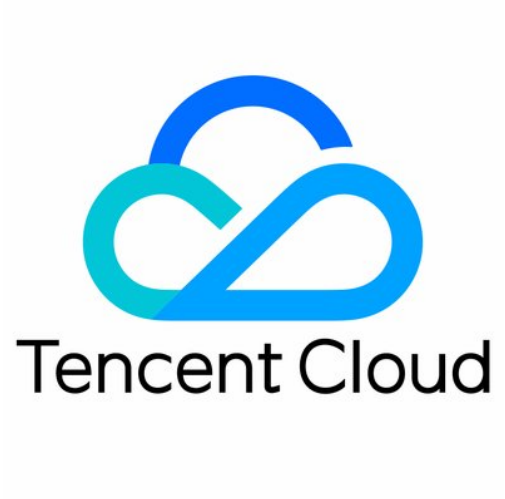
Data Transmission Service

Data Subscription

Product Documentation



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Database/Table Data Subscription to Local File System

Last updated : 2021-01-06 10:04:08

This document provides a simple example that walks you through how to pull a table from data subscription to a local file system as well as a simple Local Demo. The following operations are performed on CentOS.

Configuring Environment

- Java environment configuration

```
yum install java-1.8.0-openjdk-devel
```

- Download the data subscription SDK

Getting Key

Log in to the CAM console to get a key.

Selecting Data Subscription

1. Log in to the DTS console, and select **Data Subscription** on the left to go to the data subscription page.

2. Select the name of the TencentDB instance to be synced, click **Start**, return to the data subscription page, and click the data subscription you created. For detailed directions, please see How to Get a Data Subscription.

3. Check the corresponding DTS channel, IP, and port and enter them together with the obtained key into the corresponding `LocalDemo.java` file.

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```
// Enter the key obtained from TencentCloud API here
context.setSecretId("AKIDfdsfdsfsdt1331431sdfds"); Enter the `secretID` obtained from TencentCloud API
context.setSecretKey("test111usdfsdfsddsfRkeT"); Enter
the `secretKey` obtained from TencentCloud API
// Enter the IP and port obtained through data subscription in the DTS service here
context.setServiceIp("10.66.112.181"); Enter the IP obtained from the data subscription configuration
context.setServicePort(7507);
Enter the port obtained from the data subscription configuration
final DefaultSubscribeClient client = new DefaultSubscribeClient(context);
// Enter the names of both the database and table to sync and modify the name of the file where they will be stored
final String targetDatabase = "test"; Enter the name of the database to subscribe to
final String targetTable = "alantest"; Enter the name of the table to subscribe to

final String fileName = "test.alan.txt"; Enter the name of the local file for storage

client.addClusterListener(listener);
// Enter the `dts-channel` configuration information obtained from the data subscription configuration here
client.askForGUID("dts-channel-e4FQxtYV3It4test"); Enter the DTS channel name obtained from the data subscription
client.start();
```

Compiling and Testing

1.
```
javac -classpath binlogsdk-2.6.0-release.jar -encoding UTF-8 LocalDemo.java
```

2. Launch the program. If no errors are reported, the program works properly. Check the previously configured local file.

```
java -XX:-UseGCOverheadLimit -Xms2g -Xmx2g -classpath .:binlogsdk-2.6.0-release.jar LocalDemo
```

3. Check the previously configured `test.alan.txt` file and you can see that data has been pulled into it.

```
[root@VM_71_10_centos ~]# cat test.alan.txt
checkpoint:144251@30@357589@317713
record_id:000001000000000004D9110000000000000001
record_encoding:utf8
fields_enc:latin1,utf8
gtid:4f21864b-3bed-11e8-a44c-5cb901896188:1562
```

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```
source_category:full_recorded
source_type:mysql
table_name:alantest
record_type:INSERT
db:test
timestamp:1523356039
primary:
Field name: id
Field type: 3
Field length: 2
Field value: 26
Field name: name
Field type: 253
Field length: 4
Field value: alan
```

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Database/Table Data Subscription to Redis

Last updated : 2020-04-27 17:04:09

This document provides a simple example that walks you through how to pull a table from data subscription to Redis as well as a simple Redis Demo. The following operations are performed on CentOS.

