## Chapter 1


$\leftarrow \rightarrow \mathbf{C}$ - https://www.amazon.com/ap/register?ie=UTF8\&openid.ns.pape=http\%3A\%2F\%2Fspecs.openid.net\%2Fextensions\%2Fpape\%2F1.0\&openid.pape.preferre $\}$ "
ITII

## Thamazon <br> webservices

Login Credentials
Use the form below to create login credentials that can be used for AWS as well as Amazon.com


About Amazon.com Sign In
Amazon Web Services uses information from your Amazon.com account to identify you and allow access to Amazon Web Services. Your use of this site is governed by our Terms of Use and Privacy Policy linked below.

$\leftarrow \rightarrow$ C A https://us-west-2.console.aws.amazon.com/dynamodb/home?region=us-west-2\# $\quad$ \#




## Add Indexes (optional)

An index is a data structure that maintains an alternate hash and range key. You can use it to Query an item the same way you use the table hash and range key.


## Table Indexes

| Index Type | Index Hash Key | Index Range Key | Index Name | Projected Attributes |
| :--- | :--- | :--- | :--- | :--- |
| No Indexes exist. Enter values and click 'Add Index To Table' to create one. |  |  |  |  |

## Create Table

| $\checkmark$ | $\checkmark$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| PRIMARY KEY | ADD INDEXES (optional) | PROVISIONED <br> THROUGHPUT CAPACITY | THROUGHPUT ALARMS (optional) | SUMMARY |

## Provisioned Throughput Capacity:

- Help me calculate how much throughput capacity I need to provision


## Throughput capacity to provision:

Amazon DynamoDB lets you specify how much read and write throughput capacity you wish to provision for you table. Using this information, Amazon will provision the appropriate resources to meet your throughput needs. More Information

| Read Capacity Units: | 5 |
| :--- | :--- |
| Write Capacity Units: | 5 |

## Throughput Capacity Allocation

Throughput capacity must be allocated for the table and each global secondary index. We have automatically divided up the total table capacity, please adjust as appropriate. These values can be updated later based on actual usage. More Information

| Index / Table | Read Capacity Units | Write Capacity Units |  |
| :--- | :--- | :--- | :--- |
| product (Table) | 3 | 3 |  |
| name-manufacturer-index | 2 | 2 |  |

! Throughput capacity for this table will cost up to $\$ 2.91$ per month if you have exceeded the free tier *Taxes may apply

- If you exceed the free tier you are charged for the provisioned throughput capacity of your table even if you do not actively use your provisioned capacity. Learn more about DynamoDB's free tier and pricing.




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$\leftarrow \rightarrow$ C $\Delta$ https://us-west-2.console.aws.amazon.com/dynamodb/home?region=us-west-2\#explore:name=product

Amazon DynamoDB Explore Table: product
List Tables Browse Items

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$\leftarrow \rightarrow$ C https://us-west-2.console.aws.amazon.com/dynamodb/home?region=us-west-2\#explore:name=product

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Amazon DynamoDB Explore Table: product

## List Tables Browse Items


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$\leftarrow \rightarrow$ C https://us-west-2.console.aws.amazon.com/dynamodb/home?region=us-west-2\#explore:name=product $\quad$ „ $\equiv$
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## Delete Table?

## Delete confirmation for: dummyProudct

! Warning: Deleting dummyProudct will permanently erase all data stored in the table.
( Delete this table

Delete all CloudWatch alarms for this table
Delete all export/import pipelines for this table

## Cancel

## Delete


$\leftarrow \rightarrow$ C https://us-west-2.console.aws.amazon.com/dynamodb/home?region=us-west-2\#table:name=product
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E:\Cookbook\DynamoDBLocal>jaua -Djaua.library -path=_/DynamoDBLocal_lib -jar Dyna
moDBLocal-jaw -help
usage: java -Djaua.library path= $/$ DynamoDBLocal_lib -jar DynamoDBLocal.jar
[-port <port-no.>] [-inMemory] [-delayTransientStatuses]
[-dbPath <path>][-shavedDb] [-cors <allow-list>]
-cors 〈arg> Enable CORS support for jauascript against a
specific allow-list list the domains
serporated by, [use' ${ }^{\prime}$ ' for public access]
-dbPath <path> Specify the location of your database file.
Default is the current directory.
-delayTransientStatuses When specified, DynamoDB Local will introduce
delays to hold various transient table and
index statuses so that it simulates actual
service more closely. Gurrently works only for
CREATING and DELETING online index statuses.
-he lp Display DynamoDB Localusage and options :
-inMemory When specified, DynamodB Local will run in
-optimizeDbBeforeStartup
memory.
Optimize the underlying backing store database
Optimize the underiying backing stor
-port 〈port-no.〉 Specify a port number. Default is 800 D
-sharedDb
When specified, DynamoDB Local will use a
wingle database instead of separate database
single database instead of separate databases
for each credential and region. As a result,
for each credential and region. As a result,
all clients will interact with the same set of
tables, regardless of their region and
credential configuration.
Error processing the supplied command line arguments
E: \Cookbook $\backslash$ DynamoDBLocal $>$


```
G:\Users\TDeshpande>aws dynamodb list-tables
    "TableNames": [
    "product"
    ]
3
G:\Users\TDeslmpande>
```

```
G:\Users \TDeshpande>aws dynamodb query --table-name product --key-conditions fil
e://conditions.json
<
    "Count": 1,
    "Items
                "mnfr":<
                "S": "PacktPub"
            }
            "features": &
                "M": <
                "paperback": <
                                "S": "230 Pages"
                        "ISBN": &
                        "夕": "978-1783551958"
                        "dimensions": &
                            "S":"7.5 x 0.5 x 9.2 inches"
                                3
                                "author": <
                            "S": "Tanmay Deshpande"
                                }
                3
            3
            "price": {
                        "N": "44"
            3,
                "name": <
                        "S": "Master*ing DynamoDB"
            3"type":<
                "S": "book"
                %'
                    "S": "5"
                3.
                "stock": <
                "N": "20"
                }
            3
]
"ScannedGount": 1"
"ConsumedCapacity": null
```





