Alibaba Cloud

DataV

Manage Projects

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Document conventions

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

Table of Contents

1.Project folders

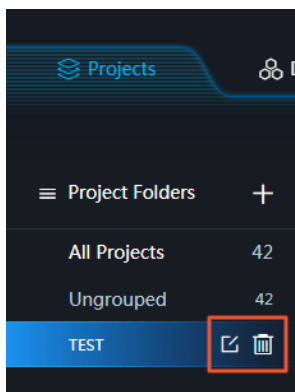The project grouping feature allows you to reorganize DataV projects for improved functionality.

Procedure

1. Log on to the DataV console, to go to the **Projects** pane.
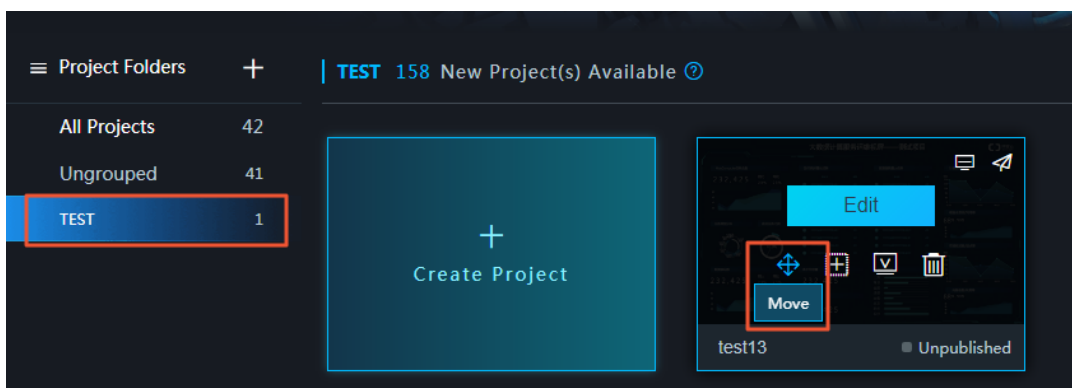2. Click **+** on the right side of **Project Folders**.
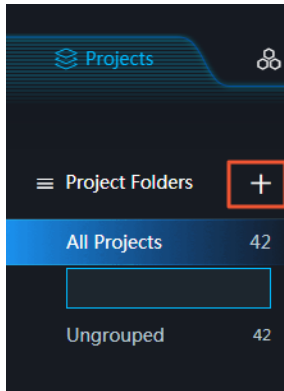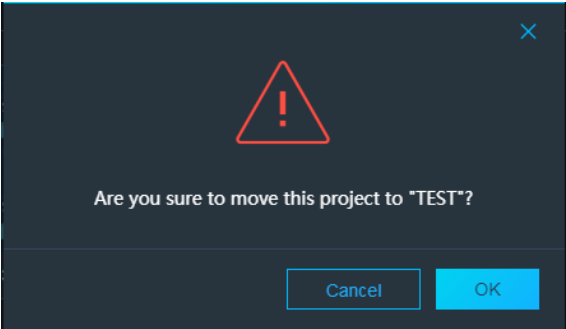

3. Enter a group name to create a new group.

> ⑦ **Note**   To delete a group, click the **trash bin** icon. Associated projects will then be ungrouped.
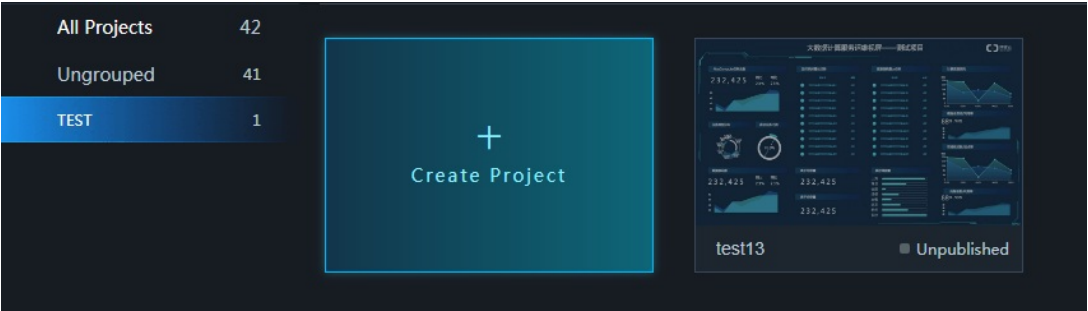

4. Move the pointer over the project you want to group, click the four arrows icon, and drag the project to the group that has been created on the left side of the page.

