

# Alibaba Cloud

## AnalyticDB for PostgreSQL Quick Start







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# Document conventions

Style	Description	Example
 <b>Danger</b>	A danger notice indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results.	 <b>Danger:</b> Resetting will result in the loss of user configuration data.
 <b>Warning</b>	A warning notice indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results.	 <b>Warning:</b> Restarting will cause business interruption. About 10 minutes are required to restart an instance.
 <b>Notice</b>	A caution notice indicates warning information, supplementary instructions, and other content that the user must understand.	 <b>Notice:</b> If the weight is set to 0, the server no longer receives new requests.
 <b>Note</b>	A note indicates supplemental instructions, best practices, tips, and other content.	 <b>Note:</b> You can use Ctrl + A to select all files.
>	Closing angle brackets are used to indicate a multi-level menu cascade.	Click <b>Settings&gt; Network&gt; Set network type</b> .
<b>Bold</b>	<b>Bold</b> formatting is used for buttons, menus, page names, and other UI elements.	Click <b>OK</b> .
<b>Courier font</b>	Courier font is used for commands	Run the <code>cd /d C:/window</code> command to enter the Windows system folder.
<i>Italic</i>	Italic formatting is used for parameters and variables.	<code>bae log list --instanceid</code> <i>Instance_ID</i>
[ ] or [a b]	This format is used for an optional value, where only one item can be selected.	<code>ipconfig [-all -t]</code>
{ } or {a b}	This format is used for a required value, where only one item can be selected.	<code>switch {active stand}</code>

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# 1. Get started with AnalyticDB for PostgreSQL

AnalyticDB for PostgreSQL, formerly known as HybridDB for PostgreSQL, is a distributed cloud database platform, on which each instance is composed of multiple **nodes** to provide a massively parallel processing (MPP) data warehousing service. AnalyticDB for PostgreSQL is built on the open source Greenplum Database project and offers a new-generation vectorized computing engine to support advanced functions such as the storage of data in OSS buckets and the retrieval of unstructured data vectors. To seamlessly interconnect with data sources such as ApsaraDB for RDS and MaxCompute, AnalyticDB for PostgreSQL supports mainstream business intelligence (BI) and extract, transform, load (ETL) tools and integration with various cloud-based data transmission and synchronization tools. For information about the features and limits of AnalyticDB for PostgreSQL, see [Features and limits](#).

To use AnalyticDB for PostgreSQL, you must create an AnalyticDB for PostgreSQL instance and complete basic settings such as whitelists, accounts, and networks. After you complete these steps, you can connect and import data to the databases on that instance.

## 2. Create an instance

You can create or purchase an AnalyticDB for PostgreSQL instance:

- Purchase an instance on the [AnalyticDB for PostgreSQL buy page](#).
- Create an instance in the [AnalyticDB for PostgreSQL console](#).


This topic describes how to create an instance in the AnalyticDB for PostgreSQL console. You can add or remove instances in the console.

### Prerequisites

- You have an Alibaba Cloud account. To create an Alibaba Cloud account, go to the [Alibaba Cloud official website](#).

### Procedure

1. Log on to the [AnalyticDB for PostgreSQL console](#).
2. In the upper-right corner of the page, click **Create Instance**. The AnalyticDB for PostgreSQL buy page appears.
3. Select Subscription or Pay-As-You-Go as the billing method.
  - **Pay-as-you-go**: A pay-as-you-go instance is charged on an hourly basis based on your actual resource usage. We recommend that you select this billing method for short-term use. You can release the instance that is no longer used. This helps you reduce costs.
  - **Subscription**: You must pay an upfront subscription fee when you create the instance. We recommend that you select this billing method for long-term use because it is more cost-effective than the pay-as-you-go billing method. Larger discounts are provided for longer subscription periods.


 **Note** You can change the billing method of an instance from pay-as-you-go to subscription. You cannot change the billing method from subscription to pay-as-you-go.

