers")
            .setTimeInterval(timeInterval)
            .setGranularity(Duration.ofMinutes(1))
            .setAggregations(Arrays.asList(AggregationType.AVERAGE));


    String format =
String.format("/subscriptions/%s/resourceGroups/%s/providers/Microsoft.DBforMySQL/flexibleServers/%s",
subscriptionID, resourceGroupName, resourceName);
    context.getLogger().info("Request sent");
    Response<MetricsQueryResult> metricsQueryResultResponse = client.queryResourceWithResponse(
            format,
            metricName,
            options,
            Context.NONE);


    ...🔲🔲
```

```java
/**
 * Unit test for Function class.
 */
public class FunctionTest {
    /**
     * Unit test for HttpTriggerJava method.
     */
    @Test
    public void testHttpTriggerJava() throws Exception {
        // Setup
        @SuppressWarnings("unchecked")
        final HttpRequestMessage<Optional<String>> req = mock(HttpRequestMessage.class);

        final Map<String, String> queryParams = new HashMap<>();
        queryParams.put("name", "Azure");
        doReturn(queryParams).when(req).getQueryParameters();

        final Optional<String> queryBody = Optional.empty();
        doReturn(queryBody).when(req).getBody();

        doAnswer(new Answer<HttpResponseMessage.Builder>() {
            @Override
            public HttpResponseMessage.Builder answer(InvocationOnMock invocation) {
                HttpStatus status = (HttpStatus) invocation.getArguments()[0];
                return new HttpResponseMessageMock.HttpResponseMessageBuilderMock().status(status);
            }
        }).when(req).createResponseBuilder(any(HttpStatus.class));

        final ExecutionContext context = mock(ExecutionContext.class);
        doReturn(Logger.getGlobal()).when(context).getLogger();

        // Invoke
        final HttpResponseMessage ret = new Function().run(req, context);