5. Click **OK**.

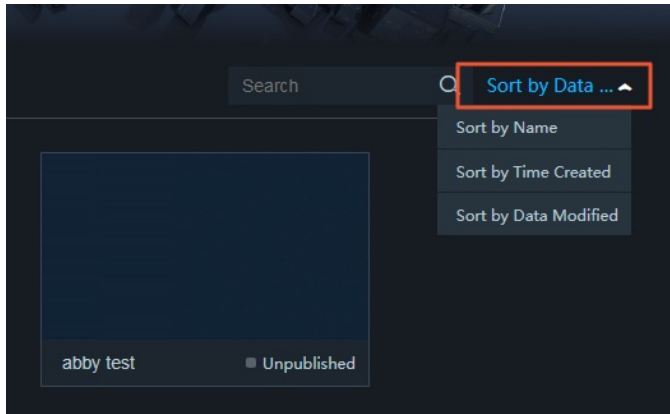6. Click the group to view the projects that it contains.

2.Sort projects

DataV updates enable you to sort projects by **Name**, **Time Created**, and **Time Modified**.

Procedure

1. Log on to the DataV console to go to the **Projects** panel.
2. Move the pointer over the **Sort by Data Modified** (by default) button on the far right of the page, and click a sort type.

> ⑦ **Note**   DataV provides three types of sorting methods **Name**, **Time Created**, and **Data Modified**.

3.Search for projects by name

The DataV provides a search box. You can search for a big screen project by entering its name.

Procedure

1. Log on to the DataV console to go to the **Projects** pane.

2. In the search box on the right side of the page, enter the name of the project that you want to find.

   The project with the corresponding name is matched, as shown in the following figure.
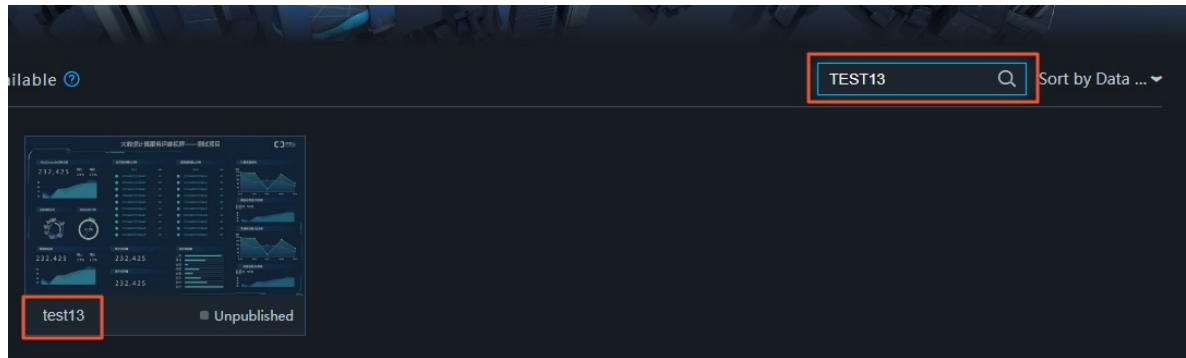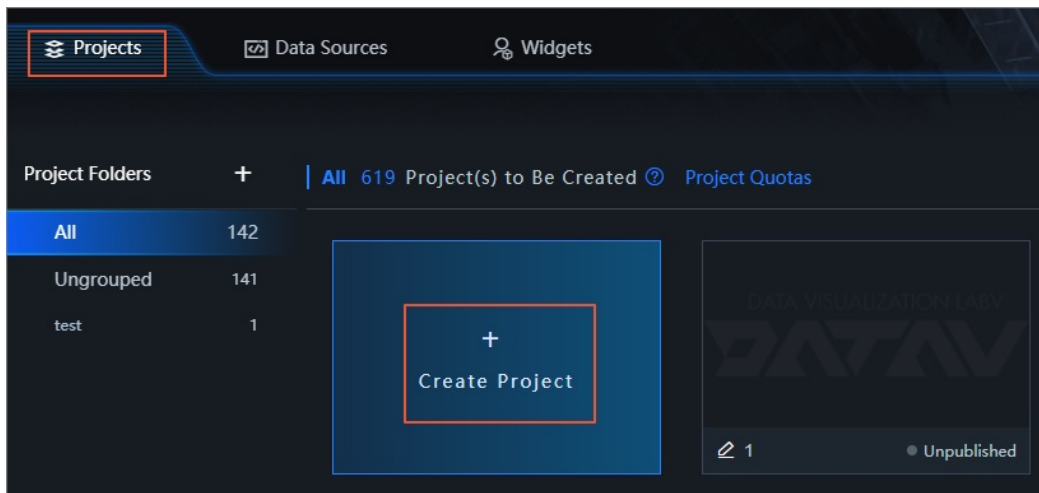
4.Use a template to create a project