4. Configure the following parameters.

Parameter	Description
Region	<p>Select a region to deploy the instance. You cannot change the region after the instance is created.</p> <ul style="list-style-type: none"><li>◦ To maximize the access speed, we recommend that you select a region in close proximity to the geographic location of your users.</li><li>◦ Make sure that the instance is deployed in the same region as the Elastic Compute Service (ECS) instance to which you want to connect. Otherwise, the AnalyticDB for PostgreSQL instance and the ECS instance cannot communicate through an internal network to achieve optimal performance.</li></ul>

Parameter	Description
Zone	Select a zone to deploy the instance. Each zone is considered a physical location. Zones within a region are independent of each other. No differences exist among these zones.  You can deploy your instance and ECS instance in the same zone or in different zones.
Network Type	The network type of the instance. The default value is VPC. A virtual private cloud (VPC) is an isolated virtual network that provides higher security and better performance than a classic network. Before you specify this parameter, make sure that you have created a VPC and a VSwitch that are deployed in the same region as the instance. For more information, see <a href="#">Create a VPC</a> .
VPC	Select a VPC.
VSwitch	Select a VSwitch in the specified VPC.
Engine Version	Only 6.0 is supported.
Node Cores	Select the specifications of the computing resources. Different node types have different storage capacities and computing capabilities. For more information about specifications, see <a href="#">Instance specifications</a> for AnalyticDB for PostgreSQL.
Node Num	Set the number of nodes in the instance. An instance must contain at least two nodes. The performance of an instance scales linearly with the number of nodes.
Storage Type	Select SSD or hdd. SSD outperforms HDD in the read/write performance whereas the latter is more cost-effective.

- After you configure the parameters, click **Buy Now**.
- On the **Confirm Order** page, select the AnalyticDB for PostgreSQL Service Agreement check box, and click **Activate** to settle the payment.
- Verify that the instance is created on the **Instances** page.

 **Note** Wait until the instance enters the **Running** state to manage the instance.

## Related operations

API	Description
<a href="#">CreateDBInstance</a>	Creates an instance.


## 3. Configure an IP address whitelist for an AnalyticDB for PostgreSQL instance

This topic describes how to configure an IP address whitelist for an AnalyticDB for PostgreSQL instance before you start that instance. An IP address whitelist contains the IP addresses or Classless Inter-Domain Routing (CIDR) blocks that are allowed to access your instance. Whitelists make your instance more stable and secure.

### Background information

The scenarios in which you access an AnalyticDB for PostgreSQL instance from an ECS instance are as follows:

- Access the AnalyticDB for PostgreSQL instance over the Internet.
- Access the AnalyticDB for PostgreSQL instance over an internal network. In this scenario, make sure that the AnalyticDB for PostgreSQL and ECS instances have the same network type.
- Access the AnalyticDB for PostgreSQL instance over both the Internet and an internal network. In this scenario, make sure that the AnalyticDB for PostgreSQL and ECS instances have the same network type.

 **Notice** For information about how to configure network types, see [Set the network type](#).



## Procedure

1. Log on to the [AnalyticDB for PostgreSQL console](#).
2. In the top navigation bar, select the region where the target AnalyticDB for PostgreSQL instance resides.
3. Find the target AnalyticDB for PostgreSQL instance and click its ID. The **Basic Information** page appears.
4. In the left-side navigation pane, click **Security Controls**. The **Security Controls** page appears.
5. On the **Whitelist Settings** tab, find the IP address whitelist labeled **default** and click **Modify** to its right. The **Modify Group** dialog box appears.

### Notice

You can click **Clear** next to the default IP address whitelist to delete that whitelist and then click **Add Group** to create an IP address whitelist.

