PostgreSQL Errors and states

Last updated by | Bashar Hussein | Nov 10, 2020 at 2:58 PM PST

Error	State	Reason	Action
17830	*	Connection Timed out	Can happen for any reason troubelshoot with the customer connection timeout values and if needed File a CRI
17832	126	Invalid Startup Packet	Something is missing from the startup packet. Customer should get an error message explaining what the problem is
18456	1	Server ran out of memory	Check memory consumption
18456	2	Couldn't fork connection	File a CRI
18456	3	Too many clients	Ask the customer to run pg_stat_activity and troubelshoot the connections
18456	4	Server name not found in startup packet	Ask customer to make sure username is "<User>@<Server>"
18456	5	Database is starting up	Check the server's sandbox of the startup status an if recovery is completed
18456	6	Database in Recovery	Check the sandbox for recovery progress and database startup status
18456	7	Authentication failed	Ask the customer to check username and password
18456	8	Firewall blocked connection	customer need to check firewall issues
18456	9	No such Database	Customer need to check connection string for wrong DB name or DNS issue
18456	10	Bad Client Certificate	Customer need to check the SSL configuration
18456	11	Connection throttling	Check for too many clients and if not please file CRI

18456	20	Backend Unavailable	This one is most likely not a connectivity problem. `1. First, check the # of restarts.` `2. Check the sandbox for any errors that could signal unavailability.` `3. If you find nothing and the backend looks completely healthy, transfer to the connectivity queue`
18456	90-96	AAD related issue	Check the screenshot below for more information
18456	100	SSL Connection Enforced	Psql has behavior where a connection that fails with SSL is retried without SSL, unless the connection string contains "sslmode=require". If you see this error, it's most likely just a retry. The connection directly before it will be a more accurate reason for failure.
18456	101	SSL Secure Redirection Failed	If redirection is selected (which only Adobe has) and needs to be secure, and the server doesn't have SSL enabled, this error will be thrown. Exceedingly rare.
18456	121	GW SSL Handshake With Host Failed	Transfer to Connectivity Queue
18456	122	VNET Validation Failed	Could be a VNET Firewall rule, a client attempting to connect to a basic server using VNET, or any other issue. Customer should provide the error message they are getting on their console or in their logs.
18456	123	Connection throttle due to memory	If you see this consistently, there should be a corresponding error in the sandbox that states that a connection was throttled due to the memory limit. However, these occasionally pop up as a 1-off error in a bunch of error messages. We're still investigating why that happens, but those can be ignored.
18456	124	Transfer to Naveen Setlur	

40532	4	Server Lookup Failed	This error means the user is attempting to connect to a server that doesn't exist.
40613	16	ProxyConnectionToBackendFailed	The Gateway was unable to connect to the Host. Take the connection_id for this connection, run the connection_id query described below, and see if the connection was received by the Host. Note it down and transfer to the PG Connectivity Queue.

If a combination is not on this chart, please reach out to Naveen.Setlur@microsoft.com via email OR transfer to the PG Connectivity Queue. Please look for the majority error when deciding which action to take. If a server is down, you will see different error and state combinations as the connection fails at different points. 18456,20 is the best indicator of a backend problem.

Queries

Logins

```
let pg_server_name = "nasetlur";
let start_time = ago(4h);
let end_time = now();
MonLogin
| where logical_server_name == pg_server_name
| where originalEventTimestamp > start_time
| where originalEventTimestamp < end_time
| where AppTypeName contains "Gateway.PG"
| where event contains "process_login_finish" or event contains "proxy_close_connection"
| project originalEventTimestamp , is_success, is_user_error , ['state'] , error, result,
logical_server_name, database_name,AppTypeName , connection_id, peer_address , event, process_id
, ClusterName
```

Update the server_name, start_time, and end_time with the incident specifics.

Connection ID

```
MonLogin
| where connection_id == ""
| project originalEventTimestamp , is_success, is_user_error , ['state'] , error, result,
logical_server_name, database_name,AppTypeName , connection_id, peer_address , event, process_id
, ClusterName
```

Use this query to follow a connection through the different phases

```
#define RLF_ERROR_LOGON_FAILED            18456

#define RLF_STATE_SUCCESS                 0
#define RLF_STATE_OUT_OF_MEMORY           1
#define RLF_STATE_COULD_NOT_FORK          2
#define RLF_STATE_TOO_MANY_CONNECTIONS    3
#define RLF_STATE_DB_IN_SHUTDOWN          4
#define RLF_STATE_DB_IN_STARTUP           5
#define RLF_STATE_DB_IN_RECOVERY          6
#define RLF_STATE_AUTH_FAILED             7
#define RLF_STATE_FIREWALL_BLOCKED        8
#define RLF_STATE_NO_SUCH_DATABASE        9
#define RLF_STATE_BAD_CLIENT_CERT         10
#define RLF_STATE_CONNECTION_THROTTLE     11

#define RLF_STATE_AAD_AUTH_FAILED         90
#define RLF_STATE_AAD_TENANT_NOT_SET      91
#define RLF_STATE_AAD_ADMIN_NOT_SET       92
#define RLF_STATE_AAD_MFA_ENFORCEMENT     93
#define RLF_STATE_AAD_AUTH_BUF_OVERRUN    94
#define RLF_STATE_AAD_TOKEN_TOO_LONG      95
#define RLF_STATE_AAD_MAPPING_FILE_ERR    96
```

Gateway.PG	17830	0		
Gateway.PG	17830	11		
Gateway.PG	17830	12		
Gateway.PG	17830	13		
Gateway.PG	17830	105		
Gateway.PG	17830	106		
Gateway.PG	17832	101		
Gateway.PG	17836	14		
Gateway.PG	17836	17		
Gateway.PG	18456	1	yes	
Gateway.PG	18456	7	yes	Authentication Failed
Gateway.PG	18456	8	yes	Firewall blocked
Gateway.PG	18456	9	yes	No such database
Gateway.PG	18456	4		18456: Login Failed 4: (waiting for SSL handshake to complete) Ref ICM: 56316490
Gateway.PG	18456	20		18456:Login failed 20: GW_FAIL_CONNECT_TO_POSTGRES
Gateway.PG	18456	100		Login without SSL
Gateway.PG	18456	121		
Gateway.PG	18456	122		
Gateway.PG	40532	4		
Gateway.PG	40613	16		Gateway cannot start proxy connection to host. This is typically due to socket exhaustion on the Host. This could be due to many sockets waiting in FIN_WAIT_2 or CLOSE_WAIT state on the host node. An engineer might have to restart the node to mitigate this incident.Please escalate this ticket to the Product Engineering team
Host.PG	17830	0		
Host.PG	17830	11		
Host.PG	17830	13		
Host.PG	17830	14		
Host.PG	17830	105		
Host.PG	17836	14		
Host.PG	40613	10		
Host.PG	40613	12		
Host.PG	40613	13		
Host.PG	40613	14		
Host.PG	18456	3		RLF_STATE_TOO_MANY_CONNECTIONS

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