

DIGITALENT X ALIBABA CLOUD ACADEMY



HOW TO SET UP A PERSONAL ALBUM USING OSS ON ALIBABA CLOUD

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JAKARTA

2024

How to Set Up a Personal Album Using OSS

1. Introduction

In this lab, I will demonstrate how to use Alibaba Cloud OSS to set up a personal album application. I will also explain how to customize images using Alibaba Cloud OSS's powerful image processing functions, such as scaling and watermarking.

To accomplish this, I will deploy the Ghost blog system on an ECS instance to create my personal album.

Reminder: When I complete this lab, I must remember to sign out of my temporary Alibaba Cloud account.

1.1 Key Points

This lab covers the following key points:

- Uploading original images to the OSS console and viewing them
- Learning how to manage OSS images online
- Deploying the Ghost blog system on an ECS instance
- Setting up a local album application using images stored in OSS

1.2 Procedure

- Upload original images to OSS
- Learn to manage OSS images online
- Set up a Ghost application on an ECS instance
- Set up a personal album using Ghost

1.3 Cloud Resources

- ECS instance: Ubuntu 16.04.2 LTS
- Alibaba Cloud OSS console

1.4 Prerequisites

The system has automatically assigned a username and password for logging into the Alibaba Cloud console, created an ECS instance with an Ubuntu environment, and created an OSS bucket.

1.5 Hint

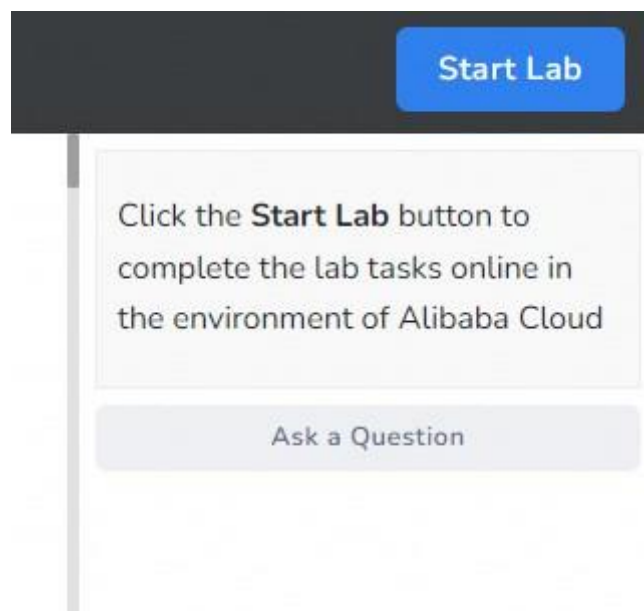
If I encounter differences between the lab environment and the captured images in the lab manual, these might be due to cloud portal version differences, which should not significantly impact my lab experience. I can provide feedback by clicking "**Comment**," and the document will be updated as needed.

2. Getting Started

2.1 Start the Lab Environment

If I have just completed a lab session, I should log out of my Alibaba Cloud account before starting a new lab to avoid issues with a new session in the same browser.

To begin, I will click "**Start Lab**" in the upper-right corner.



Once the environment is ready, the system will auto-deploy essential resources, such as ECS and RDS instances, Server Load Balancers, OSS buckets, etc. I will receive login credentials for the Alibaba Cloud Web console.

Remaining Time: 110:00 [Stop Lab](#)

Log on the Lab Environment of Alibaba Cloud

Username:
LabEx-DpgBw@labex911.ona... 

Password:
JfISePRMLU 

[Open The Console](#)


Having login issues?
[Check Troubleshooting Guide](#)


A countdown timer starts when the environment is ready, giving me two hours to complete the lab. I need to monitor the time and plan accordingly.

Next, I click "**Open the Console**" to access the Alibaba Cloud RAM login page. Using the provided Username and Password, I log in and access relevant resources.

Remaining Time: 109:25 [Stop Lab](#)

Log on the Lab Environment of Alibaba Cloud

Username:
LabEx-DpgBw@labex911.ona... 

