

FaaS Fault Injection Observations

Experiment ID	Configuration Node	Constraint	Violation	Deployment Result	API responses	notes
001	functions.bye.events.0.httpApi.method	Enumeration	Unexpected Value	Deployment Error	n.a.	
002	functions.bye.handler	Reference	Append	Deployment Success	Runtime Error	Internal Server Error
003	functions.bye.layers.0	Reference	Change	Deployment Error	n.a.	
004	functions.bye.maximumEventAge	Range	Above	Deployment Error	n.a.	
005	functions.bye.maximumEventAge	WholeNumber	Fractional	Deployment Error	n.a.	
006	functions.bye.provisionedConcurrency	Range	Above	Deployment Error	n.a.	
007	functions.bye.provisionedConcurrency	WholeNumber	Fractional	Deployment Error	n.a.	
008	functions.bye.reservedConcurrency	Range	Above	Deployment Error	n.a.	
009	functions.bye.reservedConcurrency	Range	Below	Deployment Error	n.a.	
010	functions.bye.runtime	Enumeration	Unexpected Value	Deployment Error	n.a.	"member must satisfy enum value set"
010_b	functions.bye.runtime	Enumeration	Expected but Different	Deployment Error	n.a.	FUNCTION_ERROR_INIT_FAILURE
011	functions.bye.timeout	Range	Above	Deployment Error	n.a.	
012	functions.hello.architecture	Enumeration	Unexpected Value	Deployment Error	n.a.	
012_b	functions.hello.architecture	Enumeration	Expected but Different	Deployment Success	Successful Response	Changed architecture seems to be compatible
013	functions.hello.environment	NotReserved	Use Reserved Option	Deployment Error	n.a.	_X_AMZN_TRACE_ID: Key Validation
013_b	functions.hello.environment	NotReserved	Use Reserved Option	Deployment Success	Successful Response	TZ should be reserved but no error
013_c	functions.hello.environment	NotReserved	Use Reserved Option	Deployment Error	n.a.	AWS_REGION: Reserved Value error
014	functions.hello.events.0.httpApi.method	Enumeration	Unexpected Value	Deployment Error	n.a.	
015	functions.hello.handler	Reference	Change	Deployment Success	Runtime Error	Internal Server Error
016	functions.hello.maximumRetryAttempts	Range	Above	Deployment Error	n.a.	
017	functions.hello.memorySize	Range	Above	Deployment Error	n.a.	
018	functions.hello.memorySize	Range	Below	Deployment Error	n.a.	
019	functions.hello.runtime	Enumeration	Expected but Different	Deployment Error	n.a.	runtime incompatible with architecture
020	functions.hello.vpc.securityGroupIds.0	Reference	Change	Deployment Error	n.a.	Validation Error
021	functions.hello.vpc.subnetIds.0	Reference	Change	Deployment Error	n.a.	Validation Error
022	functions.imageHello.events.0.httpApi.method	Enumeration	Expected but Different	Deployment Success	Runtime Error	Not Found (GET is now OPTIONS)
023	functions.imageHello.image	Reference	Change	Deployment Error	n.a.	
024	functions.imageHello.image	AtMostOne	Specify Both	Deployment Success	Successful Response	Duplicate option is ignored by serverless framework
025	functions.packagedHello.events.0.httpApi.method	Enumeration	Expected but Different	Deployment Success	Runtime Error	Not Found (GET is now OPTIONS)
026	functions.packagedHello.handler	Reference	Change	Deployment Success	Runtime Error	Internal Server Error
027	functions.packagedHello.package	AtMostOne	Specify Both	Deployment Error	n.a.	either option must be specified, but not both
028	functions.packagedHello.package.artifact	Reference	Change	Deployment Error	n.a.	
029	functions.packagedHello.runtime	Enumeration	Expected but Different	Deployment Success	Runtime Error	Internal Server Error
030	provider.iam.role.statements.0.Action	Enumeration	Unexpected Value	Deployment Success	Deployment Success	IAM permission action should not exist, but did not cause failure (wasn't used)
031	provider.iam.role.statements.0.Effect	Enumeration	Unexpected Value	Deployment Error	n.a.	MalformedPolicyDocument
032	provider.iam.role.statements.0.Resource	PatternMustMatch	Modify Pattern	Deployment Success	Deployment Success	IAM Resource pattern should not match, but resource is not used so did not cause failure
033	provider.region	Enumeration	Unexpected Value	Deployment Error	n.a.	
034	provider.region	Enumeration	Expected but Different	Deployment Error	n.a.	"us-gov-west-1" region is not supported by dashboard

n=38

Some redundant deployments were not attempted (e.g. there seems to be a check for integer parameters)