## Chapter 6

## 4 AWS $\vee$ Services $\vee$ Edit $\vee$

| Dashboard
Details
Groups
Users
Roles
Policies
Identity Providers
Account Settings
Credential Report

```(i) NoteThe Password Policy page has been renamed to Account Settings. Click Account Settings to find your account's password policy and other configuration options.
```


## Welcome to Identity and Access Management

IAM users sign-in link
https://458854225780.signin.aws.amazon.com/console Customize | Copy Link
IAM Resources

| Users: 1 | Roles: 0 |
| :--- | :--- |
| Groups: 0 | Identity Providers: 0 |

Groups: 0
Identity Providers: 0



## - Generate an access key for each user

Users need access keys to make secure REST or Query protocol requests to AWS service APIs.
For users who need access to the AWS Management Console, create a password in the Users panel after completing this wizard.
$\leftarrow \rightarrow$ C https://console.aws.amazon.com/iam/home?region=us-east-1\#groups $\quad$ 引




$\leftarrow \rightarrow$ C $\mid$ https://console.aws.amazon.com/iam/home?region=us-east-1\#policies

| 4 aws | Edit |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Dashboard | Create Policy | Policy Actions - |  |  | $\approx$ | \% | - |
| Details | Filter: AWS Managed Policies - Q Search |  |  |  | Showing 134 results |  |  |
| Users |  | Policy Name * | Attached Entities - | Creation Time * | Edited Time * |  |  |
| Roles | $\square$ - | AmazonMachineLeamingFullac... | 0 | 2015-04-09 22:55 UTC+0530 | 2015-04-09 22:55 UTC+0530 |  |  |
| Policies | $\square \mathrm{T}$ | AmazonMachineLeamingMana... | 0 | 2015-04-09 23:02 UTC+0530 | 2015-04-09 23:02 UTC+0530 |  |  |
| Identity Providers | $\square \pi$ | AmazonMachineLeamingRead... | 0 | 2015-04-09 23:10 UTC+0530 | 2015-04-09 23:10 UTC+0530 |  |  |
| Account Settings | $\square \mathrm{m}$ | AmazonMachineLeamingRealT... | 0 | 2015-04-09 23:14 UTC+0530 | 2015-04-09 23:14 UTC+0530 |  |  |
| Credential Report | $\square \pi$ | AmazonMachineLeamingRolef... | 0 | 2015-04-09 22:35 UTC+0530 | 2015-04-09 22:35 UTC+0530 |  |  |
|  | $\square \pi$ | AmazonmobileAnalyticsFinanci... | 0 | 2015-02-07 00:10 UTC+0530 | 2015-02-07 00:10 UTC+0530 |  |  |
| Encryption Keys | $\square$ in | AmazonMobileAnalyticsfullacc... | 0 | 2015-02-07 00:10 UTC+0530 | 2015-02-07 00:10 UTC+0530 |  |  |
|  | $\square$ 而 | AmazonmobileAnalyticsNon-fin... | 0 | 2015-02-07 00:10 UTC+0530 | 2015-02-07 00:10 UTC+0530 |  |  |
|  | $\square \pi$ | AmazonmobileAnalyticsWiteo... | 0 | 2015-02-07 00:10 UTC+0530 | 2015-02-07 00:10 UTC+0530 |  |  |
|  | $\square \pi$ | AmazonRDSFullaccess | 0 | 2015-02-07 00:10 UTC+0530 | 2015-02-07 00:10 UTC+0530 |  |  |





C 日 https://console.aws.amazon.com/iam/home?region=us-east-1\#policies

## 1) AWS $\vee$ Services $\vee$ Edit $\vee$

Create Policy

Step 1: Create Policy
Step 2: Set Permissions
Step 3: Review Policy

## Review Policy

Customize permissions by editing the following policy document. For more information about the access policy language, see Overview of Policies in the Using IAM guide. To test the effects of this policy before applying your changes, use the IAM Policy Simulato

This policy is valid.
Policy Name
CustomDynamoDBProductForEndUser

## Description

Allows access to various action on DynamoDB table - product. It hides access to attributes like purchasePrice and stock etc.

