AWS-DDB

DDB Component

Available as of Camel 2.10

The DynamoDB component supports storing and retrieving data from/to Amazon's DynamoDB service.

Prerequisites

You must have a valid Amazon Web Services developer account, and be signed up to use Amazon DynamoDB. More information are available at Amazon DynamoDB.

URI Format

```
aws-ddb://tableName[?options]
```

You can append query options to the URI in the following format: **?options=value&option2=value&...**

URI Options

Name	Default Value	Context	Description
amazonDDBClient	null	Producer	Reference to a **com.amazonaws.services.dynamodb.AmazonDynamoDB** in the Registry.
accessKey	null	Producer	Amazon AWS Access Key.
secretKey	null	Producer	Amazon AWS Secret Key.
amazonDdbEndpoint	null	Producer	The region with which the AWS-DDB client wants to work with.
tableName	null	Producer	The name of the table currently worked with.
readCapacity	0	Producer	The provisioned throughput to reserve for reading resources from your table
writeCapacity	0	Producer	The provisioned throughput to reserved for writing resources to your table
consistentRead	false	Producer	Determines whether or not strong consistency should be enforced when data is read.
operation	PutAttributes	Producer	Valid values are: • BatchGetItems • DeleteItem • DeleteTable • DescribeTable • GetItem • PutItem • Query • Scan • UpdateItem • UpdateTable
proxyHost	null	Producer	**Camel 2.16**: Specify a proxy host to be used inside the client definition.
proxyPort	null	Producer	**Camel 2.16**: Specify a proxy port to be used inside the client definition.

Required DDB component options

You have to provide the **amazonDDBClient** in the Registry or your **accessKey** and **secretKey** to access the Amazon's DynamoDB.

Usage

Message headers evaluated by the DDB producer

Header	Type	Description
CamelAwsDdbBatchItems	Map<String, KeysAndAttributes>	A map of the table name and corresponding items to get by primary key.
CamelAwsDdbTableName	String	Table Name for this operation.
CamelAwsDdbKey	Key	The primary key that uniquely identifies each item in a table. **From Camel 2.16.0:** the type of this header is **Map<String, AttributeValue>** and not **Key**.

CamelAwsDdbReturnValues	String	Use this parameter if you want to get the attribute name-value pairs before or after they are modified (NONE, ALL_OLD, UPDATED_OLD, ALL_NEW, UPDATED_NEW).
CamelAwsDdbUpdateCondition	Map<String, ExpectedAttributeValue>	Designates an attribute for a conditional modification.
CamelAwsDdbAttributeNames	Collection<String>	If attribute names are not specified then all attributes will be returned.
CamelAwsDdbConsistentRead	Boolean	If set to true, then a consistent read is issued, otherwise eventually consistent is used.
CamelAwsDdbItem	Map<String, AttributeValue>	A map of the attributes for the item, and must include the primary key values that define the item.
CamelAwsDdbExactCount	Boolean	If set to true, Amazon DynamoDB returns a total number of items that match the query parameters, instead of a list of the matching items and their attributes. **From Camel 2.16.0 this header doesn't exist anymore.**
CamelAwsDdbKeyConditions	Map<String, Condition>	**From Camel 2.16.0**. This header specify the selection criteria for the query, and merge together the two old headers **CamelAwsDdbHashKeyValue** and **CamelAwsDdbScanRangeKeyCondition**
CamelAwsDdbStartKey	Key	Primary key of the item from which to continue an earlier query.
CamelAwsDdbHashKeyValue	AttributeValue	Value of the hash component of the composite primary key. **From Camel 2.16.0 this header doesn't exist anymore.**
CamelAwsDdbLimit	Integer	The maximum number of items to return.
CamelAwsDdbScanRangeKeyCondition	Condition	A container for the attribute values and comparison operators to use for the query. **From Camel 2.16.0 this header doesn't exist anymore.**
CamelAwsDdbScanIndexForward	Boolean	Specifies forward or backward traversal of the index.
CamelAwsDdbScanFilter	Map<String, Condition>	Evaluates the scan results and returns only the desired values.
CamelAwsDdbUpdateValues	Map<String, AttributeValueUpdate>	Map of attribute name to the new value and action for the update.

Message headers set during BatchGetItems operation

Header	Type	Description
CamelAwsDdbBatchResponse	Map<String, BatchResponse>	Table names and the respective item attributes from the tables.
CamelAwsDdbUnprocessedKeys	Map<String, KeysAndAttributes>	Contains a map of tables and their respective keys that were not processed with the current response.

Message headers set during DeleteItem operation

Header	Type	Description
CamelAwsDdbAttributes	Map<String, AttributeValue>	The list of attributes returned by the operation.

