Task group	No	Description/Test Summary	Pre-requisites	Test Steps	Expected Result	Actual Result	Status
Task Step 1 Deployment	1	User submits an Application to kubernetes, the corresponding Deployment gets created automatically.	CRD is submitted and presented on K8s	1. User submits a valid application to K8s	Deployment with given replicas is created.	As Expected	Pass
	2	User deletes an Application, the corresponding deployment gets deleted	The application to be deleted is present on K8s	1. User deletes application by kubectl delete application app1	Deployment is deleted.	As Expected	Pass
	3	User modifies the Application's replicas	The application to be modified is present on K8s	1. User changes replicas to any number which is greater than 0 in application by kubectl apply -f app1.yaml	Deployment changes its replicas accordingly	As Expected	Pass
	4	User modifies the Application's template spec	cRD is submitted and presented on K8s	1. User changes the template spec (containers, images, version)	Deployment changes its pods template accordingly	As Expected	Pass
	5	User modifies both application's replicas and tempate spec	The application to be modified is present on K8s	1. User changes both application's replicas and template spec (containers, images, version, etc.)	Deployment changes its replicas and pods template accordingly	As Expected	Pass
	6	User deletes the Deployment (but not the Application), it gets recreated	The application and its deployment are present on K8s	1. User deletes deployment but not application	Deployment gets recreated	As Expected	Pass
	7	User modifies both deployment's replicas and pod spec	The application and its deployment are present on K8s	1. User modifies deployment's replicas and pod spec but not application	Deployment's changes are rolled back	As Expected	Pass
	8	User describe the application by command kubectl describe the application, it shows the status of the Deployment	The application and its deployment are present on K8s	1. User types command kubectl describe the application [application name]	In the description of the application there is a field "Deploymentstatus'showing the status of deployment	As Expected	Pass
	1	User enables database cluster in the application	The database field is set and valid in the application's spec. This means database's subfield enable is set to True. Cluster size is given and greater than 0. Either configmap or Secret or both is set with at least one key POSTGRES_PASSWORD is set with non-empty value	1. User submits an application with database spec as described in pre-requisites column	1. Config map and Secret are set if given 2. A service for database is created 3. The Postgres cluster with equivalent size is deployed (by a statefulset) 4. Database's configmap and secret are injected to stateful's pods and deployment's pods	As Expected	Pass
	2	User disables database cluster in the application	The database field is set and valid in the application's spec. This means database's subfield enable is set to True. Cluster size is given and greater than 0. Either configmap or Secret or both is set with at least one key POSTGRES_PASSWORD is set with non-empty value	1. User re-submits an application with database spec as described in pre-requisites column, but database's subfield enable is set to False	1. Config map and Secret are deleted if exists 2. Service for database is deleted 3. The Postgres cluster with equivalent size is disabled (by delettig the statefulset) 4. Database's configmap and secret are removed from deployment's pods	As Expected	Pass

Task Step 2 DATABASE	3	User updates database cluster size in the application	The database field is set and valid in the application's spec. This means database's subfield enable is set to True. Cluster size is given and greater than 0. Either configmap or Secret or both is set with at least one key POSTGRES_PASSWORD is set with non-empty value	1. User re-submits an application with database spec as described in pre-requisites column, but changes the cluster size into a different valid number	1. The Postgres cluster size is scaled up/down according to the changed cluster size. 2. Other database's settings remain	As Expected	Pass
	4	User removes either configmap/secret but not both in database spec	The database field is set and valid in the application's spec. This means database's subfield enable is set to True. Cluster size is given and greater than 0. Either configmap or Secret or both are set with at least one key POSTGRES_PASSWORD is set with non-empty value	1. User re-submits an application with database spec as described in pre-requisites column, but removes either configmap/secret out of database but not both. The remaining configmap or Secret is set with at least one key POSTGRES_PASSWORD is set with non/empty value	1. The changes are updated in Stateful set and deployment	As Expected	Pass
	5	User removes both configmap and secret in database spec	The database field is set and valid in the application's spec. This means database's subfield enable is set to True. Cluster size is given and greater than 0. Either configmap or Secret or both are set with at least one key POSTGRES_PASSWORD is set with non-empty value	1. User re-submits an application with database spec as described in pre-requisites column, but removes both configmap/secret out of database.	1. Warning user about the missing of both Configmap/Secret in the database spec 2. Create a default secret called application name + "dbdefaultsecret", this secret contains a key POSTGRES_PASSWORD with value of "password" 3. Inject the above secret to the Stateful set so to ensure the Database cluster is running properly 4. Inject the above secret to deployment's pods	As Expected	Pass
	6	User set database config and secret with out the key POSTGRES_PASSWORD with nonempty value	The database field is set and valid in the application's spec. This means database's subfield enable is set to True. Cluster size is given and greater than 0. Either configmap or Secret or both are set with at least one key POSTGRES_PASSWORD is set with non-empty value	1. User re-submits an application with database spec as described in pre-requisites column, but either configmap or Secret or both are set without key POSTGRES_PASSWORD with non-empty value	1. Warning user about the missing of both Configmap/Secret in the database spec 2. If there is a database secret then add a new key POSTGRES_PASSWORD with value of "password" to that secret otherwise create a default secret called application name + "dbdefaultsecret", this secret contains a key POSTGRES_PASSWORD with value of "password" 3. Update/Inject the above secret to the Stateful set so to ensure the Database cluster is running properly 4. Update/Inject the above secret to deployment's pods	As Expected	Pass