Password:
JfISePRMLU 

[Open The Console](#)

Having login issues?
[Check Troubleshooting Guide](#)

Remaining Time: 108:25

Stop Lab

Log on the Lab Environment of Alibaba Cloud

Username:

LabEx-DpgBw@labex911.ona...



Password:

JfISePRMLU



Open The Console

Having login issues?
[Check Troubleshooting Guide](#)

RAM User Logon

* Username

LabEx-DpgBw@labex911.onaliyun.com



Example: username@company.onaliyun.com or username@company-alias.

Next

[Logon with Alibaba Cloud Account](#)

Remaining Time: 108:06

Stop Lab

Log on the Lab Environment of Alibaba Cloud

Username:

LabEx-DpgBw@labex911.ona... 

Password:

JfISePRMU 

Open The Console

Having login issues?
[Check Troubleshooting Guide](#)

< Hi LabEx-DpgBw

* Password

.....

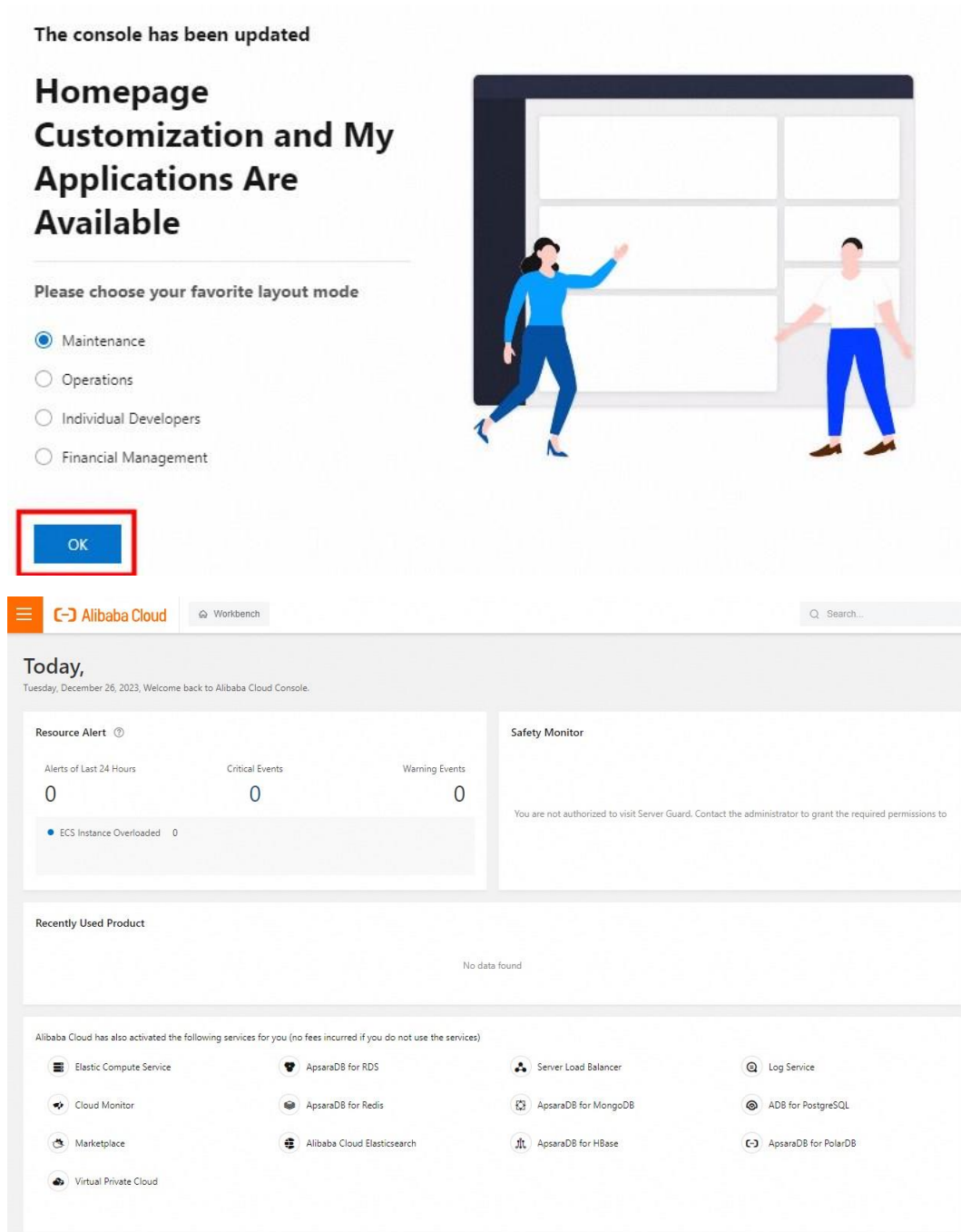


If you forget your password, use your Alibaba Cloud account or the RAM user that has administrative rights to log on to the RAM console and reset the password.

Log On

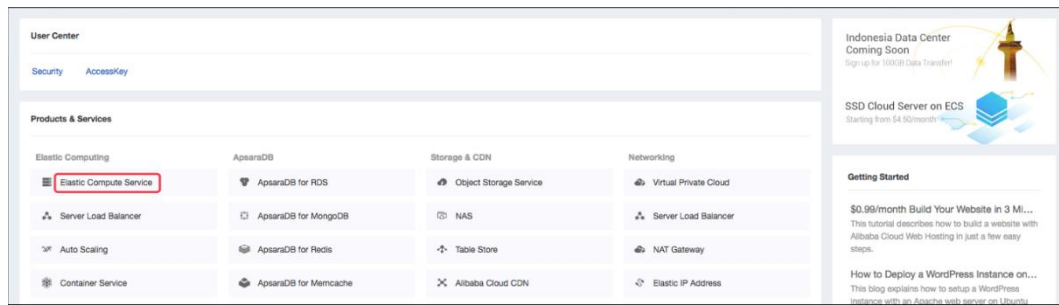
[Logon with Alibaba Cloud Account](#)

After I successfully logging in, click **OK** to view the main console page.

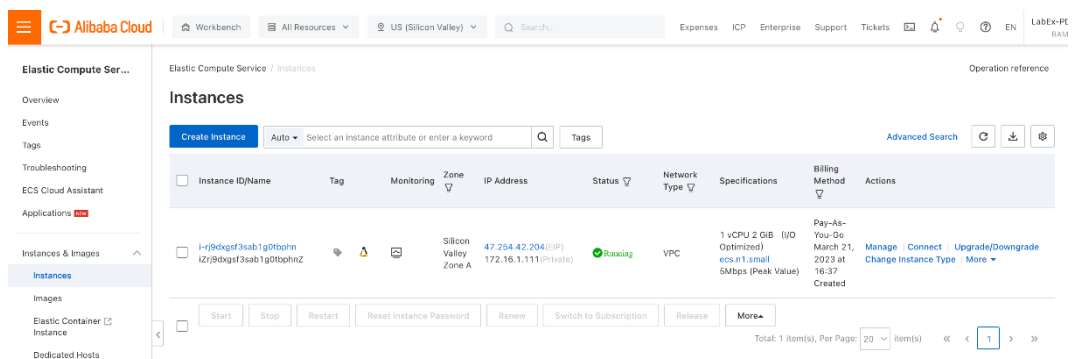
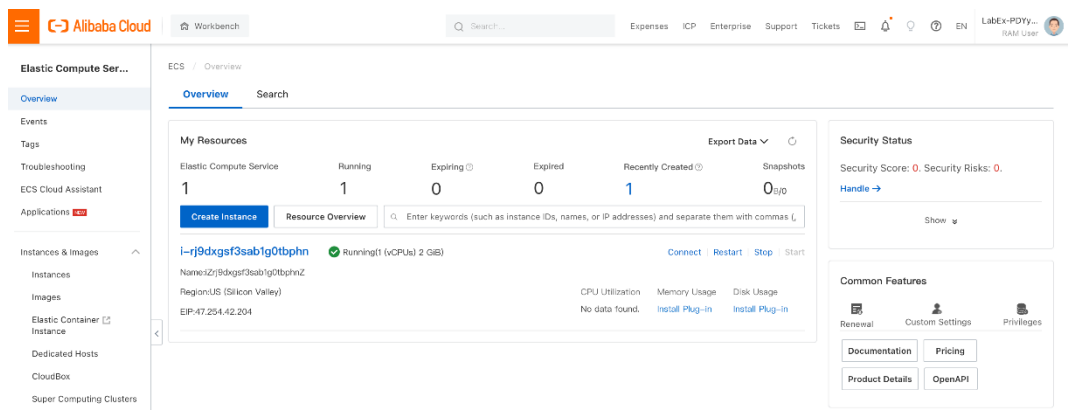


