ARM template issues or questions

Last updated by | Charlene Wang | Dec 5, 2022 at 1:55 AM PST

Contents

ARM Templates issues

Scenarios

Azure Resource Manager templates enable you to define your infrastructure as code and deploy your solutions to Azure cloud. These can be used to deploy and configure Azure SQL databases. Customers choose this supporting topic when they see, deployment failures with timeout error or need help with ARM template deployment.

Analysis -	This issue could be due to incorrect template, stuck deployment etc. If your deployment is failing: • If you are creating a new server, make sure your the server name is globally unique • If you are deploying or updating multiple server attributes which includes firewall rules, Virtual Network rules, server parameters or databases for a given server, make sure you are deploying these serially, in any order. By default, ARM deploys resources in parallel and a deployment may fail if configured in parallel.
Azure Support Center -	<Related Insights>
Other Tools -	<Kusto / XTS / Powershell / CLI Reference>

Troubleshooting Steps

To troubleshoot these issues, first check ARM layer log, then check below resource provider(Microsoft.sql) layer Kusto tables

```
MonManagementOperations
| where elastic_server_name =~ "{ServerName}"
//| where TIMESTAMP >= datetime(2019-08-21 14:37:12.3520000) and TIMESTAMP < now()
| project originalEventTimestamp, request_id, operation_type, ['state'], error_message
| order by originalEventTimestamp desc
```

And then to learn more about the operation collect request ID from previous query and run the following query

```
MonManagement
| where request_id == "168D1E11-1344-4679-8CC2-32BD3EAB2EDF"
```

Please note that if the customer ran deployment while another deployment in process it will timeout

Example below:

```
['ERROR: Deployment failed. Correlation ID: c6a9355f-5ac3-4877-ac36-ad1c0644d2c7. {', '  \\'status\\': \\'Canceled\\',', '
\\'error\\': {', '    \\'code\\': \\'ResourceDeploymentFailure\\',', '    \\'message\\': \\'The resource operation completed
with terminal provisioning state 'Canceled'.\\',', '    \\'details\\': [', '      {', '        \\'code\\':
\\'OperationTimedOut\\',', '        \\'message\\': \\'The operation timed out and automatically rolled back. Please retry the
operation.\\'',;
```

The UpsertElasticServerFirewallRules operation failed since 2019-08-21 14:36:48.067.

```
MonManagement
| where request_id == 'F6C699E6-F0F8-475E-B59B-22832A6DD0FD'
| project originalEventTimestamp,state, event, state_machine_type, action, old_state,
new_state,message, operation_type, operation_parameters , elastic_server_name, error ,
error_message, ClusterName, keys,  stack_trace, fabric_name_uri , fabric_service_uri ,
fabricApplicationUri, correlation_id
| order by originalEventTimestamp asc
```

In this case Customer updated the firewall rule several times within 1 min and the first 3 operation succeeded.
The succeeding operations failed because it was unable to obtain the lock.
The finite state machine of type Microsoft.Xdb.InstanceManager.ElasticServerStateMachine with key(s) of [629f844a-5914-4720-8a36-0cb8c5fbb979] was unable to obtain the lock in 00:00:10.

2019-08-22 19:50:35.8513341	E607FA39-A935-4438-8B39-968F1A640139	UpsertElasticServerFirewallRules	Cancelled	The operation timed out and automatically rolled back. Please retry the operation.
2019-08-22 19:50:35.8022934	2B2BC539-4DE0-4EC2-AE3D-A7A40D11555D	UpsertElasticServerFirewallRules	Cancelled	The operation timed out and automatically rolled back. Please retry the operation.
2019-08-22 19:50:35.5091045	442CA1FF-2CCE-4956-BB9B-99B741DF2F4C	UpsertElasticServerFirewallRules	Cancelled	The operation timed out and automatically rolled back. Please retry the operation.
2019-08-22 19:50:35.5020549	00D1B3C3-0F99-4E33-8A75-B32D120DEA6B	UpsertElasticServerFirewallRules	Cancelled	The operation timed out and automatically rolled back. Please retry the operation.
2019-08-22 19:50:35.4899901	074C80B7-4D96-4270-8D57-54AB952468F0	UpsertElasticServerFirewallRules	Cancelled	The operation timed out and automatically rolled back. Please retry the operation.
2019-08-22 19:50:35.4724538	F6C699E6-F0F8-475E-B59B-22832A6DD0FD	UpsertElasticServerFirewallRules	Cancelled	The operation timed out and automatically rolled back. Please retry the operation.
2019-08-22 19:49:55.5601718	44DCE013-BA9D-4443-B7B1-5749921D43E1	UpsertElasticServerFirewallRules	Succeeded	
2019-08-22 19:49:54.2839563	52D9F660-C90F-40F1-A038-048828372049	UpsertElasticServerFirewallRules	Succeeded	
2019-08-22 19:49:51.2975282	3D8B5C8F-66C2-4260-B2F8-FFC90B71A4C5	UpsertElasticServerFirewallRules	Succeeded	
2019-08-22 19:49:49.9952167	098B91A9-ACF4-43E8-8C96-610D610620DB	UpsertElasticServerDatabase	Succeeded	

Customer send multiple update firewall rule requests at the same time.

For example, the cancelled UpsertElasticServerFirewallRules request

`F6C699E6-F0F8-475E-B59B-22832A6DD0FD` happened during `datetime(2019-08-22 19:48:59.8370000), datetime(2019-08-22 19:50:35.7910000)`

while another UpsertElasticServerFirewallRules request:

`3D8B5C8F-66C2-4260-B2F8-FFC90B71A4C5` is still in process druing `datetime(2019-08-22 19:48:59.7228693), datetime(2019-08-22 19:49:51.3001880)` and finally succeeded.

Solution: ask the customer to run the command serially (one by one)

Public Doc Reference

Document on debugging ARM template issues:
https://azure.microsoft.com/en-us/blog/debugging-arm-template-deployments/?WT.mc_id=pid%3A13491%3Asid%3A32630406%2F

Document on all templates:
https://learn.microsoft.com/en-us/azure/templates/microsoft.sql/2022-05-01-preview/servers/databases?pivots=deployment-language-arm-template

Deploy multiple properties of a server including Firewall rules, Virtual Network rules, server parameters or databases

Internal MSFT Reference

Engineering TSG: MSSOP0036 (name conflict): Thread exhaustion on ManagementService shared ARM/RDFE/CAS WCF host

Classification

Rootcause path - User issue/error/Uncoded

How good have you found this content?