Policy Document


[^0]( $>\equiv$
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## Chapter 8

| 4 | AWS | Services $\vee$ | Edit $\vee$ | Tanmay Deshpande ${ }^{\text {r }}$ | Oregon * | Support * |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |

Create Pipeline
(3) You can create pipeline using a template or build one using the Architect page

|  | Name |
| ---: | :--- |
| Description (optional) |  |
|  | Import to DynamoDB from S3 |
| Source | Build using a template |
|  | Import DynamoDB backup data from S3 |
|  | Import a definition |
|  | Build using Architect |

Parameters

| Input S 3 folder |  |  |
| ---: | :--- | :--- |
| s3://dynamodb-product-data/product.csv |  |  |
| DynamoDB table name | productTable |  |
| DynamoDB write throughput ratio | 0.2 |  |

Schedule
Schedule
(3) You can run your pipeline once or specify a schedule. More
Run once on pipeline activation
) on a schedule
Pipeline Configuration
Copy execution logs to S3. More
Security/Access

IAM roles Default | IAM Roles let you control permissions for AWS |
| :--- |
| Data Pipeline and your EC2 applications. Mor |

Custom
Data Pipeline and your EC2 applications. More
Tags
(i) Add up to 10 tags to your pipeline. These tags will be applied to the pipeline as well as any resources created by the pipeline. A tag consists of a case-sensitive key-value pair. Learn more

| Key | Value (Optional) |
| :--- | :--- |
| Add key to create | $\square$ |
|  |  |


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$\leftarrow \rightarrow \mathrm{C}$ 月 https://console.aws.amazon.com/datapipeline/?region=us-west-2\#ExecutionDetailsPlace:pipelineId=df-074016032DN2GUJEQYOA\&show=latest $\approx \approx$

| 4 | AWS $\checkmark$ | Serv | v Edt | dit $\vee$ |  |  |  |  |  |  | Tanm | y Desh | nde v | Oregon * | Support ${ }^{\text {r }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Data Pipeline v List Pipelines > Execution Details: DynamoDB To S3 (df-074016032DN2GUJEQYOA) Data Pipeline Help |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Edit Pipeline |  | Rerun | Cancel | Mark Finished |  |  |  |  |  |  |  |  |  |  |  |
| Show UTC |  | components in |  | any v | state with | Schedule Interval |  | between | 2015-07-05 | 10:16:10 | UTC and | 2015-07-07 |  | 10:16:10 |  |
|  | Apply |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Filter: | Activities - Filter instances |  |  |  | 1 instances (all loaded) |  |  |  |  |  |  |  |  |  |  |
|  | Component Name |  |  | Schedule Interval (UTC) |  |  | Type |  | Status |  | Execution Start (UTC) |  | Execution End (UTC) |  | Attempt |
| $\square$, | TableBackupA | Activity |  | $\begin{gathered} \text { 2015-07-07 } \\ 10: 16: 10 \end{gathered}$ | $\begin{gathered} -07-\begin{array}{c} 2015-07 \\ 10: 16: \\ 10 \end{array}, ~ \end{gathered}$ |  | HiveCopyA | ctivity | WAITING | RUNNER | $\begin{gathered} \text { 2015-07-07 } \\ \text { 10:16:15 } \end{gathered}$ |  | - |  | 1 of 3 |



## C Attps://console.aws.amazon.com/datapipeline/?region=us-west-2\#ExecutionDetailsPlace.pipelineId=df-074016032DN2GUJEQYOA\&show=latest


featuresEnX \{"m": \{"screen":\{"s":"4.7\" LED-backlit IPS LCD Multi-Touchscreen Shatter proof glass"\}, "camera": \{"s": "8MP"\},"intMem": \{"s": "128GB"\}, "processor": \{"s": "Dual-Core 1.4 GHz Cyclone (ARM
 "s": "Apple"\}SNXnameENX\{"s": "Apple iPhone 6, Gold, 128 GB"\}
2 featuresENX\{"m":\{"author": \{"ss": ["Rabhakarah Kuppusamy", "Uchit Xyas"]\},"ISBN": \{"s": " 978-1783551897"\},"dimensions":\{"s":"7.5 x $0.5 \times 9.2$ inches"\}, "paperback":\{"s":"180
 PacktPub"\}SNXname EnX \{"s": "DynamoDB Applied Design Patterns"\}
3 featuresEnX\{"m": \{"screen": \{"s":"4.7\" LED-backlit IPS LCD Multi-Touchscreen Shatter proof glass"\}, "camera": \{"s":"8MP"\},"intMem":\{"s":"64GB"\}, "processor":\{"s":"Dual-Core 1.4 GHz Cyclone (ARM
 s": "Apple"\} STX
featuresENX \{"m": \{"author": \{"s": "Tanmay Deshpande"\},"ISBN": \{"s":"978-1783551958"\},"dimensions":\{"s":"7.5 x 0.5 x 9.2 inches"\},"paperback":\{"s":"230
 ktPub"\} STXXame ETX \{ "s": "Mastering DynamoDB"\}
5 featuresENX\{"m": \{"screen": \{"s":"Super AMOLED capacitive
touchscreen"\},"camera":\{"s":"8MP"\},"intMem":\{"s":"64GB"\},"processor":\{"s":"Quad-core 1.5 GHz Cortex-A53 \& Quad-core 2.1 GHz - Exynos