2.2 View ECS instances

I Click **Elastic Computer Service**, as shown in the following picture

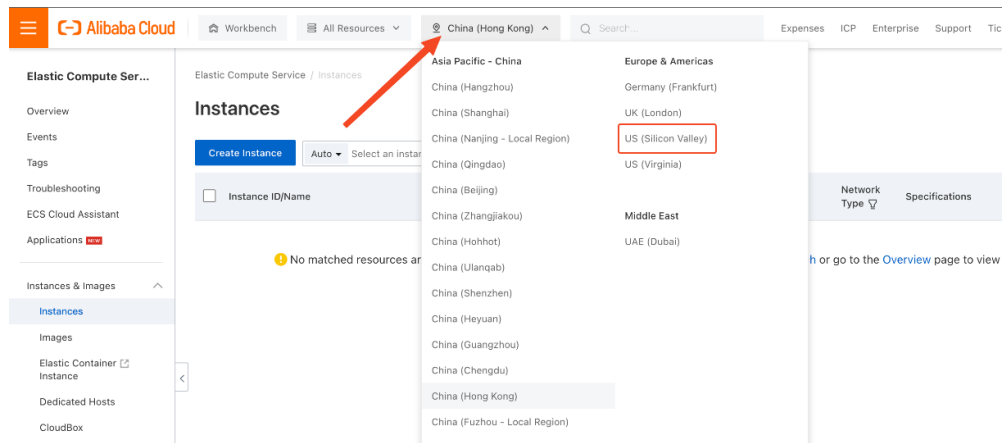


In the ECS console, I can see one running instance in the US (Silicon Valley) region. I click on it to view more details, including configuration, Private IP, and Elastic IP Address (EIP) for remote access.