6. Delete 127.0.0.1 from the default IP address whitelist and add IP addresses or CIDR blocks to that whitelist as needed. The parameters are described as follows:
  - **Group Name:** The group name must be 2 to 32 characters in length. It can contain lowercase letters, digits, and underscores (\_). It must start with a lowercase letter and end with a lowercase letter or digit. The default IP address whitelist cannot be deleted and its name cannot be changed.
  - **White List:** Enter IP addresses or CIDR blocks and separate them with commas (,).
    - An IP address whitelist can contain IP addresses such as 10.10.10.1 and CIDR blocks such as 10.10.10.0/24. The 10.10.10.0/24 CIDR block indicates that all IP addresses in the 10.10.10.X format are granted access to the AnalyticDB for PostgreSQL instance.
    - The wildcard (%) or 0.0.0.0/0 indicates that all IP addresses are granted access to the AnalyticDB for PostgreSQL instance.

### Notice

This setting is risky, so we recommend that you do not apply this setting unless necessary.

- The loopback IP address 127.0.0.1 is configured in the default IP address whitelist upon instance creation. This loopback IP address indicates that no external IP addresses are allowed to access the AnalyticDB for PostgreSQL instance.
7. Click **OK**.

## What to do next

Properly configured whitelists make your AnalyticDB for PostgreSQL instance more secure. We recommend that you maintain the whitelists on a regular basis.

You can click **Modify** to the right of a whitelist to modify it. You can also click **Delete** next to a whitelist to delete it.

## Related operations

Operation	Description
<a href="#">DescribeDBInstanceIPArrayList</a>	Queries an IP address whitelist of an AnalyticDB for PostgreSQL instance.
<a href="#">ModifySecurityIps</a>	Modifies an IP address whitelist of an AnalyticDB for PostgreSQL instance.


## 4. Configure an account

This topic describes how to create an account and reset the password for an AnalyticDB for PostgreSQL instance.

### Context

AnalyticDB for PostgreSQL provides two types of database accounts: privileged accounts and standard accounts.

- Privileged accounts have all permissions on all databases.
- Standard accounts have all permissions only on the databases that the accounts are authorized to manage.

 **Note** Permissions include SELECT, INSERT, UPDATE, DELETE, TRUNCATE, REFERENCES, and TRIGGER.

For more information about permission settings, see [Manage users and permissions](#).

An account is created for an AnalyticDB for PostgreSQL instance before you use AnalyticDB for PostgreSQL. You cannot use the console to create other accounts. However, you can connect to the instance and execute SQL statements to create other accounts. For more information, see [Execute SQL statements to create accounts](#).

### Create an initial account

#### Notice

- After the initial account is created, you cannot delete the account.
- The initial account is a privileged account.

1. Log on to the [AnalyticDB for PostgreSQL console](#).
2. In the upper-left corner, select the region where your instance resides.
3. Click the name of the instance. The details page of the instance appears. **Basic information of an instance**
4. In the left-side navigation pane, click **Account Management**. The **Account Management** page appears.
5. Click **Create Account**. The **Create Account** page appears.
6. Enter the account name and password, and click **OK**.
  - The account name must be 2 to 16 characters in length, and can contain lowercase letters, digits, and underscores (\_). It must start with a letter and end with a letter or digit. For example, *user4example*.
  - The password must be 8 to 32 characters in length. It must contain at least three of the following character types: uppercase letters, lowercase letters, digits, and special characters.
  - Confirm the password and make sure that you enter the correct password.

## Execute SQL statements to create accounts

- Create a privileged account

```
create role admin0 WITH LOGIN ENCRYPTED PASSWORD '111111' rds_superuser;
```

- Create a standard account


```
create role test1 WITH LOGIN ENCRYPTED PASSWORD '111111';
```

## Reset a password

If you forget the password of your database account, you can reset the password in the [AnalyticDB for PostgreSQL console](#).

 **Notice** To ensure data security, we recommend that you change your password on a regular basis.

1. Log on to the [AnalyticDB for PostgreSQL console](#).
2. In the upper-left corner, select the region where your instance resides.
3. Click the name of the instance. The details page of the instance appears. **Basic information of an instance**
4. In the left-side navigation pane, click **Account Management**. The **Account Management** page appears.
5. Find the account that you want to manage, and click **Reset Password** in the **Actions** column. The **Modify Account** pane appears.
6. After you enter and confirm the new password, click **OK**.