This topic describes how to use a template to create a project.

Context

Basic Edition of DataV allows you to create a maximum of 5 projects. Enterprise Edition of DataV allows you to create a maximum of 20 projects. Professional Edition of DataV allows you to create a maximum of 40 projects. Select an appropriate DataV edition based on your business requirements.
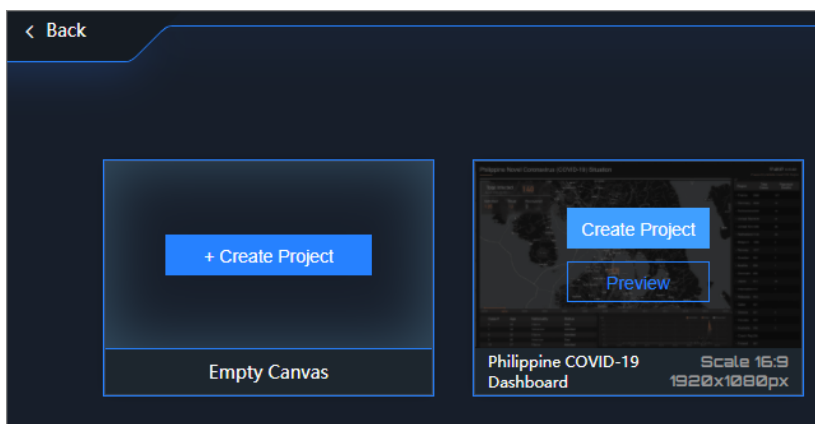
Procedure

1. Log on to the DataV console.

2. In the DataV console, click the **Projects** tab, move the pointer over Empty Canvas, and then click **Create Project**.

   On the **Projects** tab, you can view all the existing projects and the number of projects that you are allowed to create.

3. In the template list, move the pointer over a template and click **Create Project**.

4. In the **Create New Project** dialog box, enter the **project name** and click **Create**.
   After the project is created, the project editor is displayed.

   > ⑦ **Note**   In the **Create New Project** dialog box, you can also select a group from the **Project Group** drop-down list. You can perform this operation only after a group has been created. For more information, see Project folders.
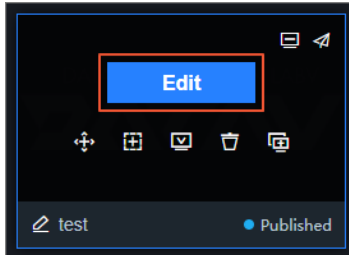
What's next

Return to the **Projects** tab and view the project that you created.

5.Edit a project

This topic describes how to edit the widget layout and configuration in a project.

Procedure

1. Log on to the DataV console.

2. Click **Projects**.

3. Move the pointer over the project you want to edit and click **Edit**.
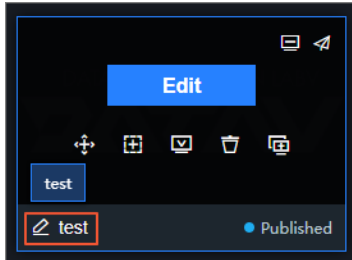

4. On the project editor page, modify the layout and configuration of the widgets. You can also add or remove widgets.

   You can preview or publish the project on the editor page.

6.Rename a project

This topic describes how to rename a project.