6 featuresETX\{"m":\{"screen":\{"s":"Super AMOLED capacitive
touchscreen"\}, "camera": \{"s":"13MP"\}, "intMem": \{"s":"64GB"\}, "processor": \{"s":"Quad-core 1.5 GHz Cortex-A53 \& Quad-core 2.1 GHz - Exymos
 amsung"\} SNX

$\leftarrow \rightarrow \mathbf{C}$ https://us-west-2.console.aws.amazon.com/elasticmapreduce/home?region=us-west-2\#create-cluster:

| (i) Specify the networking and hardware configuration for your cluster. If you need more than 20 EC 2 instances, complete this form. Request Spot instances (unused EC2 capacity) to save money. |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Network vpc-312cba54 (172.31.0.0/16) (default) |  |  |  |  |  | Use a Virtual Private Cloud (VPC) to process sensitive data or connect to a private network. Create a VPC |  |  |
| EC2 Subnet No |  | eference (rando | bnet) |  | $\checkmark$ | Create a Subnet |  |  |
| Type | Name | EC2 instanc |  | Count |  | Request spot | Bid price |  |
| Master | Master instance group - | m1.medium | - | 1 |  | 7 |  | (2) |
| Core | Core instance group -2 | m1.medium | $\checkmark$ | 1 |  |  |  | (2) |
|  |  | d task instanc | oup |  |  |  |  |  |
| Security and Access |  |  |  |  |  |  |  |  |
|  | EC2 key pair tanm | ay-emr |  |  | - | Use an existing of the Amazon E | key pair to SSH cluster. Lear | node |
|  | IAM user access | I other IAM us |  |  |  | Control the visib users. Learn m | of this cluster |  |
|  |  | o other IAM us |  |  |  |  |  |  |
| IAM Roles |  |  |  |  |  |  |  |  |
| (i) IAM roles give the EMR service and applications running on an EMR cluster requisite permissions to call other AWS services. Learn more |  |  |  |  |  |  |  |  |
| Roles configuration |  | efault <br> ew policy for |  |  | Use default IAM roles. If roles are not present, they will be automatically created for you with managed policies for aritnmatic nolimu undatoc 1 aren mara |  |  |  |



## 骨 hadoop@ip-172-31-46-28:~

hive> CREATE EXTERNAL TABLE productHiveTable (
$>$ id string, type string, mnfr string, name string,
> price bigint, stock bigint)
> STORED BY 'org.apache.hadoop.hive.dynamodb.DynamoDBStorageHandler'
> TBLPROPERTIES ("dynamodb.table.name" = "product",
> "dynamodb.column.mapping" = "id:id,type:type,mnfr:mnfr, name:name,price:price,stock:stock"); OK
Time taken: 2.175 seconds
hive>