        // Verify
        assertEquals(HttpStatus.OK, ret.getStatus());
    }
}
```

final HttpResponseMessage ret = new Function().run(req, context);

com.azure.monitor.query.implementation.metrics.models.ErrorResponseException: Status code 400, "{"code":"BadRequest","message":"Detected invalid time interval input: 2024-08-26T09:06:21.940798 09:00/2024-08-26T09:07:21.940798 09:00, supported Iso 8601 time interval format: (Datetime/Datetime, Datetime/Duration, Duration/Datetime, Duration)"}"

.NET https://github.com/Azure/azure-sdk-for-net/issues/40047

QueryTimeInterval (?)

Duration 으로

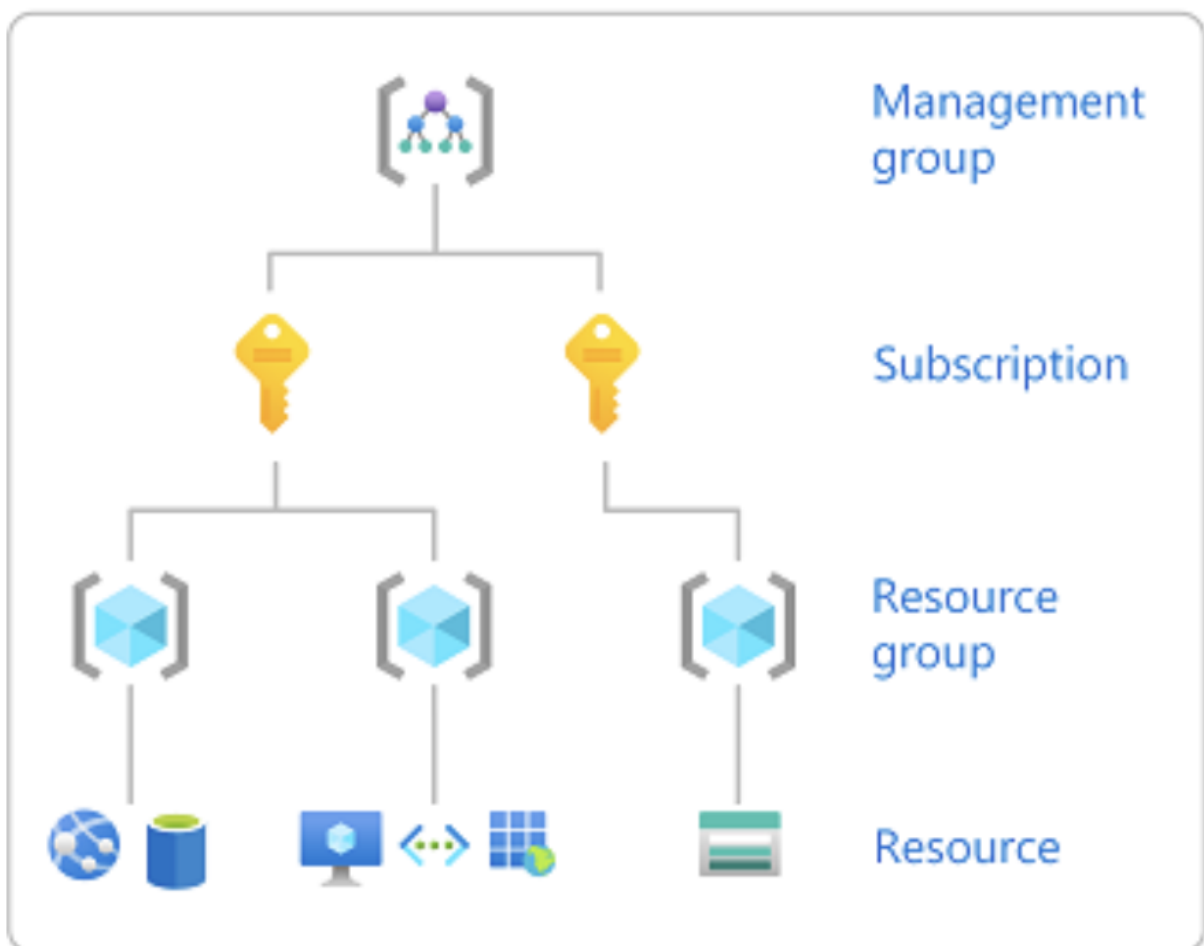# Azure RBAC

개요

Security Principal 에 role 을 assign 할 수 있다 Security Principal 은 4개가 있다
User
Group
Service Principal
Managed Identity
그룹은 role 이 전이가 가능
Scope 가 있음

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https://learn.microsoft.com/en-us/azure/role-based-access-control/built-in-roles#general

1. Scope
2. Resource Group
3. IAM 에서 Role
4. , Resource Group 내에서 해당 Role

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https://learn.microsoft.com/ko-kr/entra/identity/managed-identities-azure-resources/overview

Managed Identity

-	System-assigned managed identity	User-assigned managed identity
삭제		

Role

Owner or User Access Administrator 필요

> " To assign Azure roles, you must have:
>
> Microsoft.Authorization/roleAssignments/write permissions, **such as Role Based Access Control Administrator or User Access Administrator**

https://learn.microsoft.com/en-us/azure/role-based-access-control/built-in-roles#role-based-access-control-administrator

General

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Built-in role	Description	ID
Contributor	Grants full access to manage all resources, but does not allow you to assign roles in Azure RBAC, manage assignments in Azure Blueprints, or share image galleries.	b24988ac-6180-42a0-ab88-20f7382dd24c
Owner	Grants full access to manage all resources, including the ability to assign roles in Azure RBAC.	8e3af657-a8ff-443c-a75c-2fe8c4bcb635
Reader	View all resources, but does not allow you to make any changes.	acdd72a7-3385-48ef-bd42-f606fba81ae7
Role Based Access Control Administrator	Manage access to Azure resources by assigning roles using Azure RBAC. This role does not allow you to manage access using other ways, such as Azure Policy.	f58310d9-a9f6-439a-9e8d-f62e7b41a168
User Access Administrator	Lets you manage user access to Azure resources.	18d7d88d-d35e-4fb5-a5c3-7773c20a72d9

Azure ARM

- Azure PowerShell, Azure CLI, Azure SDKs □□ □ Azure Resource Manager □ □□
- □□ □□□ □□□ □□ □ □□

<https://learn.microsoft.com/en-us/azure/azure-resource-manager/management/overview>

Azure Functions Java pom.xml

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd">
  <modelVersion>4.0.0</modelVersion>

  <groupId>io.kyu</groupId>
  <artifactId>forwarder</artifactId>
  <version>1.0-SNAPSHOT</version>
  <packaging>jar</packaging>

  <name>Azure Java Functions</name>

  <properties>
    <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
    <java.version>17</java.version>
    <azure.functions.maven.plugin.version>1.6.0</azure.functions.maven.plugin.version>
    <azure.functions.java.library.version>3.1.0</azure.functions.java.library.version>
    <functionAppName>forwarder-1724717406048</functionAppName>
    <stagingDirectory>${project.build.directory}/azure-functions/${functionAppName}</stagingDirectory>
  </properties>

  <dependencyManagement>
    <dependencies>
      <dependency>
        <groupId>com.azure</groupId>
        <artifactId>azure-sdk-bom</artifactId>
        <version>1.2.26</version>
        <type>pom</type>
        <scope>import</scope>
      </dependency>
    </dependencies>