Procedure

1. Log on to the DataV console.

2. Click **Projects**.

3. Move the pointer over the project you want to rename.

4. Click the project name and enter a new name.

   ⑦ **Note**   The names of projects can be the same.

5. Click another place or press **Enter**.

   You can search for and sort projects by name.

7.Transfer a project to another user

This topic describes how to transfer your project to another user, so you can work together with this user to develop a project.

> 🔔 **Warning**
> - The project you transfer to another user contains complete configuration data. Check the transfer ID of the user when you transfer the project to prevent data leakage.
> - This feature is available only in the **Enterprise Edition** and Professional Edition.

Procedure

1. Log on to the DataV console.

2. Click **Projects**.

3. Move the pointer over the project you want to copy and transfer, and click the **Copy & Transfer** icon.
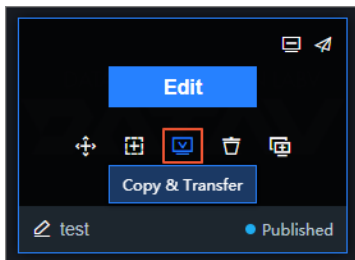
4. In the **Copy & Transfer** dialog box that appears, enter the transfer ID of the target user. The transfer ID is case-sensitive.
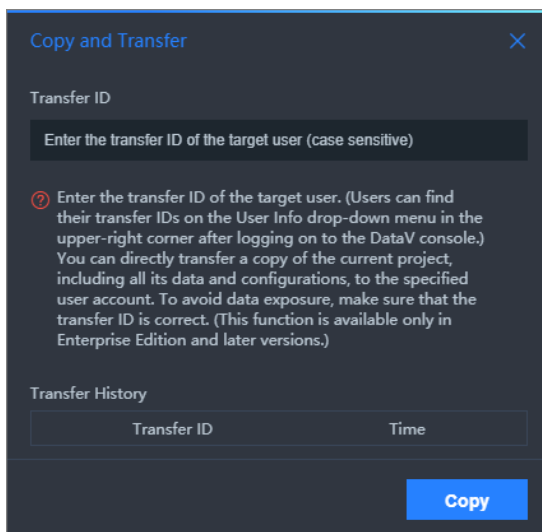
   To obtain the transfer ID of the target user, move the pointer over the username in the upper-right corner of the **Projects** page.
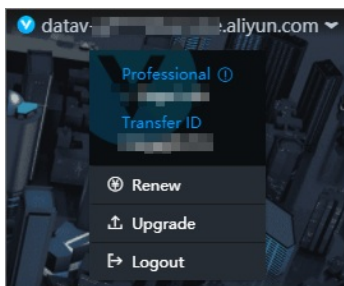
5. Click **Copy** to transfer the project to the specified user.

   In the **Transfer History** section of the **Copy and Transfer** dialog box, you can view the transfer ID of the target user and the operation time.

8.Copy a project

This topic describes how to copy a project. You can use this feature to develop similar projects based on an existing project. You can also modify or update an existing project in the development and testing environment without affecting project production and application.

Procedure

1. Log on to the DataV console.

2. On the **Projects** tab, move the pointer over an existing project and click the **Copy** icon.
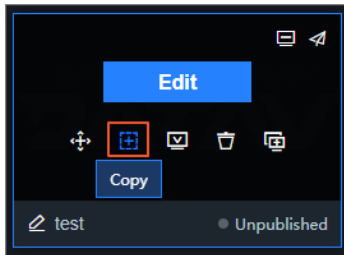
After the project is copied, the system automatically generates a project named *xxx_copy*. You can modify the name, layout, and configurations of the generated project.
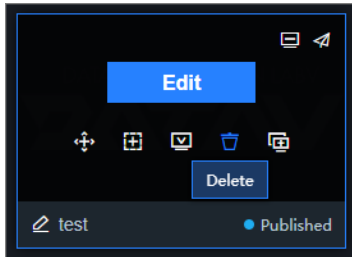
9.Delete a project

This topic describes how to delete a project that is no longer needed to release the project space and quota.

> 🔔 **Warning**   Deleted projects cannot be recovered. Exercise caution when you delete a project.

