

Infrastructure Automation Test Framework – Test Design / Plan

Integration Test

Verify the seamless integration of Terraform configurations with various infrastructure components, ensuring a stable and scalable environment.

Test ID	Description	Input	Expected	AI – AutoFix
intgResourceVPCTest1	Create VPC with valid CIDR block	Apply Terraform config, verify VPC creation	VPC created with correct CIDR block.	<ul style="list-style-type: none"> Update the right provider version Update the right region
intgResourceSubnetTest2	Create subnet with valid CIDR block and VPC association	Apply Terraform config, verify subnet creation	Subnet created with correct CIDR block and VPC	Same as above
intgResourceEC2Test3	Create EC2 / VM instance with valid AMI and security group	Apply Terraform config, verify EC2 / VM instance creation	EC2 / VM instance created with correct AMI and security group	<ul style="list-style-type: none"> Fix the Naming Convention Fix any difference in Image shape. Fix Image Type Fix any exposed IP / Ports
intgDBConfigTest1	Verify Configuration database engine and version	Apply Terraform config, verify database engine and version	Created Database engine and version match expected configuration	Same as above
intgDBConfigTest2	Database instance type and storage	Apply Terraform config, verify database instance type and storage	Database instance type and storage match expected configuration	<ul style="list-style-type: none"> Update the right instance type Update the right VPC config Update the right subnet config Fix the naming convention. Fix if any deviation is policies
intgDBConfigTest3	Verify database encryption	Apply Terraform config, verify database encryption	Database encryption enabled and configured correctly	<ul style="list-style-type: none"> Update the right variable type
intgDBConfigTest4	Verify database backup configuration	verify database backup configuration	Database backup configuration matches expected values	

intgServicesTest1	Successful deployment of microservice	Verify Microservice deployed successfully	All Service ports are up and running	
intgServicesTest2	Validate service endpoint	Send request to service endpoint, verify response	Received Expected response from the Service	NA
intgServicesTest3	Validate service functionality	Test service functionality, verify expected behavior	Service Functionalities are working fine.	NA
intgServicesTest4	Validate service scalability	Check if the service scales up / down	Service scales as expected	
intgServicesTest5	Validate inter-service communication	Test communication between services, verify expected behavior	Services communicate as expected.	
intgServicesTest6	Validate API gateway integration	Test API gateway integration, verify expected behavior	API gateway integrates correctly with microservices	
intgServicesTest7	Validate authentication and authorization	Test authentication and authorization, verify expected behavior	Authentication and authorization work correctly	
intgServicesTest8	Validate data encryption	Test data encryption, verify expected behavior	Data encrypted correctly	