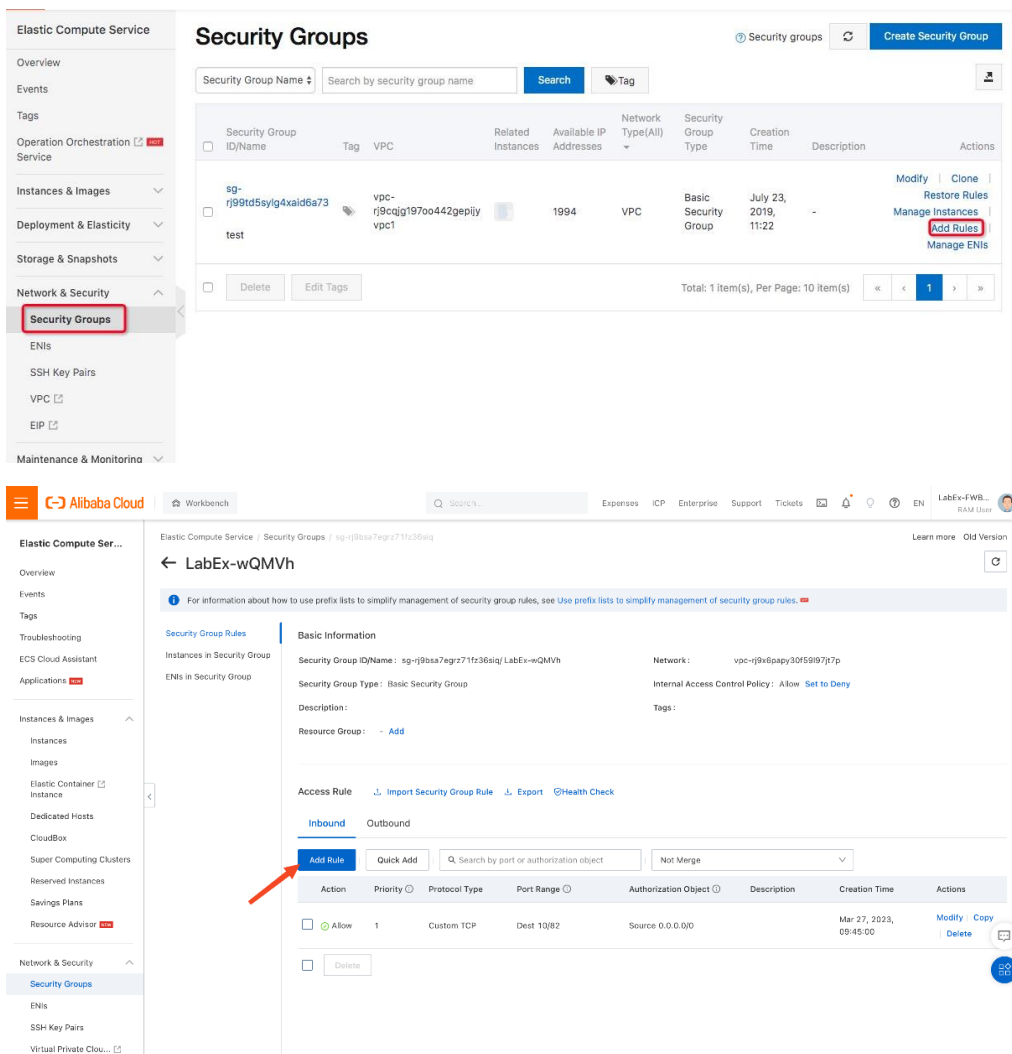


Because of I don't see instances in the Indonesian region, I switch to the US (Silicon Valley) region.

The same applies when using other services.



Following the instructions in the image, I will first modify the security group rules. I click **"Add Security Group Rule"** and add a rule to open port 3268, which I will use later, then click **"Save."**



For information about how to use prefix lists to simplify management of security group rules, see [Use prefix lists to simplify management of security group rules](#).

Security Group Rules

Instances in Security Group

ENIs in Security Group

Basic Information

Security Group ID/Name : sg-rj9bsa7egrz71fz36slq/ LabEx-wQMVh

Network : vpc-rj9x6papy30f59l97p

Security Group Type : Basic Security Group

Internal Access Control Policy : Allow [Set to Deny](#)

Description :

Tags :

Resource Group : - [Add](#)

Access Rule [Import Security Group Rule](#) [Export](#) [Health Check](#)


Inbound Outbound

[Add Rule](#) [Quick Add](#)

Action	Priority	Protocol Type	Port Range	Authorization Object	Description	Actions
Allow	1	Custom TCP	* Dest 10/3268	* Sour 0.0.0.0/0		Save Preview Delete
Allow	1	Custom TCP	Dest 10/82	Source 0.0.0.0/0		Modify Copy Delete

2.3 View the OSS bucket

Since I am using OSS in this lab, I need to create a bucket to store data. The system has already created a default bucket, so I can view and use it directly.

 [Workbench](#) [Global](#) [Expenses](#)

Products and Services

Favorite list is empty, you can add products to Favorites from the right.