Configuring Environment

- Java environment configuration

```
yum install java-1.8.0-openjdk-devel
```

- Download the data subscription SDK
- Download jedis-2.9.0.jar

Getting Key

Log in to the CAM Console to get a key.

Selecting Data Subscription

1. Log in to the DTS Console and select **Data Subscription** on the left sidebar to enter the data subscription page.
2. Select the name of the TencentDB instance to be synced, click "Start", return to the data subscription page, and click the data subscription you created. For detailed directions, please see How to Get a Data Subscription.
3. Check the corresponding DTS channel, IP, and port and enter them together with the obtained key into the corresponding `RedisDemo.java` .

```
context.setSecretId(”AKIDfdsfdsfsdt1331431sdfds”); Enter the `secretID` obtained from TencentCloud API.
context.setSecretKey(”test111usdfsdfsddsfRkeT”); Enter the `secretKey` obtained from TencentCloud API.
```

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```
// Enter the IP and port obtained through data subscription in the DTS service here
context.setServiceIp("10.66.112.181"); Enter the IP obtained from the data subscription configura
tion
context.setServicePort(7507); Enter the port obtained from the data subscription configuration

// Create a consumer
//SubscribeClient client=new DefaultSubscribeClient(context,true);
final DefaultSubscribeClient client = new DefaultSubscribeClient(context);

final Jedis jedis = new Jedis("127.0.0.1", 6379); Enter your corresponding Redis host and port

final String targetDatabase = "test"; Enter the name of the database to subscribe to
final String targetTable = "alantest"; Enter the name of the table to subscribe to. The table has
two fields, namely, `id` and `name`, of which `id` is the primary key

// Create a subscription listener
ClusterListener listener = new ClusterListener() {
@Override
public void notify(List<ClusterMessage> messages) throws Exception {
// System.out.println("--------------------:" + messages.size());
for(ClusterMessage m:messages){
DataMessage.Record record = m.getRecord();
// Filter out uninteresting subscription messages
if(!record.getDbName().equalsIgnoreCase(targetDatabase) || !record.getTablename().equalsIgnoreCas
e(targetTable)){
// Note: Ack must be performed for uninteresting messages too
m.ackAsConsumed();
continue;
}

if(record.getOpt() != DataMessage.Record.Type.BEGIN && record.getOpt() != DataMessage.Record.Type
.COMMIT){
List<DataMessage.Record.Field> fields = record.getFieldList();

//INSERT RECORD
//String pk = record.getPrimaryKeys();

if(record.getOpt() == DataMessage.Record.Type.INSERT){

String keyid="";
String value="";
for (DataMessage.Record.Field field : fields) {

// Get the `id` value as the primary key first, find the `name` column, and insert the correspond
ing values of `key` and `name` in Redis
if(field.getFieldname().equalsIgnoreCase("id")){
keyid=field.getValue();
continue;
```

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```
}
if(field.getFieldname().equalsIgnoreCase("name")){
value=field.getValue();

}
jedis.set(keyid, value);
}

}
```

Compiling and Testing

1.
```
[root@VM_71_10_centos ~]# javac -classpath binlogsdk-2.6.0-release.jar:jedis-2.9.0.jar -encoding UTF-8 RedisDemo.java
```

2. Launch the program. If no errors are reported, the program works properly. Check the previously configured local file.

```
java -XX:-UseGCOverheadLimit -Xms2g -Xmx2g -classpath .:binlogsdk-2.6.0-release.jar:jedis-2.9.0.jar RedisDemo
```