## hadoop@ip-172-31-46-28:~



```
3 hadoop@ip-172-31-46-28:~
hive> select count(*) from productHiveTable;
Total jobs = 1
Launching Job 1 out of 1
Number of reduce tasks determined at compile time: 1
In order to change the average load for a reducer (in bytes):
    set hive.exec.reducers.bytes.per.reducer=<number>
In order to limit the maximum number of reducers:
set hive.exec.reducers.max=<number>
In order to set a constant number of reducers:
    set mapreduce.job.reduces=<number>
Starting Job = job_1436343305991_0001, Tracking URL = http://172.31.46.28:9046/proxy/application_1436343305991_0001/
Kill Command = /home/hadoop/bin/hadoop job -kill job_1436343305991_0001
Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 1
2015-07-08 08:25:27,709 Stage-1 map = 0%, reduce = 0%
2015-07-08 08:25:46,349 Stage-1 map = 100%, reduce = 0%, Cumulative CPU 4.43 sec
2015-07-08 08:26:00,769 Stage-1 map = 100%, reduce = 100%%, Cumulative CPU 6.68 sec
MapReduce Total cumulative CPU time: 6 seconds 680 msec
Ended Job = job_1436343305991_0001
MapReduce Jobs Launched:
Job 0: Map: 1 Reduce: 1 Cumulative CPU: 6.68 sec HDFS Read: 289 HDFS Write: 2 SUCCESS
Total MapReduce CPU Time Spent: 6 seconds 680 msec
ok
5
Time taken: 60.265 seconds, Fetched: 1 row(s)
hive> |
```

```
B hadoop@ip-172-31-46-28:~
hive> select * from productHiveTable where mnfr="Apple" AND price < 1000;
Total jobs = 1
Launching Job 1 out of 1
Number of reduce tasks is set to 0 since there's no reduce operator
Starting Job = job_1436343305991_0002, Tracking URL = http://172.31.46.28:9046/proxy/application_1436343305991_0002/
Kill Command =/home/hadoop/bin/hadoop job -kill job_1436343305991_0002
Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 0
2015-07-08 08:28:49,846 Stage-1 map = 0%, reduce = 0%
2015-07-08 08:29:10,092 Stage-1 map = 100%, reduce = 0%, Cumulative CPU 5.44 sec
MapReduce Total cumulative CPU time: 5 seconds 440 msec
Ended Job = job_1436343305991_0002
MapReduce Jobs Launched:
Job 0: Map: 1 Cumulative CPU: 5.44 sec HDFS Read: 289 HDFS Write: 50 SUCCESS
Total MapReduce CPU Time Spent: 5 seconds 440 msec
OK
1 phone Apple Apple iPhone 6, Gold, 64 GB 850 120
Time taken: 38.283 seconds, Fetched: 1 row(s)
hive> 
```

```
3
hive> select mnfr, count(*) from productHiveTable group by mnfr;
Total jobs = 1
Launching Job 1 out of 1
Number of reduce tasks not specified. Estimated from input data size: 1
In order to change the average load for a reducer (in bytes):
    set hive.exec.reducers.bytes.per.reducer=<number>
In order to limit the maximum number of reducers:
    set hive.exec.reducers.max=<number>
In order to set a constant number of reducers:
    set mapreduce.job.reduces=<number>
Starting Job = job_1436343305991_0003, Tracking URL = http://172.31.46.28:9046/proxy/application_1436343305991_0003/
Kill Command =/home/hadoop/bin/hadoop job -kill job_1436343305991_0003
Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 1
2015-07-08 08:30:48,485 Stage-1 map = 0%, reduce = 0%
2015-07-08 08:31:07,752 Stage-1 map = 100%, reduce = 0%, Cumulative CPU 4.42 sec
2015-07-08 08:31:22,648 Stage-1 map = 100%, reduce = 100%, Cumulative CPU 6.68 sec
MapReduce Total cumulative CPU time: 6 seconds 680 msec
Ended Job = job_1436343305991_0003
MapReduce Jobs Launched:
Job 0: Map: 1 Reduce: 1 Cumulative CPU: 6.68 sec HDFS Read: 289 HDFS Write: 29 SUCCESS
Total MapReduce CPU Time Spent: 6 seconds 680 msec
OK
Apple 2
PacktPub
Samsung 2
Time taken: 58.443 seconds, Fetched: 3 row(s)
hive> 
```


## hadoop@ip-172-31-46-28:~

hive> create table productEMR as
$>$ select * from productHiveTable;
Total jobs $=3$
Launching Job 1 out of 3
Number of reduce tasks is set to 0 since there's no reduce operator
Starting Job = job_1436343305991_0004, Tracking URL = http://172.31.46.28:9046/proxy/application_1436343305991_0004/
Kill Command $=/$ home/hadoop/bin/hadoop job -kill job 14363433059910004
Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 0
2015-07-08 08:34:55,108 Stage-1 map $=0 \%$, reduce $=0 \%$
$2015-07-0808: 35: 13,468$ Stage-1 map $=100 \%$, reduce $=0 \%$, Cumulative CPU 4.43 sec
MapReduce Total cumulative CPU time: 4 seconds 430 msec
Ended Job = job_1436343305991_0004
Stage-4 is selected by condition resolver.
Stage-3 is filtered out by condition resolver.
Stage-5 is filtered out by condition resolver.
Moving data to: hdfs://172.31.46.28:9000/tmp/hive-hadoop/hive_2015-07-08_08-34-38_199_3743398533995338385-1/-ext-10001
Moving data to: hdfs://172.31.46.28:9000/user/hive/warehouse/productemr
Table default.productemr stats: [numFiles=1, numRows=0, totalSize=226, rawDataSize=0]
MapReduce Jobs Launched:
Job 0: Map: 1 Cumulative CPU: 4.43 sec HDFS Read: 289 HDFS Write: 301 SUCCESS
Total MapReduce CPU Time Spent: 4 seconds 430 msec
ok
Time taken: 36.601 seconds
hive>


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Amazon Redshift
Clusters
Snapshots
Security
Parameter Groups
Reserved Nodes
Events
Connect Client

Welcome to Amazon Redshift
You do not appear to have any clusters in the US West (Oregon) region

Amazon Redshift is a fast and powerful, fully managed, petabyte-scale data warehouse service in the cloud. Amazon Redshift offer you fast query performance when analyzing virtually any size data set using the same SQL-based tools and business intelligence applications you use today. With a few clicks in the AWS Management Console, you can launch a Redshift cluster, starting with a few hundred gigabytes of data and scaling to a petabyte or more, for under $\$ 1,000$ per terabyte per year.