Popular Products

- Elastic Compute Service
- Domains
- Alibaba Cloud DNS
- Resource Access Management
- Server Load Balancer
- Alibaba Cloud CDN
- Object Storage Service

Recent Visits

Object Storage Service Elastic Compute Service Home Console

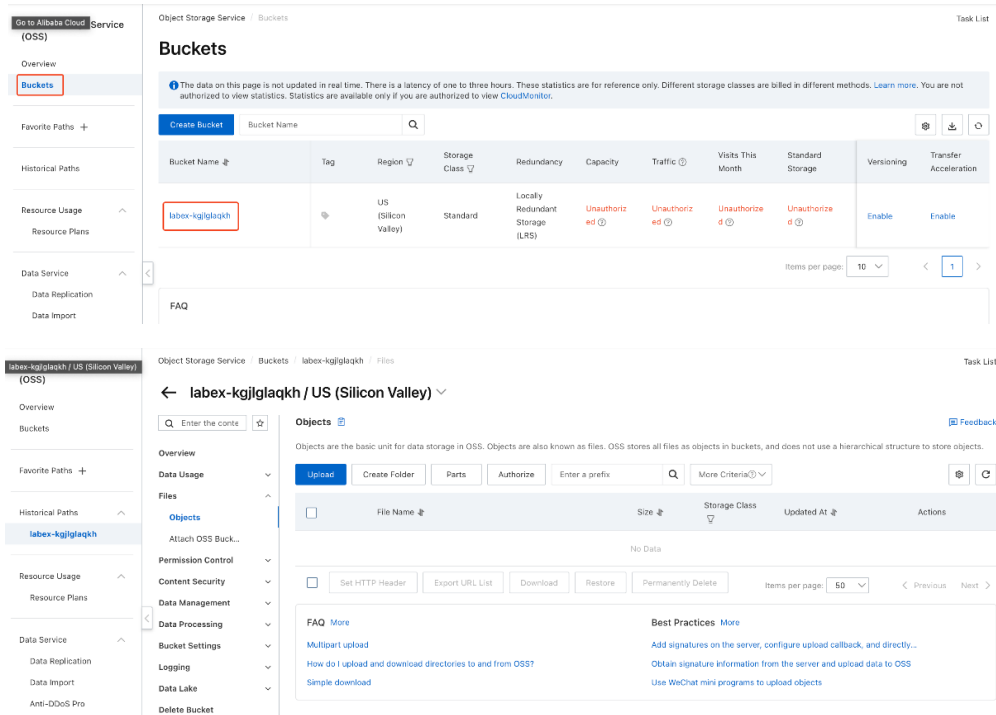
A total of 1 products related to **object** are found.

Storage

Basic Storage Services

Object Storage Service

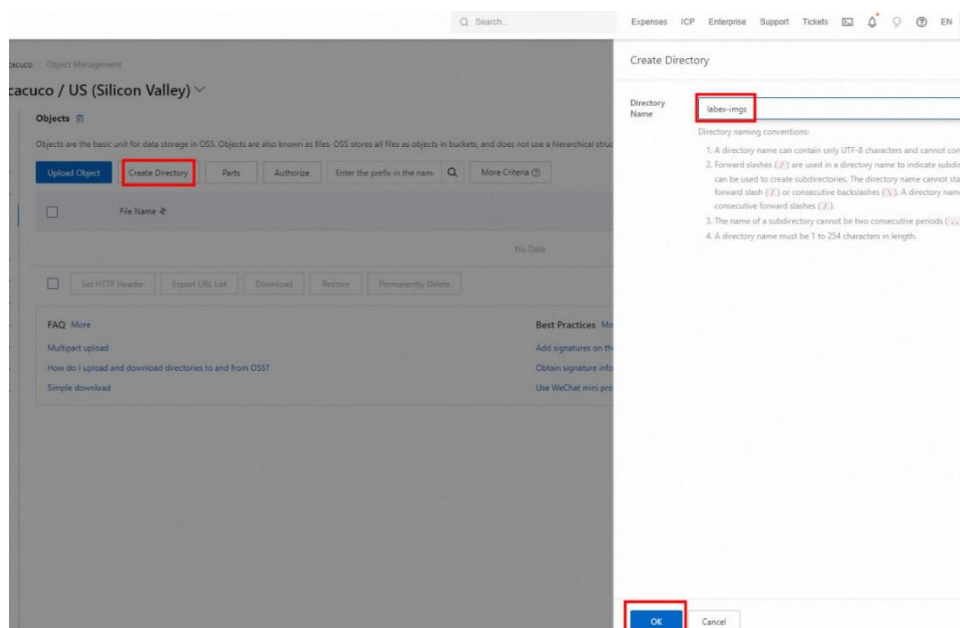
I click the bucket name to view more details.