Procedure

1. Log on to the DataV console.

2. Click **Projects**.

3. Move the pointer over the project you want to delete and click the **Delete** icon.
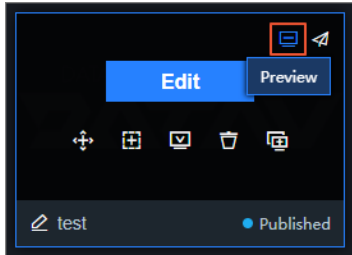
10.Preview a project

This topic describes how to preview a project to check its visual effects.

Procedure

1. Log on to the DataV console.

2. Click **Projects**.

3. Move the pointer over the project you want to preview, and click the **Preview** icon in the upper-right corner.
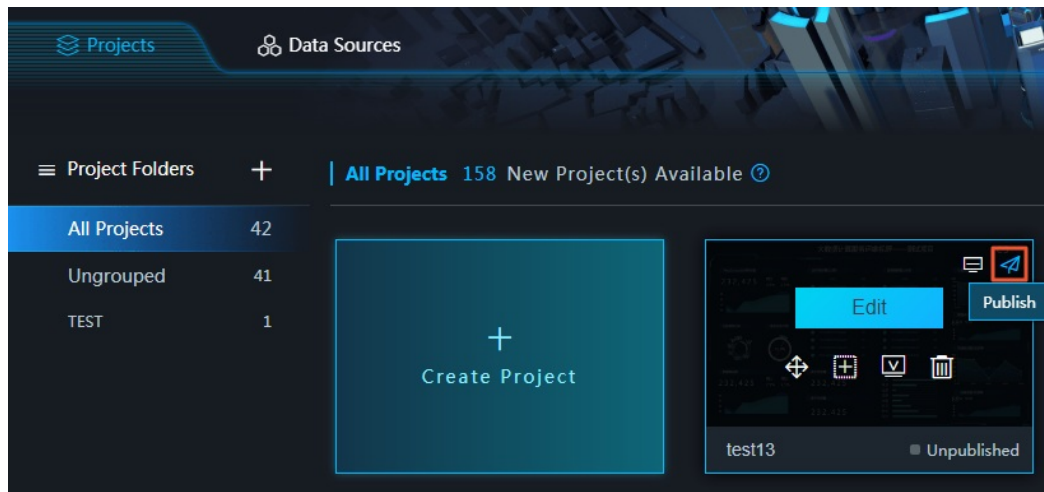

If the project development is complete, you can publish the project, so other users can view it online.

11.Publish a project

This topic describes how to publish a project and configure access control, the authentication methods, and the publish content for the project.

Procedure

1. Log on to the DataV console.

2. Click **Projects**.

3. Select a project and click **Publish**.

4. Turn on **Publish**.
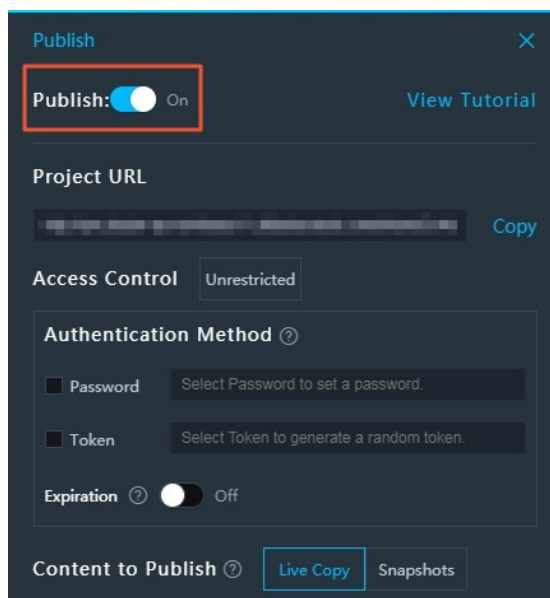
After you turn on **Publish**, the system automatically generates a project URL. Other users can access your project by using this URL. However, this URL takes effect only once when users first access it.

Configure access control

You can make a DataV project public or encrypt it with either one of the following authentication methods:

- Password authentication.
- Token authentication.

For more information about these two authentication methods, see the sections Configure password authentication and Configure token authentication.

Configure password authentication (for Enterprise Edition)

1. In the **Authentication Method** area, select **Password**.

2. In the **Password** field, enter a password. The password must contain at least six characters, including at least one uppercase letter, one lowercase letter, and one number.