```

```xml
    </dependencyManagement>

    <dependencies>
        <dependency>
            <groupId>com.azure</groupId>
            <artifactId>azure-identity</artifactId>
        </dependency>
        <dependency>
            <groupId>com.azure</groupId>
            <artifactId>azure-monitor-query</artifactId>
        </dependency>
        <dependency>
            <groupId>com.microsoft.azure.functions</groupId>
            <artifactId>azure-functions-java-library</artifactId>
            <version>${azure.functions.java.library.version}</version>
        </dependency>


        <!--      Lombok-->
        <dependency>
            <groupId>org.projectlombok</groupId>
            <artifactId>lombok</artifactId>
            <version>1.18.34</version>
            <scope>provided</scope>
        </dependency>



        <!-- Test -->
        <dependency>
            <groupId>org.junit.jupiter</groupId>
            <artifactId>junit-jupiter</artifactId>
            <version>5.4.2</version>
            <scope>test</scope>
        </dependency>

        <dependency>
            <groupId>org.mockito</groupId>
            <artifactId>mockito-core</artifactId>
            <version>2.23.4</version>
            <scope>test</scope>
        </dependency>
    </dependencies>
```

```xml
<build>
  <plugins>
    <plugin>
      <groupId>org.apache.maven.plugins</groupId>
      <artifactId>maven-shade-plugin</artifactId>
      <version>3.1.0</version>
      <configuration>
        <shadedArtifactAttached>false</shadedArtifactAttached>
        <outputFile>${project.build.directory}/azure-functions/${functionAppName}/${project.artifactId}-${project.version}.jar</outputFile>
        <filters>
          <filter>
            <artifact>*:*</artifact>
            <excludes>
              <exclude>META-INF/*.SF</exclude>
              <exclude>META-INF/*.DSA</exclude>
              <exclude>META-INF/*.RSA</exclude>
            </excludes>
          </filter>
        </filters>
      </configuration>
      <executions>
        <execution>
          <phase>package</phase>
          <goals>
            <goal>shade</goal>
          </goals>
        </execution>
      </executions>
    </plugin>
    <plugin>
      <groupId>org.apache.maven.plugins</groupId>
      <artifactId>maven-resources-plugin</artifactId>
      <version>3.1.0</version>
      <executions>
        <execution>
          <id>copy-resources</id>
          <phase>package</phase>
          <goals>
            <goal>copy-resources</goal>
```

```xml
      </goals>
      <configuration>
        <overwrite>true</overwrite>
        <outputDirectory>${stagingDirectory}</outputDirectory>
        <resources>
          <resource>
            <directory>${project.basedir}</directory>
            <includes>
              <include>host.json</include>
              <include>local.settings.json</include>
            </includes>
          </resource>
        </resources>
      </configuration>
    </execution>
  </executions>
</plugin>
<plugin>
  <groupId>org.apache.maven.plugins</groupId>
  <artifactId>maven-compiler-plugin</artifactId>
  <version>3.8.1</version> <!-- 🔧 🔧 -->
  <configuration>
    <source>17</source>
    <target>17</target>
  </configuration>
</plugin>
<plugin>
  <groupId>com.microsoft.azure</groupId>
  <artifactId>azure-functions-maven-plugin</artifactId>
  <version>1.36.0</version>
  <configuration>
    <resourceGroup>io.kyu</resourceGroup>
    <appName>kyu-forwarder</appName>
    <region>koreancentral</region>
    <runtime>
      <os>linux</os>
      <javaVersion>17</javaVersion>
    </runtime>
    <deploymentType>ZIP</deploymentType>
  </configuration>
</plugin>
```

```xml
        </plugins>
    </build>
</project>
```