Customizing AWS MongoDB Deployment Templates to Startup on Free Tier EC2

Description

The sample templates given by AWS when doing the deployment of [MongoDB on AWS](#) do not boot up EC2 instances on free tiers. This means some customization must be made to boot up the instances on free tiers. Described on the next pages are the changes made in order to do that. Directly below are sources for the original and the customized templates.

Original Template Sources

Original AWS templates can be viewed here:
https://github.com/aws-quickstart/quickstart-mongodb/tree/main/templates

Template used for primary node by AWS: **mongodb.template**

Template used for replica nodes by AWS: **mongodb-node.template**

Customized Template Sources

Templates after changes have been made can be found here:
https://gitlab.sonoma.edu/496tibitcapstone/templatesforawscloudformation.git

Direct download link to customized **mongodb.template** template:
https://cf-templates-lfk8h5b11b03-us-west-2.s3.us-west-2.amazonaws.com/2022042pZ6-mongodb.template

Direct download link to customized **mongodb-node.template**.template:
https://mongodb-replica-template.s3.us-west-2.amazonaws.com/mongodb-node.template

(Customizations made to the original templates are shown on the next page →)

Changes to mongodb.template:

Line 202 - Add "t2.micro" to the AllowedValues section and set it as default

Original:

```
"NodeInstanceType": {
        "Description": "Amazon EC2 instance type for the MongoDB nodes.",
        "Type": "String",
        "Default": "m5.large",
        "AllowedValues": [
           "m5.large",
           "m5.xlarge",
           "M5.2xlarge",
```

Changed to:

```
"NodeInstanceType": {
        "Description": "Amazon EC2 instance type for the MongoDB nodes.",
        "Type": "String",
        "Default": "t2.micro",
        "AllowedValues": [
           "t2.micro",
           "m5.large",
           "m5.xlarge",
```

Line 487 - Update the template URL to the one provided above

Original:

```
"PrimaryReplicaNode0": {
        "Type": "AWS::CloudFormation::Stack",
        "Properties": {
           "TemplateURL": {
              "Fn::Sub": [

"https://${S3Bucket}.s3.${S3Region}.${AWS::URLSuffix}/${QSS3KeyPrefix}templates/mongodb-node.template",
                 {
```

Changed to:

```
"PrimaryReplicaNode0": {
```

```
      "Type": "AWS::CloudFormation::Stack",
      "Properties": {
        "TemplateURL": {
          "Fn::Sub": [
```

"https://cf-templates-lfk8h5b11b03-us-west-2.s3.us-west-2.amazonaws.com/mongodb-node.template",
                {

Line 584 - Update the template URL to the one provided above

Original:

```
"SecondaryReplicaNode0": {
"Condition": "CreateThreeReplicaSet",
"Type": "AWS::CloudFormation::Stack",
"Properties": {
  "TemplateURL": {
    "Fn::Sub": [
```

"https://${S3Bucket}.s3.${S3Region}.${AWS::URLSuffix}/${QSS3KeyPrefix}templates/mongodb-node.template",
          {

changed to:

```
"SecondaryReplicaNode0": {
"Condition": "CreateThreeReplicaSet",
"Type": "AWS::CloudFormation::Stack",
"Properties": {
  "TemplateURL": {
    "Fn::Sub": [
```

"https://cf-templates-lfk8h5b11b03-us-west-2.s3.us-west-2.amazonaws.com/mongodb-node.template",
          {

Line 683 - Update the template URL to the one provided above

```
"SecondaryReplicaNode1": {
"Condition": "CreateThreeReplicaSet",
"Type": "AWS::CloudFormation::Stack",
"Properties": {
```

```
        "TemplateURL": {
          "Fn::Sub": [
```

"https://${S3Bucket}.s3.${S3Region}.${AWS::URLSuffix}/${QSS3KeyPrefix}templates/mongodb-node.template",
```
                {
```

Changed to:

```
      "SecondaryReplicaNode1": {
      "Condition": "CreateThreeReplicaSet",
      "Type": "AWS::CloudFormation::Stack",
      "Properties": {
        "TemplateURL": {
          "Fn::Sub": [
```

"https://cf-templates-lfk8h5b11b03-us-west-2.s3.us-west-2.amazonaws.com/mongodb-node.template",
```
                {
```

Changes to mongodb-node.template:

Line 25 - Add "t2.micro" to the AllowedValues section and set it as default

Original:

```
"NodeInstanceType": {
"Description": "Amazon EC2 instance type for the MongoDB nodes.",
"Type": "String",
"Default": "m5.large",
"AllowedValues": [
    "m5.large",
    "m5.xlarge",
    "M5.2xlarge",
```

Changed to:

```
"NodeInstanceType": {
"Description": "Amazon EC2 instance type for the MongoDB nodes.",
"Type": "String",
"Default": "t2.micro",
"AllowedValues": [
  "t2.micro",
    "m5.large",
    "m5.xlarge",
    "m5.2xlarge",
```