   ⑦ **Note**   If a password is set, the console displays a message **The password has been set**.

3. (Optional) Set the **Expiration** date.

   ⑦ **Note**   You can set the expiration date only after you set a password or turn on token authentication.

   ○ If you turn on **Expiration**, you can set the validity period of the password. The maximum validity period is 32 hours. After a user enters the password and accesses the project for the first time, the user can access the project within the validity period without a password.

   ○ If you turn off **Expiration**, users who want to access the project must enter the password.

A password is required when a user accesses the project after the password is set for the first time.
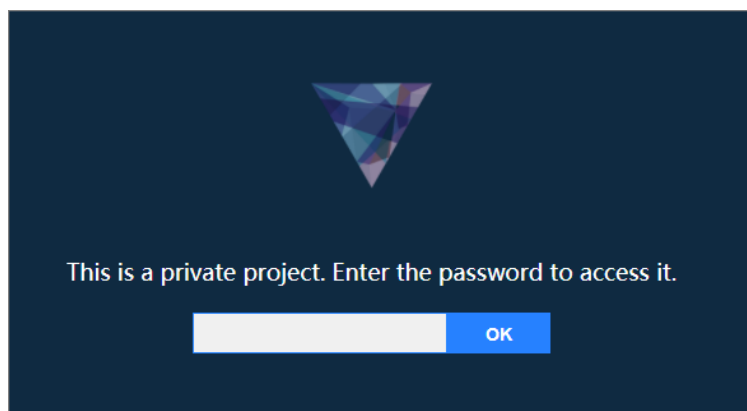
Configure token authentication (for Enterprise Edition)

You can turn on token authentication to publish a project and grant access to this project according to your permissions.

In the **Authentication Method** area, select **Token** and follow these steps:

- (Optional) Set the **Expiration** date.
  - If you turn on **Expiration**, you can set the validity period of the password. The maximum validity period is 32 hours. After a user enters the password and accesses the project for the first time, the user can access the project within the validity period without a password.
  - If you turn off **Expiration**, users who want to access the project must enter the password.

- Obtain the token.

  After you turn on **Token** authentication, DataV automatically generates a token. We recommend that you save this token for subsequent use.
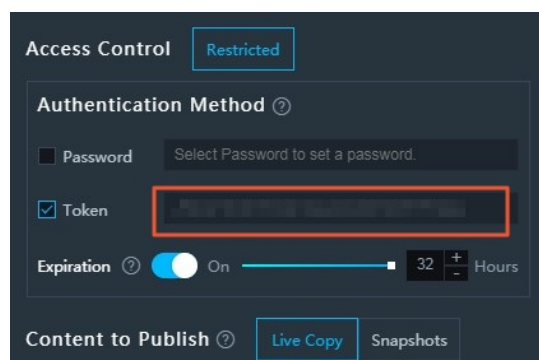
When a user accesses the project by using the URL, the user receives an **Access Denied** message, indicating that the access is rejected. To allow the user to access this project by using the URL, follow these steps:

> ⑦ **Note**   To prevent replay attacks, make sure that your server time is UTC+8. The server time and local time can differ by one minute. If the difference exceeds one minute, the validation fails.

1. Publish a project and save the project code (the last segment of the project URL).

2. Separate the project code and the current time (in milliseconds) with a vertical bar (|).

3. Use the token to encrypt the preceding string through HMAC-SHA256 Base64.

4. Name the time and the encrypted signature as _datav_time_ and _datav_signature_ respectively.

5. Insert the time and the encrypted signature in the query string of the _url_ parameter.

> ⑦ **Note**   If you use the GET method to pass parameters in your project URL, we recommend that you use the token signature validation for security. For more information, see Check the validity of digitally signed parameters in a token.