3. Perform `INSERT` and `UPDATE` operations. If you find that the data has been indeed inserted and modified successfully in Redis, you can perform `DELETE` operations to delete the corresponding data from Redis.

```
MySQL [test]> insert into alantest values(1001,'alan1');
Query OK, 1 row affected (0.00 sec)

MySQL [test]> update alantest set name='alan2' where id=1001;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0

------------------------
127.0.0.1:6379> get 1001
"alan2"


MySQL [test]> update alantest set name='alan3' where id=1001;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0

------------------------
127.0.0.1:6379> get 1001
```

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```
"alan3"

MySQL [test]> delete from alantest where id=1001;
Query OK, 1 row affected (0.00 sec)

----------------------

127.0.0.1:6379> get 1001
(nil)
```

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Database/Table Data Subscription to Kafka

Last updated : 2021-01-06 10:04:08

This document provides a simple example that walks you through how to pull a table from data subscription to Kafka as well as a simple Kaflka Demo.

Configuring Environment

- OS: CentOS
- Download relevant resources
  - Data subscription SDK
  - SLF4J components
  - Kafka-clients
- Java environment configuration

```
yum install java-1.8.0-openjdk-devel
```

Installing Kafka

1. Please install Kafka as instructed in Kafka Quick Start.
2. After Kafka is launched, create a "testtop" topic.

```
bin/kafka-topics.sh --create --zookeeper localhost:2181 --replication-factor 1 --partitions 1
--topic testtop
Created topic ”testtop”.
```

Getting Key

Log in to the CAM console to get a key.

Selecting Data Subscription

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1. Log in to the DTS console, and select **Data Subscription** on the left to go to the data subscription page.
2. In the subscription list, click a subscription name to enter the subscription details page and view the corresponding channel ID, service IP, and service port.
3. Enter them together with the obtained key into the corresponding `KafkaDemo.java` .

```
import com.qcloud.dts.context.SubscribeContext;
import com.qcloud.dts.message.ClusterMessage;
import com.qcloud.dts.message.DataMessage;
import com.qcloud.dts.subscribe.ClusterListener;
import com.qcloud.dts.subscribe.DefaultSubscribeClient;
import org.apache.kafka.clients.producer.KafkaProducer;
import org.apache.kafka.clients.producer.Producer;
import org.apache.kafka.clients.producer.ProducerConfig;
import org.apache.kafka.clients.producer.ProducerRecord;
import org.apache.kafka.common.serialization.StringSerializer;
import org.apache.log4j.Logger;

import java.util.List;
import java.util.Properties;

public class KafkaDemo {
public static void main(String[] args) throws Exception {
//Initialize a kafka producer
final String TOPIC = "testtop";
Properties props = new Properties();
props.put(ProducerConfig.BOOTSTRAP_SERVERS_CONFIG, "10.168.1.6:9092");
props.put(ProducerConfig.VALUE_SERIALIZER_CLASS_CONFIG, StringSerializer.class);
props.put(ProducerConfig.KEY_SERIALIZER_CLASS_CONFIG, StringSerializer.class);

final Producer<String, String> producer = new KafkaProducer<String, String>(props);

//Create a context
SubscribeContext context = new SubscribeContext();
context.setSecretId("AKIDPko5fVtvTDE0WffffkCwd4NzKcdePt79uauy");
context.setSecretKey("ECtY8F5e2QqtdXAe18yX0EBqK");
// Subscription channel region
context.setRegion("ap-beijing");
final DefaultSubscribeClient client = new DefaultSubscribeClient(context);