 **Notice** The password must be 8 to 32 characters in length. It must contain at least three of the following character types: uppercase letters, lowercase letters, digits, and special characters. We recommend that you do not use an old password.

## Related API operations

API	Description
<a href="#">CreateAccount</a>	Creates an account for a database.
<a href="#">DescribeAccounts</a>	Queries the account information of a database.
<a href="#">ModifyAccountDescription</a>	Modifies the account name of a database.
<a href="#">ResetAccountPassword</a>	Resets the password of an account.

## 5. Connect to an AnalyticDB for PostgreSQL instance

AnalyticDB for PostgreSQL is fully compatible with the message-based protocol of PostgreSQL. Therefore, you can use tools that support the protocol, such as psql, libpq, Java Database Connectivity (JDBC), Open Database Connectivity (ODBC), and psycopg2. You can also use graphical user interface (GUI) tools such as pgAdmin, DBeaver, and Navicat. Note that AnalyticDB for PostgreSQL V4.3 supports only pgAdmin III 1.6.3 and earlier, while AnalyticDB for PostgreSQL V6.0 supports the latest version of pgAdmin 4. You can use Data Management (DMS) to manage and develop AnalyticDB for PostgreSQL instances.


 **Note** AnalyticDB for PostgreSQL V4.3 is based on the PostgreSQL 8.3 kernel, while AnalyticDB for PostgreSQL V6.0 is based on the PostgreSQL 9.4 kernel.

### DMS console

**DMS** manages relational databases (such as MySQL, SQL Server, PostgreSQL, PPAS, and Petadata), OLTP databases (such as DRDS), OLAP databases (such as AnalyticDB and DLA), and NoSQL databases (such as MongoDB and Redis). DMS offers an integrated solution to manage data, schemas, and servers. You can also use DMS to authorize users, audit security, view BI charts and data trends, track data, and optimize performance.

This section describes how to use the DMS console to connect to an AnalyticDB for PostgreSQL instance.

1. Log on to the [AnalyticDB for PostgreSQL console](#).
2. Create an instance. For more information, see [Create an instance](#). If you have created one, find the target instance and click its ID.
3. Create an account. For more information, see [Configure an account](#).

 **Note** This account is used to log on to the DMS console. A single account can be created for each instance.

4. In the upper-right corner, click **Login Database**.

The screenshot shows the RDS Database Logon page for an instance named 'gp-dux-essd' which is in a 'Running' state. At the top, there are navigation buttons: 'Back to Instance List', 'Login Database', 'Restart Instance', and 'Refresh'. The page is divided into three main sections: 'Basic Information', 'Status', and 'Configuration Information'. Each section has a corresponding action button: 'Whitelist Settings' for Basic Information, 'Release' for Status, and 'Add Node' and 'Disk Expansion' for Configuration Information.

Basic Information		Whitelist Settings	
Instance ID	gp-8v0j4abpdm7b0009g	Description	gp-8v0j4abpdm7b0009g
Instance Region and Zone	zhanjiangkou Zone C		
Intranet Address	gp-8v0j4abpdm7b0009g.master.gpudmaste.zhanjiangkou.rds.aliyuncs.com	Internal Port	432
Tag	No Tags Edit Tags		

Status		Release	
Status	Running	Creation Time	May 27, 2020, 15:14
Payment Method	Pay-as-you-go		

Configuration Information		Add Node		Disk Expansion	
Database Type	AnalyticDB for PostgreSQL 6.0	Storage Type	ESSD Cloud Disk		
Node Specifications (Dual Copy)	4 Core(s), 32 GB Mem, 100 GB User Storage Space, 200 GB Physical Storage	Nodes	4		
Instance Total Resource	16 Cores, 128 GB Memory, 800 GB ESSD Cloud Disk Physical Storage (Dual Copy)				