Examples:

- PHP:

```php
<?php
  $token = "kBwoX9rFX9v4zbOT0Gjd_wr65DZ3P_WW";
  $screenID = "03d1b68faeb09671046d1ef43f588c33";
  $time = time()*1000;
  $stringToSign = $screenID.'|'.$time;
  $signature = urlencode(base64_encode(hash_hmac('sha256', $stringToSign, $token, true)));
  $url = "http://local.datav.aliyun.com:9999/share/".$screenID."?_datav_time=".$time."&_datav_signature=".$signature;
?>
<iframe width=100% height=100% src="<?=$url?>"/>
```

- Node.js:

```javascript
const crypto = require('crypto');
var token = "Ev97wOUSAtJusc3Vsd9O2ngr_vfVFH67";
var screenID ="14c5448c00ecde02b065c231d1659f38";
var time = Date.now();
var stringToSign = screenID +'|'+ time;
var signature = crypto.createHmac('sha256', token).update(str).digest().toString('base64');
var url="http://datav.aliyun.com/share/"+ screenID +"?_datav_time="+time+"&_datav_signature="+ encodeURIComponent(signature);
```

- Java:

```
package com.company;
import java.security.*;
import java.util.Date;
import javax.crypto.*;
import javax.crypto.spec.SecretKeySpec;
import org.apache.commons.codec.binary.Base64;
import java.net.URLEncoder;
public class TokenTest {
    public static String getSignedUrl(String screenID, String token){
        Date date = new Date();
        Long time = date.getTime();
        String stringToSign = screenID + "|" + time;
        String signature = HMACSHA256(stringToSign.getBytes(), token.getBytes());
        String url = "http://datav.aliyun.com/share/"+ screenID +"?_datav_time="+time+"&_datav_signature="+ signat
ure;
        return url;
    }
    /**
     *  SHA256 encryption by using the native abstraction of Java
     * @param str Encrypted packet
     * @return
     */
    public static String HMACSHA256(byte[] data, byte[] key)
    {
        try  {
            SecretKeySpec signingKey = new SecretKeySpec(key, "HmacSHA256");
            Mac mac = Mac.getInstance("HmacSHA256");
            mac.init(signingKey);
            return URLEncoder.encode(byte2Base64(mac.doFinal(data)));
        } catch (NoSuchAlgorithmException e) {
            e.printStackTrace();
        } catch (InvalidKeyException e) {
            e.printStackTrace();
        }
        return null;
    }
    private static String byte2Base64(byte[] bytes){
        return Base64.encodeBase64String(bytes);
    }
    public static void main(String[] args) throws Exception {
        System.out.println(getSignedUrl("screenId", "token"));
    }
}
```

Configure the publish content (for Enterprise Edition)

You can set the version of the project that other users can access. By default, the latest version is displayed. You can also display an existing version as needed.

- If you click **Live Copy**, all modifications made on the canvas are synchronized to the project in real time. Users can view the modifications after you publish the latest project.
- If you click **Snapshots**, only the snapshot of the project content is displayed. Modifications made on the canvas are not synchronized to the project, but can be used as a backup for previewing a project version. To publish a snapshot, follow these steps:

    i. In the **Content to Publish** area, click **Snapshots**.

    ii. Click **Create Snapshot**. The current project configurations are saved as a snapshot.

    > ⑦ **Note**   You can enter a note for the snapshot as needed. The snapshot data is saved if **Publish** is turned off.

    iii. Click **Create Snapshot** to add an existing snapshot. Currently, you can create up to three snapshots.

    iv. Click the **Delete** icon to delete a snapshot that you no longer need.

    > ⑦ **Note**   Currently, you can only switch among a snapshot and the real-time version. A snapshot cannot be restored after it is deleted. Therefore, we recommend that you exercise caution when performing this action.

v. Click the green icon (outlined in red in the following figure) to switch among snapshots.
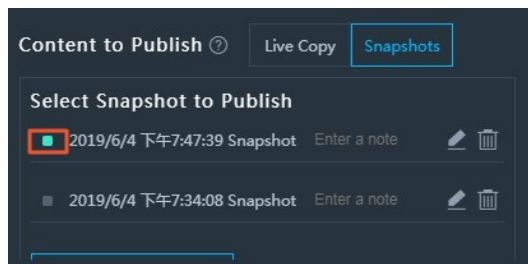
vi. Refresh the publish page to view the publish content.

12.Check the validity of digitally signed parameters in a token

This topic describes how to check the validity of digitally signed parameters in the token for a DataV project.

To do so, log on to the DataV console and navigate to the **Publish** page to enable token authentication when you publish a project. This validity check helps to authenticate the digitally signed parameters that are passed in your project URL. In addition, it protects these parameters against unauthorized changes, improving the overall security of your profile and project data.