Message headers set during DeleteTable operation

Header	Type	Description
CamelAwsDdbProvisionedThroughput	ProvisionedThroughputDescription	The value of the **ProvisionedThroughput** property for this table
CamelAwsDdbCreationDate	Date	Creation **DateTime** of this table.
CamelAwsDdbTableItemCount	Long	Item count for this table.

CamelAwsDdbKeySchema	KeySchema	The **KeySchema** that identifies the primary key for this table. **From Camel 2.16.0**: the type of this header is **List<KeySchemaElement>** and not **KeySchema**.
CamelAwsDdbTableName	String	The table name.
CamelAwsDdbTableSize	Long	The table size in bytes.
CamelAwsDdbTableStatus	String	The status of the table: CREATING, UPDATING, DELETING, ACTIVE

Message headers set during DescribeTable operation

Header	Type	Description
CamelAwsDdbProvisionedThroughput	ProvisionedThroughputDescription	The value of the ProvisionedThroughput property for this table
CamelAwsDdbCreationDate	Date	Creation **DateTime** of this table.
CamelAwsDdbTableItemCount	Long	Item count for this table.
CamelAwsDdbKeySchema	KeySchema	The **KeySchema** that identifies the primary key for this table. **From Camel 2.16.0**: the type of this header is **List<KeySchemaElement>** and not **KeySchema.**
CamelAwsDdbTableName	String	The table name.
CamelAwsDdbTableSize	Long	The table size in bytes.
CamelAwsDdbTableStatus	String	The status of the table: CREATING, UPDATING, DELETING, ACTIVE.
CamelAwsDdbReadCapacity	Long	**ReadCapacityUnits** property of this table.
CamelAwsDdbWriteCapacity	Long	**WriteCapacityUnits** property of this table.

Message headers set during GetItem operation

Header	Type	Description
CamelAwsDdbAttributes	Map<String, AttributeValue>	The list of attributes returned by the operation.

Message headers set during PutItem operation

Header	Type	Description
CamelAwsDdbAttributes	Map<String, AttributeValue>	The list of attributes returned by the operation.

Message headers set during Query operation

Header	Type	Description
CamelAwsDdbItems	List<java.util.Map<String, AttributeValue>>	The list of attributes returned by the operation.
CamelAwsDdbLastEvaluatedKey	Key	Primary key of the item where the query operation stopped, inclusive of the previous result set.
CamelAwsDdbConsumedCapacity	Double	The number of Capacity Units of the provisioned throughput of the table consumed during the operation.
CamelAwsDdbCount	Integer	Number of items in the response.

Message headers set during Scan operation

Header	Type	Description
CamelAwsDdbItems	List<java.util.Map<String, AttributeValue>>	The list of attributes returned by the operation.
CamelAwsDdbLastEvaluatedKey	Key	Primary key of the item where the query operation stopped, inclusive of the previous result set.

CamelAwsDdbConsumedCapacity	Double	The number of Capacity Units of the provisioned throughput of the table consumed during the operation.
CamelAwsDdbCount	Integer	Number of items in the response.
CamelAwsDdbScannedCount	Integer	Number of items in the complete scan before any filters are applied.

Message headers set during UpdateItem operation

Header	Type	Description
CamelAwsDdbAttributes	Map<String, AttributeValue>	The list of attributes returned by the operation.

Advanced AmazonDynamoDB configuration

If you need more control over the **AmazonDynamoDB** instance configuration you can create your own instance and refer to it from the URI:

```
from("direct:start")
  .to("aws-ddb://tableName?amazonDDBClient=#client");
```

The **#client** refers to a **AmazonDynamoDB** in the Registry.

For example if your Camel Application is running behind a firewall:

```
AWSCredentials awsCredentials = new BasicAWSCredentials("myAccessKey", "mySecretKey");
ClientConfiguration clientConfiguration = new ClientConfiguration();
clientConfiguration.setProxyHost("http://myProxyHost");
clientConfiguration.setProxyPort(8080);

AmazonDynamoDB client = new AmazonDynamoDBClient(awsCredentials, clientConfiguration);

registry.bind("client", client);
```

Dependencies

Maven users will need to add the following dependency to their **pom.xml**.

pom.xml

```
<dependency>
    <groupId>org.apache.camel</groupId>
    <artifactId>camel-aws</artifactId>
    <version>${camel-version}</version>
</dependency>
```

where **${camel-version}** must be replaced by the actual version of Camel (2.10 or higher).

See Also

- Configuring Camel
- Component
- Endpoint
- Getting Started

- AWS Component