



What is DAX?

- **DynamoDB Accelerator (or DAX)** is a fully managed, clustered in-memory cache for DynamoDB.
- Delivers up to a 10x read performance improvement
- Microsecond performance for millions of requests per second
- Ideal for Read-Heavy and bursty workloads
- e.g. auction applications, gaming and retail sites during black Friday promotions





How Does It Work?

- DAX is a write-through caching service - this means data is written to the cache as well as the back end store at the same time.
- Allows you point your DynamoDB API calls at the DAX cluster
- If the item you are querying is in the cache (cache hit), DAX returns the result to the application.



How Does It Work?

- If the item is not available (cache miss) then DAX performs an **Eventually Consistent** GetItem operation against DynamoDB
- Retrieval of data from DAX reduces the read load on DynamoDB tables
- May be able to reduce Provisioned Read Capacity



What is is NOT Suitable For?

- Caters for **Eventually Consistent** reads only - so not suitable for applications that require Strongly Consistent reads
- Write intensive applications
- Applications that do not perform many read operations
- Applications that do not require microsecond response times



DAX Exam Tips

- Provides in-memory caching for DynamoDB tables
- Improves response times for **Eventually Consistent** reads only
- You point your API calls the DAX cluster, instead of your table.
- If the item you are querying is on the cache, DAX will return it; otherwise it will perform an Eventually Consistent GetItem operation to your DynamoDB table.
- Not suitable for write-intensive applications or applications that require Strongly Consistent reads.