Try Amazon Redshift for free! If you've never created an Amazon Redshift cluster, you're eligible for a two month free trial of our dc1.large node. You get 750 hours per month for free, enough hours to continuously run one dc1.large node with 160GB of compressed SSD storage. You can also build clusters with multiple nodes to test larger data sets, which will consume your free hours more quickly. Once your two month free trial expires or your usage exceeds 750 hours per month, you can shut down your cluster, avoiding any charges, or keep it running at our standard On-Demand Rate. For more information, please see the free trial FAQ page .

Additional Information
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Management Guide DB Developer Guide
Free Trial
Free Trials from ETL and BI Partne
Best Practices
Connecting to Clusters
Loading Data
Tutorial
Tuning Table Design







## Create New Search Domain

NAME YOUR DOMAIN CONFGURE INDEX REVIEWINDEX CONFGURATION SETUP ACCESS POLICIES CONFIRM

Enter a name for your search domain. The name must start with a letter or number and be at least 3 and no more than 28 characters long. The allowed characters are $\mathrm{a}-\mathrm{z}, 0-9$, and - (hyphen). For example, domain-1.
*Search Domain Name: my-ecomm-search ©

Prepare your domain for a large volume of data or traffic.
If you have a large amount of data to upload or anticipate a large volume of search requests, you can preconfigure your domain with additional resources. Set the desired instance type based on the volume of your data. Set the replication count based on the volume of traffic you expect. CloudSearch will still automatically scale your domain up and down based on the volume of data and traffic, but not below the desired instance type and replication count.

| Desired Instance Type: | search.m1.small |  |
| ---: | :--- | :--- |
| Desired Replication Count: | 1 | - |
|  |  |  |
| Desired Partition Count: | Use default | - |

## Create New Search Domain

Analyze sample file(s) from my local machine
Analyze sample object(s) from Amazon S3

- Analyze sample item(s) from Amazon DynamoDB

Select the DynamoDB table that contains your data. To start reading from a particular item, specify a start key. To limit the read capacity units used while reading from the table, specify the maximum Read Capacity Units \%. A maximum of 5 MB of data can be read from the table. If you need to specify a larger data set, use the command line tools. This data is used for configuration only. These documents will not be indexed. Once the domain is created, you can upload documents for indexing.

DynamoDB Table: product

```
Read Capacity Units \%: \(20 \quad\) Read capacity units configured for table: 3
Start Hash Key: 2
    Start Range Key: phone
```

Use a predefined configuration

## Create New Search Domain

NAME YOUR DOMAIN CONFIGUREINDEX REVEWINDEX CONFIGURATION SETUP ACCESS POLICIES CONFIRM

The suggested index configuration is shown below. You can edit these fields or add additional fields. Click Continue when you are finished making changes.

| Suggested | Index F | on | uration |  |  |  |  |  |  |  | Re-configure Index |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Name (3) | Type ${ }^{(1)}$ |  | Search (i) | Facet (i) | Return ( ${ }^{\text {d }}$ | Sort (3) | Highlight (3) | Analysis <br> Scheme ${ }^{6}$ |  | Default Value ${ }^{\text {( }}$ | Source Field © | Remove (3) |
| id | int | v | $\square$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |  |  |  |  | [add] | $\boldsymbol{*}$ |
| mnfr | text | v | $\square$ |  | $\checkmark$ | $\square$ | $\square$ | English | - |  | [add] | $\boldsymbol{*}$ |
| name | text | v | $\square$ |  | $\checkmark$ | $\checkmark$ | $\checkmark$ | English | - |  | [add] | $\boldsymbol{*}$ |
| price | int | v | $\square$ | $\square$ | $\square$ | $\square$ |  |  |  |  | [add] | $\boldsymbol{*}$ |
| stock | int | v | $\square$ | $\checkmark$ | $\checkmark$ | $\square$ |  |  |  |  | [add] | $\boldsymbol{*}$ |
| type | text | v | $\square$ |  | $\square$ | $\square$ | $\square$ | English | - |  | [add] | $\otimes$ |
| Back |  |  |  |  |  |  |  |  |  |  | Cancel | Continue |

## Create New Search Domain

NAME YOUR DOMAIN CONFGURE INDEX REVIEWINDEX CONFIGURATION SETUPACCESS POLICIES CONFIRM

To authorize or block IP addresses, add one or more access policy rules. You can always access all services through the console, regardless of the rules defined here