// Create a subscription listener
ClusterListener listener = new ClusterListener() {
@Override
public void notify(List<ClusterMessage> messages) throws Exception {
System.out.println("--------------------:" + messages.size());
```

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```
for(ClusterMessage m:messages){
DataMessage.Record record = m.getRecord();


if(record.getOpt() != DataMessage.Record.Type.BEGIN && record.getOpt() != DataMessage.Record.Type
.COMMIT){
List<DataMessage.Record.Field> fields = record.getFieldList();

//Print the information of each column
for (int i = 0; i < fields.size(); i++) {
DataMessage.Record.Field field = fields.get(i);
System.out.println("Database Name:" + record.getDbName());
System.out.println("Table Name:" + record.getTablename());
System.out.println("Field Value:" + field.getValue());
System.out.println("Field Value:" + field.getValue().length());
System.out.println("Field Encoding:" + field.getFieldEnc());
}

//Send the entire record to the specified Kafka topic
System.out.println("Record++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++");
producer.send(new ProducerRecord<String, String>(TOPIC, record.toString()));
}

m.ackAsConsumed();
}
}
@Override
public void onException(Exception e){
System.out.println("listen exception" + e);
}
};
// Add a listener
client.addClusterListener(listener);
client.askForGUID("dts-channel-p15e9eW9rn8hA68K");
client.start();
}

}
```

Compiling and Testing

1. Compile the client program `KafkaDemo.java` .

```
javac -classpath binlogsdk-2.9.1-jar-with-dependencies.jar:slf4j-api-1.7.25.jar:slf4j-log4j12-
1.7.2.jar:kafka-clients-1.1.0.jar -encoding UTF-8 KafkaDemo.java
```

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2. Launch the program. If no errors are reported, the program works properly.

```
java -XX:-UseGCOverheadLimit -Xms2g -Xmx2g -classpath .:binlogsdk-2.9.1-jar-with-dependencies.jar:kafka-clients-1.1.0.jar:slf4j-api-1.7.25.jar:slf4j-log4j12-1.7.2.jar KafkaDemo
```

3. Insert a data entry into the `alantest` table, and you will find that the data has been stored in the `testtop` subscribed to by Kafka.

```
MySQL [test]> insert into alantest values(123456,'alan');
Query OK, 1 row affected (0.02 sec)
[root@VM_71_10_centos kafka_2.11-1.1.0]# bin/kafka-console-consumer.sh --bootstrap-server localhost:9092 --topic testtop --from-beginning
checkpoint:144251@3@1275254@1153089
record_id:00000100000000001198410000000000000001
record_encoding:utf8
fields_enc:latin1,utf8
gtid:4f21864b-3bed-11e8-a44c-5cb901896188:5552
source_category:full_recorded
source_type:mysql
table_name:alantest
record_type:INSERT
db:test
timestamp:1524649133
primary:id
Field name: id
Field type: 3
Field length: 6
Field value: 123456
Field name: name
Field type: 253
Field length: 4
Field value: alan
```

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Data Subscription Kafka Edition Adding Consumer Group

Last updated : 2021-02-22 10:39:56

Data subscription Kafka Edition allows users to create multiple consumer groups for multi-point consumption. By creating multiple consumption groups, you can consume for multiple times and increase consumption channels to reduce usage costs and improve the data consumption speed.

Prerequisites

- You have created the Data Subscription Kafka Edition.

> **Note :**
>
> In the data subscription list, the subscription with the "Kafka Edition" tag is the data subscription in Kafka edition.

Notes

- The data subscription task must be in the running status.
- A data subscription task can contain up to 10 consumer groups.
- A consumer group can only have one consumer for consumption.

Directions

1. Log in to the DTS console, select **Data Subscription** on the left sidebar to go to the **Data Subscription** page.
2. In the data subscription list, select a data subscription and click its name or **View Subscription Details** in the **Operation** column to go to the subscription management page.
3. In the subscription management page, select the **Consumption Management** tab and click **Create Consumer Group**.
4. In the pop-up window, set the consumer group information and click **Create**.
   - Consumer Group Name: set the consumer group name as needed.
   - Account: set the consumer group account.

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- Password: set the password of the consumer group account.
- Confirm Password: enter the same password again.
- Remarks: set the remarks to record the information.