5. On the RDS Database Logon page that appears, enter the username and password, and click Log On.

## psql

psql is a command line tool used together with Greenplum, and provides a variety of commands. Its binary files are located in the bin directory of Greenplum. To use psql to connect to an AnalyticDB for PostgreSQL instance, follow these steps:

1. Connect to the instance by using one of the following methods:

- o Connection string

```
psql "host=yourgpdbaddress.gpdb.rds.aliyuncs.com port=3432 dbname=postgres user=gpdbaccount password=gpdbpassword"
```

- o Specified parameters

```
psql -h yourgpdbaddress.gpdb.rds.aliyuncs.com -p 3432 -d postgres -U gpdbaccount
```

Parameter description:

- -h: the host address.
- -p: the port used to connect to the database.
- -d: the name of the database. The default value is postgres.
- -U: the account used to connect to the database.
- You can run the `psql - help` command to view more options. You can also run the `\?` command to view the commands supported in psql.

2. Enter the password to go to the psql shell interface. The psql shell is as follows:

```
postgres=>
```

## References

- For more information, visit [gp6 psql](#) in the Greenplum database documentation.
- AnalyticDB for PostgreSQL also supports psql commands for PostgreSQL. Pay attention to the differences between psql in Greenplum and that in PostgreSQL. For more information, visit [PostgreSQL 8.3.23 Documentation - psql](#) in the PostgreSQL documentation.

## Download method

The download method varies depending on your operating system version:

- For Red Hat Enterprise Linux 6 or CentOS 6, click [HybridDB\\_client\\_package\\_el6](#).
- For Red Hat Enterprise Linux 7 or CentOS 7, click [HybridDB\\_client\\_package\\_el7](#).

For Windows or other operating systems, download [AnalyticDB for PostgreSQL Client](#) from the Pivotal website.

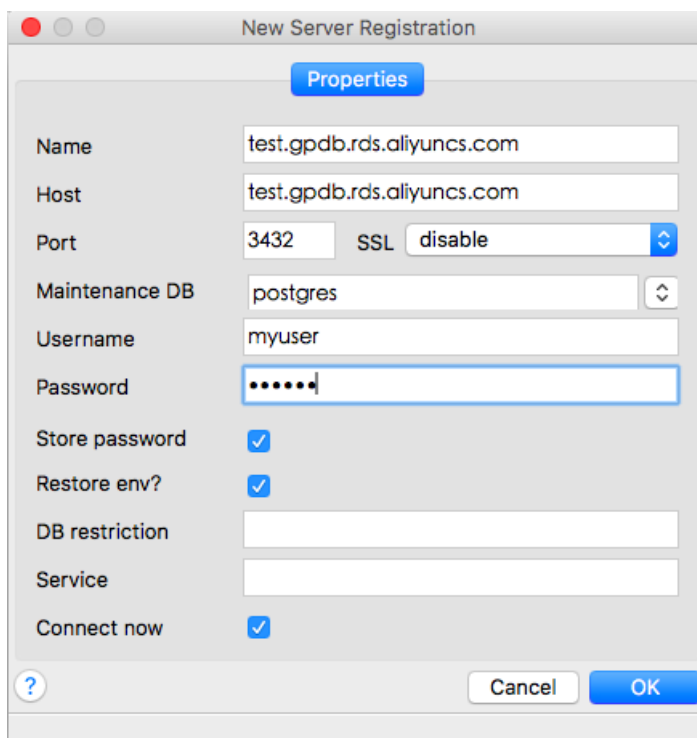
## pgAdmin

pgAdmin is a graphical client tool for PostgreSQL and can be used to connect to an AnalyticDB for PostgreSQL instance. For more information, visit the [official pgAdmin website](#). AnalyticDB for PostgreSQL V4.3 is based on the PostgreSQL 8.3 kernel. Therefore, you must use pgAdmin III 1.6.3 or earlier to connect to an AnalyticDB for PostgreSQL V4.3 instance. AnalyticDB for PostgreSQL V4.3 does not support pgAdmin 4. AnalyticDB for PostgreSQL V6.0 is based on the PostgreSQL 9.4 kernel and supports the latest version of pgAdmin 4.