## Set my policy to:

- Search and Suggester service: Allow all. Document Service: Account owner only.
- Allow open access to all services (not recommended because anyone can upload documents)
- Allow access to all services from specific IP(s)
- Deny access to all services (except through the console or by account owner)

Current Policy:

```
"Version": "2012-10-17",
    "Statement": [
    {
    "Effect": "Allow"
    "Principal":
    1
```


## Create New Search Domain

NAME YOUR DOMAIN CONFGURE INDEX REVEWINDEX CONFIGURATION SETUPACCESS POLICIES CONFIRM
Review the information below, then click Confirm.

| Search Domain Name my-ecomm-search | Edit Domain Name |
| :---: | :---: |
| Scaling Options Desired Instance Type: , Desired Replication Count: 0, Desired Partition Count: 0 | Edit Scaling Options |
| Index Fields 6 index fields: <br> - id <br> - mnfr <br> - name <br> - price <br> - stock <br> - type <br> show less | Edit Index Fields |
| Access Policies Allow all services for everyone | Edit Access Policies |
| Back | Cancel Confirm |




$\leftarrow \rightarrow$ C https://us-west-2.console.aws.amazon.com/cloudsearch/home?region=us-west-2\#search,my-ecomm-search



## Chapter 9

## Create Table



Table Name:
user
Table will be created in us-west-2 region

## Primary Key:

DynamoDB is a schema-less database. You only need to tell us your primary key attribute(s).
Primary Key Type: Hash and Range Hash

Hash Attribute Name:
String Number Binary
email
! Choose a hash attribute that ensures that your workload is evenly distributed across hash keys.
For example, "Customer ID" is a good hash key, while "Game ID" would be a bad choice if most of your traffic relates to a few popular games. Learn more about choosing your primary key


## Primary Key:

DynamoDB is a schema-less database. You only need to tell us your primary key attribute(s).
Primary Key Type: Hash and Range Hash
Hash Attribute Name: id String Number Binary

Range Attribute Name: parentld

A Choose a hash attribute that ensures that your workload is evenly distributed across hash keys.
For example, "Customer ID" is a good hash key, while "Game ID" would be a bad choice if most of your traffic relates to a few popular games. Learn more about choosing your primary key
Cancel $\quad$ Continue $\quad$ Help[国


Welcome to MyAddressbook !!

| Register |
| :--- |
| First name |
| Tanmay |
| Last name |
| Deshpande |
| Email |
| tanmay.avinash.deshpande@gmail.com |
| Password |
| ........ |
| Register Cancel |

$\leftarrow \rightarrow$ C https://us-west-2.console.aws.amazon.com/dynamodb/home?region=us-west-2\#explore:name=user $\quad$ 』
4 AWS $\vee$ Services $\vee$ Edit $\vee \quad$ Tanmay Deshpande $\vee$ Oregon $\vee$ Support $\vee$


Body Headers (5) STATUS 200 OK TIME 472 ms

| Pretty | Raw | Preview | E. | 리+ | JSON | XML |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |

$\leftarrow \rightarrow$ C localhost:8080/addressbook/\#/login
Welcome to MyAddressbook !!


[^1]
## Welcome to MyAddressbook !!




$\qquad$

## Welcome to MyAddressbook !!

| Hi tanmay.avinash.deshpande@gmail.com! |
| :--- |
| First name |
| Sneha |
| Last name |
| Deshpande |
| Email |
| sneha.deshpande@gmail.com |
| Phone |
| 08883006310 |

Add New Contact Cancel





## Run On Server

Select which server to use

How do you want to select the server?
Choose an existing server

- Manually define a new server

Download additional server adapters
Select the server type:
type filter text
4 Amazon Web Services
AWS Elastic Beanstalk for Tomcat 6
AWS Elastic Beanstalk for Tomcat 7
AWS Elastic Beanstalk for Tomcat 8
$\Rightarrow$ Apache
$\square$ Basic
D Google
An AWS-managed Apache Tomcat application server

Server's host name:
8 localhost
Server name:
AWS Elastic Beanstalk for Tomcat 8 at localhost
Server runtime environment: Apache Tomcat v8.0 in AWS Elastic Beanstalk
Configure runtime environments...
$\square$ Always use this server when running this project
?
< Back
Next >
Finish
Cancel

## Configure Application and Environment

Choose a name for your application and environment

Region: US West (Oregon)
AWS regions are geographically isolated, allowing you to position your Elastic Beanstalk application closer to you or your customers.

