

Disaster Recovery and Backups



Regions and Availability Zones

- **Regions provide fault tolerance for AWS Infrastructure**
- **Regions consists of a number of isolated but close to each other Data Centres**
- **An infrastructure issue in one Data Centre in the same Region should not affect another in the same Region.**
- **Each Data Centre is called an Availability Zone**

Availability Zones

- Each Availability Zone is allocated a letter “a”, “b” or “c” as an example for London which is eu-west-2 we have:
 - eu-west-2a
 - eu-west-2b
 - eu-west-2c
- Each Availability Zone will have its own CIDR range
 - Also referred to as subnet range
- Subnet groups
 - We create an RDS DB Subnet group to force a DB to be in an AZ of our choice

AWS RDS Oracle Backups



- AWS backup can be enabled or disabled
- Backups have a retention we specify from 1 to 35 days
- Backups run during a define backup window
- Backup are low impact activity
- Enable on all env's as needed

AWS RDS Availability Zones



Single
AZ



Multi
AZ

- Create a copy of our database in another AZ in the same Region
- Physical SAN replicated Copy
- SYNC Replication
- Normally use MultiAZ for Production
- Development may use Single AZ
- Used for normal DR scenarios

AWS RDS Oracle Replica's



- Create a copy of our database in another AZ
- Logical Database replicated Copy
- ASYNC Replication
- Needs Backups enabled to work
- Normally only use for Production
- Main use to offload heavy Reads
- Used for Corruption DR scenarios
- Can be promoted to Read Write