

# ERROR: server certificate does not match host name

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## Issue

psql: error: connection to server at X.X.X.X", port 5432 failed: server certificate for "[xxxxxxxxx.database.azure.com](#) [ ]" (and 2 other names) does not match host name "X.X.X.X"

## Investigation/Analysis

When using **sslmode=verify-full** the connections will fail if the server IP Address is used as hostname

```
psql: error: connection to server at "10.5.3.4", port 5432 failed: server certificate for "ce73dbb59a96.database.azure.com [ ]" (and 2 other names) does not match host name "10.5.3.4"
```

This is an expected behavior

A similar error can happen in Private Servers if the connections is attempted using the cname of the server, and the cname changed for any reason.

```
daniel      :~$ nslookup pgdvvr8.postgres.database.azure.com
Server:      127.0.0.53
Address:     127.0.0.53#53

Non-authoritative answer:
pgdvvr8.postgres.database.azure.com    canonical name = db1f8b98ef78.pgdvvr8.private.postgres.database.azure.com.
Name:   db1f8b98ef78.pgdvvr8.private.postgres.database.azure.com
Address: 10.5.3.4
```

The cname for the server can change during the server life cycle and the server certificate is not regenerated

One scenario that could cause (but not always) the change of the came is changing the Private DNS Zone for the server

## Repro Steps

This is valid for Private Servers and Public Servers, as shown below:

## Public Server

```
daniel@ ~$ psql "sslmode=verify-full sslrootcert=DigiCertGlobalRootCA.crt.pem host=20.120.52.176 dbname=postgres user=daniel"
psql: error: connection to server at "20.120.52.176", port 5432 failed: server certificate for "cddcab87a5f5.database.azure.com" (and 1 other name) does not match host name "20.120.52.176"
```

## Private Server

```
daniel@ ~$ psql "sslmode=verify-full sslrootcert=DigiCertGlobalRootCA.crt.pem host=10.5.3.4 dbname=postgres user=daniel"
psql: error: connection to server at "10.5.3.4", port 5432 failed: server certificate for "ce73dbb59a96.database.azure.com" (and 2 other names) does not match host name "10.5.3.4"
```

## Mitigation

1. Connection must be done using the server FQDN

The screenshot shows the Azure portal interface for a PostgreSQL flexible server named 'pgdvr8'. The left sidebar contains navigation links: Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Migration (preview), and Settings. The main content area displays the 'Essentials' section with the following details:

Property	Value
Subscription	Consumo interno de Microsoft Azure
Subscription ID	5bfd8766-6d57-46a5-9698-55fe82f8ea09
Resource group	todelete
Status	Available
Location	East US
Server name	pgdvr8.postgres.database.azure.com
Server admin login name	daniel
Configuration	General Purpose_D2ds_v4_2_vCores_8_GiB_RAM_1...
PostgreSQL version	14.6
Availability zone	1

2. Connections is possible the Server IP Address or cnamme (even after it changed) by using any *sslmode* other than *verify-full*, However, we recommend customer to always connect using FQDN instead of server IP Address or cname as they can change during the serve life cycle