You can download [pgAdmin III 1.6.3](#) or [pgAdmin 4](#) from the PostgreSQL official website. pgAdmin is compatible with various operating systems such as Windows, macOS, and Linux. For other graphical client tools, see [Graphical client tools](#).

### Procedure

1. Download and install the supported version of pgAdmin.
2. Choose File > Add Server.
3. In the New Server Registration dialog box that appears, set parameters as prompted.



4. Click OK to connect to the AnalyticDB for PostgreSQL instance.

## JDBC

You must use the official JDBC of PostgreSQL. Use one of the following methods to download JDBC:

- Click [PostgreSQL JDBC Driver](#) to download the official JDBC of PostgreSQL and add it to an environment variable.
- Obtain JDBC from the tool package provided at the official Greenplum website. For more information, visit [Greenplum Database 4.3 Connectivity Tools for UNIX](#) or [Greenplum Client and Loader Tools Package](#).

### Sample code



```
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.sql.Statement;
public class gp_conn {
public static void main(String[] args) {
try {
Class.forName("org.postgresql.Driver");
Connection db = DriverManager.getConnection("jdbc:postgresql://mygpdbpub.gpdb.rds.aliyuncs.com:
3432/postgres","mygpdb","mygpdb");
Statement st = db.createStatement();
ResultSet rs = st.executeQuery("select * from gp_segment_configuration;");
while (rs.next()) {
System.out.print(rs.getString(1));
System.out.print(" | ");
System.out.print(rs.getString(2));
System.out.print(" | ");
System.out.print(rs.getString(3));
System.out.print(" | ");
System.out.print(rs.getString(4));
System.out.print(" | ");
System.out.print(rs.getString(5));
System.out.print(" | ");
System.out.print(rs.getString(6));
System.out.print(" | ");
System.out.print(rs.getString(7));
System.out.print(" | ");
System.out.print(rs.getString(8));
System.out.print(" | ");
System.out.print(rs.getString(9));
System.out.print(" | ");
System.out.print(rs.getString(10));
System.out.print(" | ");
System.out.println(rs.getString(11));
}
rs.close();
st.close();
} catch (ClassNotFoundException e) {
e.printStackTrace();
}
```

```
} catch (SQLException e) {  
    e.printStackTrace();  
}  
}  
}
```

For more information, visit [The PostgreSQL JDBC Interface](#).

## Python

You can use `psycopg2` to connect to Greenplum or PostgreSQL. The procedure is as follows:

1. Install `psycopg2`. There are three installation methods in CentOS:

- Method 1: Run the `yum -y install python-psycopg2` command.
- Method 2: Run the `pip install psycopg2` command.
- Method 3: Use the source code.

```
yum install -y postgresql-devel*
wget http://initd.org/psycopg/tarballs/PSYCOPG-2-6/psycopg2-2.6.tar.gz
tar xf psycopg2-2.6.tar.gz
cd psycopg2-2.6
python setup.py build
sudo python setup.py install
```

2. Set the `PYTHONPATH` environment variable. After the variable is set, it can be referenced.

```
import psycopg2
sql = 'select * from gp_segment_configuration;'
conn = psycopg2.connect(database='gpdb', user='mygpdb', password='mygpdb', host='mygpdbpub
.gpdb.rds.aliyuncs.com', port=3432)
conn.autocommit = True
cursor = conn.cursor()
cursor.execute(sql)
rows = cursor.fetchall()
for row in rows:
    print row
conn.commit()
conn.close()
```