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Managing Consumer Group

Last updated : 2021-02-22 10:05:17

Data subscription Kafka Edition supports the management of consumer groups, including password modification and consumer group deletion. This document describes how to modify the consumer group password and delete the consumer group in the console.

Prerequisites

- You have created a consumer group.

Modifying the Password of Consumer Group

1. Log in to the DTS console, select **Data Subscription** on the left sidebar to go to the **Data Subscription** page.
2. In the data subscription list, select a data subscription and click its name or **View Subscription Details** in the **Operation** column to go to the subscription management page.
3. Select the **Consumption Management** tab and click **Change Password** in the **Operation** column.
4. In the pop-up window, modify the password and click **Modify**.

Deleting the Consumer Group

1. Log in to the DTS console, select **Data Subscription** on the left sidebar to go to the **Data Subscription** page.
2. In the data subscription list, select a data subscription and click its name or **View Subscription Details** in the **Operation** column to go to the subscription management page.
3. Select the **Consumption Management** tab and click **Delete** in the **Operation** column.
4. In the pop-up dialog box, confirm that everything is correct and click **Confirm**.

> ⚠ **Note :**
>
> After the consumer group is deleted, the consumption offset in the consumer group will be deleted, but the data in the data subscription will not be deleted.

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Modifying Subscribed Object

Last updated : 2021-02-22 10:05:17

Data subscription Kafka edition supports dynamic increase or decrease of the subscribed objects during data consumption. This document describes how to modify the subscribed object of the data subscription Kafka edition in the console.

Prerequisites

- You have created the Data Subscription Kafka Edition.

Directions

1. Log in to the DTS console, select **Data Subscription** on the left sidebar to go to the **Data Subscription** page.
2. In the data subscription list, select a data subscription and select **More** > **Modify subscribed object** in the **Operation** column to go to the **Configure data subscription** page.
3. In the **Configure data subscription** page, select the subscription type, edit the subscribed object, and click **Save**.
4. Return to the subscription list, the subscription instance enters the “enabling” state, and the task is pre-checked and initialized. After being enabled, the subscription instance enters the running state, and the Kafka client can be used to consume the subscription data.

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Resetting Data Subscription

Last updated : 2021-02-22 10:05:17

Data subscription Kafka edition supports resetting the subscription task to remove the information and data of the current subscription instance, and reconfiguring the data subscription task. This document describes how to reset the data subscription in the console.

Prerequisites

- You have created the Data Subscription Kafka Edition.
- The state of the data subscription is “running” or “abnormal”.

Directions

1. Log in to the DTS console, select **Data Subscription** on the left sidebar to go to the **Data Subscription** page.
2. In the data subscription list, select a data subscription and select **More** > **Reset subscription** in the **Operation** column.
3. In the pop-up dialog box, confirm that everything is correct and click **Confirm**.

> ⚠ **Note :**
>
> - After the subscription is reset, the binding relationship between the subscription instance and the source instance will be unassociated, and the state of the instance will become “not started”. You can perform the initialization configuration again.
> - The subscription to the incremental data of the source database will be stopped once the subscription is reset, and the incremental data stored in the subscription will be deleted.

4. In the data subscription list, click **Configure Subscription** in the **Operation** column to reconfigure the subscription task.

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Data Consumption Demo

Last updated : 2021-05-17 18:05:38

In data subscription Kafka edition, you can directly consume subscription data through Kafka client version 0.11 and above. This document provides two client consumption demos in Java and Go languages.

Downloading Consumption Demo

Refer to the following table to download the consumption Demo code of data subscription Kafka edition client:

Demo Language	Download Address
Go	Address
Java	Address

Configuration Parameters

Parameter	Description
brokerlist	The private network access address of Data Subscription Kafka Edition
topic	The subscription topic of the data subscription channel
group	Consumer group name
user	Consumer group account name
password	Consumer group password

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