Application:
(O) Create a new application:
$\square$
Choose an existing application:
None found
Environment:
Name: devaddressbook
Description: Dev environment for Addressbook
Type: Single Instance Web Server Environment

Import an existing environment into the Servers view
< Back Next >

Specify advanced properties for your environment

Deploy with a key pair

Name
tanmay-new

SSL certificate IdAssign CNAME prefix to new server

Application health check URL
$\square$
Worker Queue URL
$\square$
Email address for notifications

IAM role
Default (aws-elasticbeanstalk-ec2-role)


| 4 AWS $\checkmark$ Services $\vee$ Edit |  | Tanmay Deshpande | Oregon v | Support |
| :---: | :---: | :---: | :---: | :---: |
| f Elastic Beanstalk myaddressbook * |  |  | Create New Application |  |
| Command Line Interface (v3) | All Applications | Filter by Application Name: |  |  |
| If you want to use a command line to create, manage, and scale your Elastic Beanstalk applications, please use the Elastic Beanstalk Command Line Interface (EB CLI). | devaddressbook |  |  |  |
| Get Started ```$ mkdir HelloWorld $ cd HelloWorld $ eb init -p PHP $ echo "Hello World" > index.html $ eb create dev-env $ eb open``` | Environment tier: Web Server <br> Running versions: <br> Last modified: 2015-07-30 14:17:45 UTC +0530 URL: |  |  |  |
| To deploy updates to your applications, use 'eb deploy'. |  |  |  |  |
| Installing the AWS EB CLI EB CLI Command Reference |  |  |  |  |
| Learn More |  |  |  |  |



## Welcome to MyAddressbook !!

## Login

Email



## Chapter 10




## $\rightarrow$ C https://console.aws.amazon.com/cognito/create/

## Getting started wizard

| Step 1: Create identity pool Step 2: Set permissions

Create new identity poo
Identity pools are used to store end user identities. To declare a new identity pool, enter a unique name

```
Identity pool name* AddressBookldentityPool O
    Example: My App Name
```

* Unauthenticated identities ©

Amazon Cognito can support unauthenticated identities by providing a unique identifier and AWS credentials for users who do not authenticate with an identity provider. If your application allows users who do not $\log$ in, you can enable access for unauthenticated identities. Learn more about unauthenticated identities

Enable access to unauthenticated identities

- Authentication providers ©
- Hide Details

Role Summary ©
Role Description Your authenticated identities would like access to Cognito.
IAM Role Create a new IAM Role v
Role Name Cognito_AddressBookIdentityPoolAuth

- View Policy Document

Role Summary ( 3
Role Description Your unauthenticated identities would like access to Cognito.
IAM Role Create a new IAM Role v
Role Name Cognito_AddressBookIdentityPoolUnat

- View Policy Document
$\rightarrow$ C https://console.aws.amazon.com/cognito/code/?region=us-east-1\&pool=us-east-1:351412af-1437-4db8-8533-851e52ac3903\&response=\{"authRole $\hat{3}$
FI Amazon Cognito AddressBookldentityPool - Edit identity pool

Identity pool
Dashboard
| Sample code
Identity browser

Getting Started with Amazon Cognito

Platform Android *

- Download the AWS SDK


## 亡. Download the AWS SDK for Android Developer Guide

- Get AWS Credentials

```
// Initialize the Amazon Cognito credentials provider
    CognitoCachingCredentialsProvider credentialsProvider = new CognitoCachingCredentialsProvider
    getapplicationcontext()
    "us-east-1: Identity Pool I
    Regions.US_EAST_1 // Region
);
```


## - Store User Data

```
// Initialize the Cognito Sync client
    CognitoSyncManager syncClient = new CognitoSyncManager
        getApplicationContext(),
        Regions.US EAST 1, // Region
        credentialsProvider);
```



## Resources

## 41 AWS $\vee$ Services $\vee \mid$ Edit $\vee \quad$ Tanmay Deshpande $\vee$ Global $\vee$ Support $\vee$

Create Policy
Step 1: Create Policy
Step 2: Set Permissions
Step 3: Review Policy

Review Policy
Customize permissions by editing the following policy document. For more information about the access policy language, see Overview of Policies in the Using IAM guide. To test the effects of this policy before applying your changes, use the IAM Policy Simulator.

## Policy Name

Addressbook-DynamoDB-Custom-Policy
Description
Provides limited access to DynamoDB tables - UserApp and ContactApp

Policy Document




[^2]```
(3)
㴗都
\({ }^{36}\) ( \(8: 41\)
```


## Register New Account

## 8

```
Full Name
Tanmay Deshpande
Email
tanmay.avinash.deshpande@gmail.com
Password
..........
REGISTER NEW ACCOUNT
```

Already has account! Login here

## Addressbook

## 8

Email
tanmay.avinash.deshpande@gmail.com

Password



New to Addressbook? Register here

## Home

> ADD NEW CONTACT

MY CONTACTS

## Add New Contact

Add New Contact

Name
Sneha Binani

Email
snehabinani@gmail.com

Phone
77553448859

SAVE CONTACT




[^0]:    $\leftarrow \rightarrow \mathbf{C}$ https://console.aws.amazon.com/dynamodb/home?region=us-east-1\#explore:name=productTable

[^1]:    $\leftarrow \rightarrow$ C localhost:8080/addressbook/\#/login

[^2]:    You can view the trusted entities that can assume the role and the access conditions for the role. Show policy document