Background information

Assume that your employee ID is **123** and you publish a DataV project to your system. The system calculates the project URL by using a token. After you pass your employee ID workid to the system by using the GET method as follows, the system presents your project data: `https://datav.aliyun.com/share/xxx?` `_datav_time=1556022195845&_datav_signature=%2BDZFj3QDIla%2F00fBZLdJMgk2Z1Ocs9MLL1******%3D&workid=123` .

However, you can change the value of the workid parameter in the project URL as the one that follows to view the profile and project data of the user with the employee ID **124**: `https://datav.aliyun.com/share/xxx?` `_datav_time=1556022195845&_datav_signature=%2BDZFj3QDIla%2F00fBZLdJMgk2Z1Ocs9MLL1******%3D&workid=124` .

Therefore, the system must be able to digitally sign such parameters and check the validity of these parameters so to protect against unauthorized changes when they are passed in the URL. If a user changes the value of a digitally signed parameter without authorization, the requested URL becomes inaccessible as a result.

Prerequisites

- Your project is published with token authentication enabled. For more information, see Configure token authentication.
- The GET method is used to pass the parameters that must be protected against unauthorized changes, with these parameters added to the end of your project URL.

Digitally sign a parameter

The name of a digitally signed parameter starts with a `datav_sign_` string. This string can be followed by any valid characters that comprise the parameter name. As such, the regular expression for the name of a digitally signed parameter is `/^datav_sign_.*/` .

If a parameter does not comply with the preceding rule, it will not be digitally signed. Furthermore, the system does not check its validity and its value can be changed.

Calculate a URL with digitally signed parameters

You can run the following Node.js code to calculate a URL with digitally signed parameters:

Manage Projects·Check the validity
of digitally signed parameters in a t
oken

DataV

```
const crypto = require('crypto');
const querystring = require('querystring');
const signedQueryParamReg = /^datav_sign_.*/;  // A parameter that complies with the regular expression needs to be
digitally signed.
const token = "93TWnmeBtxxxxxxxxxx3thGyAgzennsS";
const screenID ="b92xxxxxxxxxxxxxxxxxx27b4c538cd4";
const time = Date.now();
const customeParams = {
  datav_sign_no: 123998,
  name: 123
};
let signParamsStr = Object.keys(customeParams)
  .filter(paramName => customeParams[paramName] && signedQueryParamReg.test(paramName))
  .sort()
  .map(param => `${param}=${customeParams[param]}`)
  .join('&');
let stringToSign = [screenID, time];
signParamsStr && stringToSign.push(signParamsStr);
stringToSign = stringToSign.join('|');
let signature = crypto.createHmac('sha256', token).update(stringToSign).digest().toString('base64');
let queryParams = {
  _datav_time: time,
  _datav_signature: signature
};
Object.keys(customeParams).forEach(paramName => {
  queryParams[paramName] = customeParams[paramName];
});
let url = `http://datav.aliyun.com/share/${screenID}?${querystring.stringify(queryParams)}`;
console.log(url);
```

The URL you obtain is as follows:

```
http://datav.aliyun.com/share/b92db8e09358c82efca0727b4c538cd4?
_datav_time=1556023246894&_datav_signature=GGSbvxlemUeBoRVco8JgrJVWRcmao7NuRYt2O******%3D&datav_sign_no=123998&name=123
```

Within the validity period of the URL:

If you change the value of the datav_sign_no parameter, the URL becomes inaccessible. This is because this parameter complies with the parameter-signing rule and is digitally signed. Therefore, changing the value of this parameter affects the URL calculation.

If you change the value of the name parameter, the URL remains accessible. This is because this parameter does not comply with the parameter-signing rule and is not digitally signed. Therefore, changing the value of this parameter does not affect the URL calculation.

For information about the parameter-signing rule, see Digitally sign a parameter.

Perform the validity check

1. Determine which parameters must be digitally signed. That is, which parameters cannot be changed without authorization.

2. Publish a DataV project when you enable token authentication. For more information, see Publish a project.

3. Calculate the URL of the project. For more information, see Calculate a URL with digitally signed parameters.

4. Use the URL obtained from the previous step to access the project. The system automatically checks the validity of digitally signed parameters.

   If you attempt to access the project after changing the value of a digitally signed parameter, your access request is denied.