The system displays information similar to the following output:

```
(1, -1, 'p', 'p', 's', 'u', 3022, '192.168.2.158', '192.168.2.158', None, None)
(6, -1, 'm', 'm', 's', 'u', 3019, '192.168.2.47', '192.168.2.47', None, None)
(2, 0, 'p', 'p', 's', 'u', 3025, '192.168.2.148', '192.168.2.148', 3525, None)
(4, 0, 'm', 'm', 's', 'u', 3024, '192.168.2.158', '192.168.2.158', 3524, None)
(3, 1, 'p', 'p', 's', 'u', 3023, '192.168.2.158', '192.168.2.158', 3523, None)
(5, 1, 'm', 'm', 's', 'u', 3026, '192.168.2.148', '192.168.2.148', 3526, None)
```

## libpq

libpq is the C application programmer's interface to PostgreSQL. You can use libpq libraries to access and manage PostgreSQL databases in a C program. If Greenplum or PostgreSQL is deployed, you can find both the static and dynamic libraries of libpq in the lib directory.

For example programs, click [30.19. Example Programs](#).

For more information about libpq, visit [PostgreSQL 9.4.10 Documentation - Chapter 31. libpq - C Library](#).

## ODBC

PostgreSQL ODBC is an open source tool licensed based on the GNU Lesser General Public License (LGPL) protocol. You can download it from the [official PostgreSQL website](#).

### Procedure

1. Install the driver.

```
yum install -y unixODBC.x86_64
yum install -y postgresql-odbc.x86_64
```

2. View the driver configuration.

```
cat /etc/odbcinst.ini
# Example driver definitions
# Driver from the postgresql-odbc package
# Setup from the unixODBC package
[PostgreSQL]
Description = ODBC for PostgreSQL
Driver = /usr/lib/psqlodbcw.so
Setup = /usr/lib/libodbcpsqlS.so
Driver64 = /usr/lib64/psqlodbcw.so
Setup64 = /usr/lib64/libodbcpsqlS.so
FileUsage = 1
# Driver from the mysql-connector-odbc package
# Setup from the unixODBC package
[MySQL]
Description = ODBC for MySQL
Driver = /usr/lib/libmyodbc5.so
Setup = /usr/lib/libodbcmyS.so
Driver64 = /usr/lib64/libmyodbc5.so
Setup64 = /usr/lib64/libodbcmyS.so
FileUsage = 1
```

3. Configure the DSN. Replace `****` in the following code with actual information.

```
[mygpdb]
Description = Test to gp
Driver = PostgreSQL
Database = ****
Servername = ****.gpdb.rds.aliyuncs.com
UserName = ****
Password = ****
Port = ****
ReadOnly = 0
```

#### 4. Test connectivity.

```
echo "select count(*) from pg_class" | isql mygpdb
+-----+
| Connected! |
||
| sql-statement |
| help [tablename] |
| quit |
||
+-----+
SQL> select count(*) from pg_class
+-----+
| count |
+-----+
| 388 |
+-----+
SQLRowCount returns 1
1 rows fetched
```

5. After ODBC is connected to the instance, connect your application to ODBC. For more information, visit [psqlODBC - PostgreSQL ODBC driver](#) and [psqlODBC HOWTO - C#](#).

## More information

### Graphical client tools

You can use the following graphical client tools to connect to AnalyticDB for PostgreSQL instances:

- [pgadmin III \(1.6.3\)](#)
- [pgAdmin 4](#)
- [dbeaver](#)
- [Navicat Premium](#)
- [Navicat For PostgreSQL](#)
- [SQL Workbench](#)

### Greenplum client tools

The official Greenplum website provides a tool package, which includes JDBC, ODBC, and libpq. The package is easy to install and use. For more information, visit [Pivotal Greenplum documentation](#).

## References

- [Pivotal Greenplum Database 4.3 Documentation](#)
- [Pivotal Greenplum 6.3 Documentation](#)
- [PostgreSQL psqLODBC](#)
- [Compiling psqLODBC on Unix](#)
- [Download ODBC connectors](#)
- [Download JDBC connectors](#)