Documentation: Fix for Microsoft Fabric Connection to Private S3 Bucket

Issue Summary

For several days, we encountered repeated errors when connecting Microsoft Fabric to the private S3 bucket ms-fab-poc. The connection consistently failed during browsing and copy operations.

Root Cause

The **Service URL** configured in Fabric was set incorrectly.
We used the bucket-specific endpoint:

https://ms-fab-poc.s3.ap-southeast-1.amazonaws.com

Microsoft Fabric only accepts the default global S3 endpoint:

https://s3.amazonaws.com

Fix Applied

1. **Updated the Service URL in Fabric**

   o Changed from the bucket-specific endpoint (ms-fab-poc.s3.ap-southeast-1.amazonaws.com)

   o To the correct default global endpoint (s3.amazonaws.com)

   o This resolved the connection failure and allowed browsing all folders in the bucket.

2. **Configured Fabric connection with Access Key / Secret Key**

   o Used the IAM user ms-fab-poc credentials.

   o Specified bucket name = ms-fab-poc.

   o No Role ARN / SPN was used.

3. **Applied Bucket Policy**
   The following bucket policy was applied to secure access for the IAM user while enforcing HTTPS-only connections:

```json
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Sid": "DenyInsecureTransport",
            "Effect": "Deny",
            "Principal": "*",
            "Action": "s3:*",
            "Resource": [
                "arn:aws:s3:::ms-fab-poc",
                "arn:aws:s3:::ms-fab-poc/*"
            ],
            "Condition": {
                "Bool": {
                    "aws:SecureTransport": "false"
                }
            }
        },
        {
            "Sid": "AllowBucketListAndLocationToUser",
            "Effect": "Allow",
            "Principal": {
                "AWS": "arn:aws:iam::022862859798:user/ms-fab-poc"
            },
            "Action": [
                "s3:ListBucket",
```

```
        "s3:GetBucketLocation"

      ],

      "Resource": "arn:aws:s3:::ms-fab-poc"

    },

    {

      "Sid": "AllowObjectReadToUser",

      "Effect": "Allow",

      "Principal": {

        "AWS": "arn:aws:iam::022862859798:user/ms-fab-poc"

      },

      "Action": [

        "s3:GetObject",

        "s3:GetObjectVersion"

      ],

      "Resource": "arn:aws:s3:::ms-fab-poc/*"

    }

  ]

}
```

Outcome

- Microsoft Fabric now connects successfully to the private S3 bucket ms-fab-poc.

- All folders can be browsed and data can be copied without error.

- Access is secured by enforcing HTTPS and limiting permissions to the IAM user only.

Lessons Learned / Best Practices

1. **Always use the default S3 endpoint (s3.amazonaws.com) in Fabric.**
   Bucket-specific regional endpoints may cause authentication or browsing errors.

2. **Service URL must only contain a valid URL.** Do not append ARN or bucket name into this field.

3. **Use least-privilege IAM policies.** Only grant required actions (ListBucket, GetBucketLocation, GetObject).

4. **Secure the bucket.** Keep DenyInsecureTransport in place to enforce HTTPS-only access.

5. **Check configuration before escalating.** A small misconfigured field (like the URL) can cause multi-day issues.