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* Stateful vs Stateless
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Note-Link: <https://vijaycodes.hashnode.dev/optimizing-expense-project-using-terraform>

**what is stateful and stateless ..?**

stateful --> which has a state, i.e. data

stateless --> which doesn't have a state.

**In an expense project which components are stateful and stateless..?**

DB —> stateful because it has data

Backend, frontend —> stateless, does not maintain any data and does operations based on the instructions.

**If a component crashes which has a high impact..?**

DB —> impact is high and restoring the state is not easy.

Backend, frontend —> impact is less

**How was DB restored and what is the plan if there is a DB crash ..?**

DB backup in intervals - hourly, daily weekly backups

restore test - Test whether backups are happening properly or not.

**Data replication -**

Delhi - DB-1 is connected to the application

Mumbai - DB-2 is not connected to the application but replicates data from DB-1

If there is a crash in DB-1 due to a natural disaster then the application will be connected to DB-2.

**What other database parameters should we consider?**

Storage space - We need to increase the storage space when it is running low.

Load balancing - If multiple users are connecting to a single server, we need to implement load balancing by adding additional servers

DB upgrade - upgrading to new DB version.

**There are many responsibilities for stateful systems like DB than stateless systems**

**RDS (**Relational database)

 - Which do - (load balancing, auto storage increment, backups/snapshot)

**AWS —> search ‘RDS’ —> databases**

**EXPENSE – PROJECT INFRA**

Create “expense-infra-dev” folder

- 10-VPC

- (copy from expense-terraform-dev)

- “provoder.tf “change “backend-s3” – key =”expense-vpc-dev”

- 20-sg

- (copy from expense-terraform-dev)

- “provoder.tf “change “backend-s3” – key =”expense-sg-dev”

- 30-bastion

- is used to connect to MySQL directly

- (copy from expense-terraform-dev)

- “provoder.tf “change “backend-s3” – key =”expense-bastion-dev”

- 40-rds

- provider.tf