DynamoDB Read and Write Capacity Units

- DynamoDB Provisioned Throughput is measured in Capacity Units.
- When you create your table, you specify your requirements in terms of Read Capacity Units and Write Capacity Units.
- 1 x Write Capacity Unit = 1 x 1KB Write per second
- 1 x Read Capacity Unit =
  1 x Strongly Consistent Read of 4KB per second

  OR

  2 x Eventually Consistent Reads of 4KB per second

  (Default)

DynamoDB Example Configuration

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- Table with 5 x Read Capacity Units and 5 x Write Capacity Units
- This configuration will be able to perform:
- 5 x 4KB Strongly Consistent reads = 20KB per second
- Twice as many Eventually Consistent = 40KB
- 5 x 1KB Writes = 5KB per second

- If your application reads or writes larger items it will consume more Capacity Units and will cost you more as well.

Strongly Consistent Reads Calculation

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- Your application needs to read 80 items (table rows) per second.
- Each item 3KB in size
- You need Strongly Consistent Reads.

- First, calculate how many Read Capacity Units needed for each read:
  Size of each item / 4KB
  3KB / 4KB = 0.75
- Rounded-up to the nearest whole number, each read will need 1 x Read Capacity Unit per read operation.
- Multiplied by the number of reads per second = 80 Read Capacity Units required

Eventually Consistent Reads Calculation

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- What if you need Eventually Consistent Reads?

- You do the same calculation. However as this is for Eventually Consistent reads and you get 2 x 4KB reads per second —
  or **double** the throughput of Strongly Consistent reads.

- Size of each item / 4KB
  - 3KB / 4KB = 0.75 Round-up to the nearest whole number, = 1
  - Multiply by the number of reads per second = 80

- Divide 80 by 2, so you only need 40 Read Capacity Units for Eventually Consistent reads.

Write Capacity Units Calculation

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- You want to write 100 items per second.
- Each item 512 bytes in size

- First, calculate how many Capacity Units for each write:
  Size of each item / 1KB (for Write Capacity Units)
  512 bytes / 1KB = 0.5
- Rounded-up to the nearest whole number, each write will need 1 x Write Capacity Unit per write operation.
- Multiplied by the number of writes per second = 100 Write Capacity Units required.

DynamoDB Provisioned Throughput Exam Tips

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- Provisioned Throughput is measured in Capacity Units.
- 1 x Write Capacity Unit = 1 x 1KB Write per second.
- 1 x Read Capacity Unit = 1 x 4KB Strongly Consistent Read **OR** 2 x 4KB Eventually Consistent Reads per second.