

# Distribution Agent unable to connect to SQL DB subscriber

Last updated by | Holger Linke | May 6, 2022 at 10:49 AM PDT

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## Issue

Publisher and Distributor are on Managed Instance, the Subscriber is Azure SQL Database.

The Distribution Agent is failing with the following error:

```
2019-05-09 20:08:15.943 Connecting to Subscriber 'azuredb.DATABASE.WINDOWS.NET'
with OS result code: 0.
2019-05-09 20:08:57.787 Agent message code 20084. The process could not connect to Subscriber 'azuredb.DATABAS
2019-05-09 20:08:57.818 Category:NULL
Source: Microsoft OLE DB Driver for SQL Server
Number: 53
Message: Named Pipes Provider: Could not open a connection to SQL Server [53].
2019-05-09 20:08:57.818 Category:NULL
Source: Microsoft OLE DB Driver for SQL Server
Number: 53
Message: A network-related or instance-specific error has occurred while establishing a connection to SQL Serv
Server is not found or not accessible. Check if instance name is correct and if SQL Server is configured to al
2019-05-09 20:08:57.818 Category:NULL
Source: Microsoft OLE DB Driver for SQL Server
Number: HYT00
Message: Query timeout expired, Failed Command:
2019-05-09 20:08:57.818 The agent failed with a 'Retry' status. Try to run the agent at a later time
```

## Investigation / Analysis

There are several possible causes for this issue:

1. Connection/Login Timeout for the Distribution Agent is set too short
2. Managed Instance outbound VNet rules are not allowing traffic to Azure SQL Database. For example, the following configuration opens the necessary ports only to the VNet but not to Azure SQL Database:

Direction: Outbound								
>	allow_management_outbound	Allow	Tcp	100	*	*	*	80, 443, 12000
>	smb_out	Allow	*	105	*	*	Storage	445
>	allow_misubnet_outbound	Allow	*	200	*	*	174.0.2.0/24, 12.0.3.0/24	*
>	allow_linkedserver_outbound	Allow	Tcp	1000	*	*	VirtualNetwork	1433
>	allow_redirect_outbound	Allow	Tcp	1100	*	*	VirtualNetwork	11000-11999
>	allow_geodr_outbound	Allow	Tcp	1200	*	*	VirtualNetwork	5022
>	deny_all_outbound	Deny	*	4096	*	*	*	*

3. Azure SQL Database firewall is blocking the Managed Instance IP address

## Mitigation

(1) Timeout too short: please refer to [Replication Agent time out on first start](#)

(2) Allow outbound traffic for destination ports 1433, 11000~11999 not only to the VNet, but also to external resources. For example, specify the "SQL" service tag and the ports 1433, 11000~11999 as destination on the NSG.

(3) Firewall: Add the Managed Instance IP address to the Azure SQL Database firewall

Either: Turn on the the Allow access to Azure Services option,

or: Identify the Managed Instance IP address and add it manually to the SQL Azure database firewall

**Regarding #3:** To find the Managed Instance IP address, do either of the following:

(3a) [Determine the management endpoint IP address - Azure SQL Managed Instance](#) 

(3b) Use nslookup to get the IP address from the DNS

Version #1 for Managed Instances that had been created after October 2020:

```
C:\>nslookup miservername.8f08e6d34d3b.database.windows.net
Server: ciedubgraf5b2d--commoncorp-ip6.network.microsoft.com
Address: 10.50.50.50
```

```
Non-authoritative answer:
Name: miservername.internal.8f08e6d34d3b.database.windows.net
Address: 10.11.1.250
Aliases: miservername.8f08e6d34d3b.database.windows.net
```

=> IP address: 10.11.1.250

Version #2 for older Managed Instances:

```
C:\>nslookup miservername.b5694f60e2c5.database.windows.net
Server: ciedubgraf5b2d--commoncorp-ip6.network.microsoft.com
Address: 10.50.50.50
```

Non-authoritative answer:

```
Name:      tr7974.westeurope1-a.worker.vnet.database.windows.net
Address:   10.0.0.254
Aliases:   miservername.b5694f60e2c5.database.windows.net
           miservername.privatelink.b5694f60e2c5.database.windows.net
```

```
-- this server also has private link enabled
-- remove the "VNET" from the tenant ring name:
-- tr7974.westeurope1-a.worker.vnet.database.windows.net => tr7974.westeurope1-a.worker.database.windows.net
```

```
C:\>nslookup tr7974.westeurope1-a.worker.database.windows.net
Server: ciedubgraf5b2d--commoncorp-ip6.network.microsoft.com
Address: 10.50.50.50
```

```
Name:      tr7974.westeurope1-a.worker.database.windows.net
Address:   51.144.55.178
```

```
=> IP address 1: 10.0.0.254
=> IP address 2: 51.144.55.178
```



**How good have you found this content?**

