**Memcache：**

Memcache is an in-memory key-value pairs data store and it can put a value with a key and get a value with a key. It is fast comparing some others store in the disk.

**What is the difference between Redis and memcache?**

1. They have different data operation.

Memcached only support the key-value, Redis have different data type like list, set,sorted set hash. Also, Redis has RDB and AOF.

1. They have different performance

Since Redis only uses a single core, and Memcached can use multiple cores, on average, Redis has a higher performance than Memcached when storing small data on each core.

**AWS: Elastic Cache**

Amazon ElastiCache is a web service that allows users to easily deploy and run server nodes compatible with Memcached or Redis protocols in the cloud. Amazon ElastiCache allows you to retrieve information from fast managed memory systems instead of relying entirely on slower, disk-based databases, which improves the performance of web applications

**Vertical scaling vs horizontal scaling**

 Horizontal scaling means scaling by adding more machines to your pool of resources

 Vertical scaling refers to scaling by adding more power to an existing machine.

**Hierarchical data store**

It is tree Structure and upside down and every object has to be accessed from the root node. They have the only parent table for one child.

**BASE**

**BASE** (**B**asically **A**vailable, **S**oft state, **E**ventual consistency).

**Basically Available:** Guarantees the availability of the data . There will be a response to any request (can be failure too).

**Soft state**: The state of the system could change over time.

**Eventual consistency:** The system will eventually become consistent once it stops receiving input.

NoSQL databases give up the A, C and/or D requirements, and in return they improve scalability.

**View：**

A view contains rows and columns, just like a real table. The fields in a view are fields from one or more real tables in the database.

**Stored procedure:**

A stored procedure is a prepared SQL code that you can save, so the code can be reused over and over again.

So if you have an SQL query that you write over and over again, save it as a stored procedure, and then just call it to execute it.

You can also pass parameters to a stored procedure, so that the stored procedure can act based on the parameter value(s) that is passed.