Visualizing DynamoDB Data

Aim -

Visualizing Data from AWS on Dashboards to view Temperature Changes over a given period of time.

Dashboard Options:

1. **Tableau**

* URL - <https://www.cdata.com/kb/tech/dynamodb-odbc-tableau.rst>
* Features -
  + - Visualizing Data from AWS EMR (Elastic EMR)
    - Visualizing Data from AWS RDS (EC2 Instances Database)
    - Visualizing Data from AWS Redshift
* Pricing - Tableau Server: $35/mo - AWS / MS Azure / Google Cloud connectivity
* Further Analytics on Data can be done using Tableau / AWS Kinesis stream.

1. **Tibco Spotfire**

* URL - <https://spotfire.tibco.com/products/tibco-spotfire-aws>
* Features -
  + - Visualizing Data from AWS Redshift
    - Visualizing Data from AWS RDS (Amazon EC2)
* Pricing -
  + - 30 Days unlimited free
    - Spotfire for AWS Version: $0.99/hr
    - Analytics - $1 / hr.
* Sharing Dashboards with anyone on Internet using URL / API.
* Creating Users available for Dashboards.

1. **Redash.io**

* URL - <https://redash.io/data-sources/amazon-dynamodb>
* Features - Querying, Visualizing and Sharing of Dashboards available
* Pricing -
  + - 30 Days unlimited free
    - Lite Version: $29/mo - 3 Users / 5 Dashboards / 50 Saved Queries
    - Startup Version: $99/mo - Unlimited Users / Unlimited Dashboards / 100 Saved Queries
    - Business Version: $450/mo - Unlimited Users / Unlimited Dashboards / 2000 Saved Queries.
* Setting up users for visualizing data is similar to Klipfolio Dashboards.

1. **Kibana**

* URL - <https://aws.amazon.com/blogs/compute/indexing-amazon-dynamodb-content-with-amazon-elasticsearch-service-using-aws-lambda/>
* Features -
  + - Integration with Elasticsearch and data stored within makes it easy to visualize data from AWS
* Pricing - Free and Open Source
* Setting up users and admin user is available
* Sharing Dashboards via Embedded Clips / URL is available
* Required Dependencies:
  + - 24\*7 running AWS Elasticsearch domain which will collect latest data stream from AWS Kinesis Stream (via AWS Kinesis Firehose) / Logstash
    - In order to keep an AWS Elasticsearch domain running with fresh data, we will need to use a 24\*7 running EC2 instance and install ELK stack on it.
    - For Documentation related to this case, Refer : <https://www.digitalocean.com/community/tutorials/how-to-install-elasticsearch-logstash-and-kibana-elk-stack-on-ubuntu-14-04#install-elasticsearch>
    - In this way, we can host Dashboards via an Nginx Server on port 5601, which will display streaming data.
* For more information on how to ingest data into an Elasticsearch service, kindly refer to this URL: <https://aws.amazon.com/elasticsearch-service/data-ingestion/>
* For more information on AWS Kinesis Firehose and injecting data to Elastisearch, refer this URL: <https://aws.amazon.com/kinesis/firehose/firehose-to-elasticsearch-service/>

1. **Thingsboard.io**

* URL - <https://thingsboard.io/docs/iot-gateway/integration-with-aws-iot/>
* Features -
  + - Visualizing Data from AWS IoT
    - Visualizing from Lambda Functions based on Thingsboard APIs.
* Pricing - Free and Open Source
* Setting up users for visualizing data is very easy and fast process.

6. **Splunk**

* URL - <https://www.splunk.com/blog/2016/11/29/announcing-new-aws-lambda-blueprints-for-splunk.html>
* Features –
  + Visualizing Data from AWS IoT
  + Visualizing Data from AWS DynamoDB Stream
  + Visualizing Data from AWS Kinesis Stream
* Pricing –
  + Free Tier: One User / 500 MB Data per Day / Real-Time Analysis and Visualizations
  + Splunk Light Tier: $75/mo - 5 Users / 20GB Data per Day / Monitor and Alert notifications along with Visualizations.
  + Splunk Enterprise: $150/mo – Unlimited Users / Unlimited Amount of Data per day / Enterprise Grade support.
* Setting up users for visualizing data is doable.