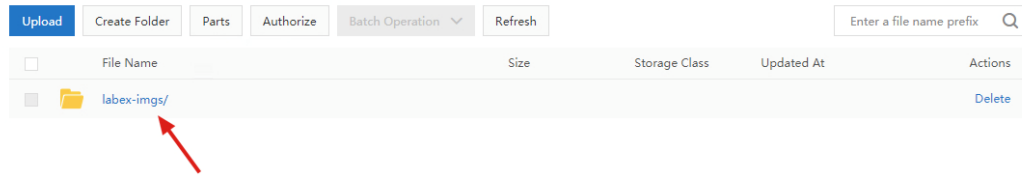
The screenshot shows the Alibaba Cloud OSS console. The top navigation bar includes 'Go to Alibaba Cloud Service (OSS)', 'Overview', 'Buckets', 'Favorite Paths', 'Historical Paths', 'Resource Usage', 'Data Service', and 'Data Import'. The main content area is titled 'Buckets' and displays a table of buckets. The bucket 'labex-kgjlglaqkh' is highlighted. Below the table, there is a 'FAQ' section. The bottom section shows the details of the 'labex-kgjlglaqkh' bucket, including 'Overview', 'Data Usage', 'Files', 'Objects', 'Permission Control', 'Content Security', 'Data Management', 'Data Processing', 'Bucket Settings', 'Logging', 'Data Lake', and 'Delete Bucket'. The 'Objects' section is currently selected, showing a list of objects and a 'Create Directory' button.

2.4 Use the OSS console to manage image resources

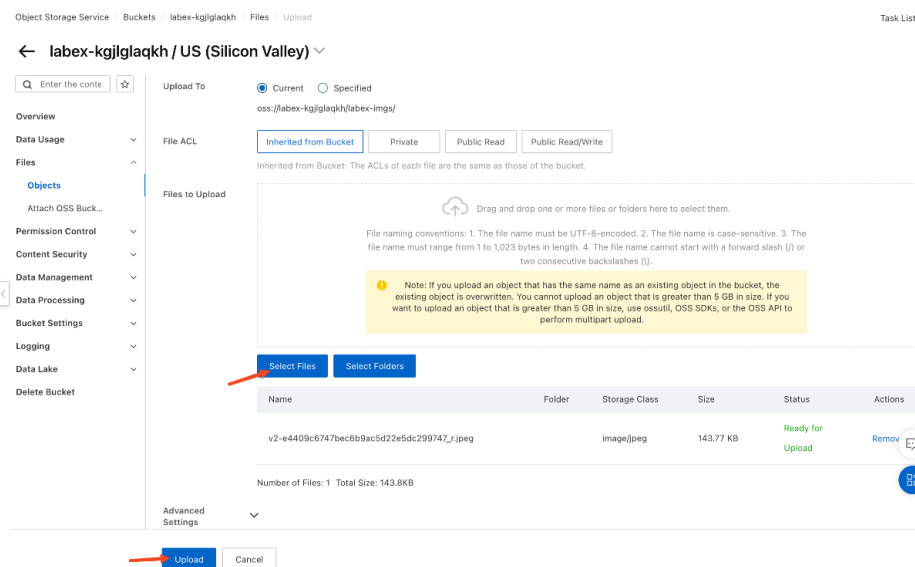
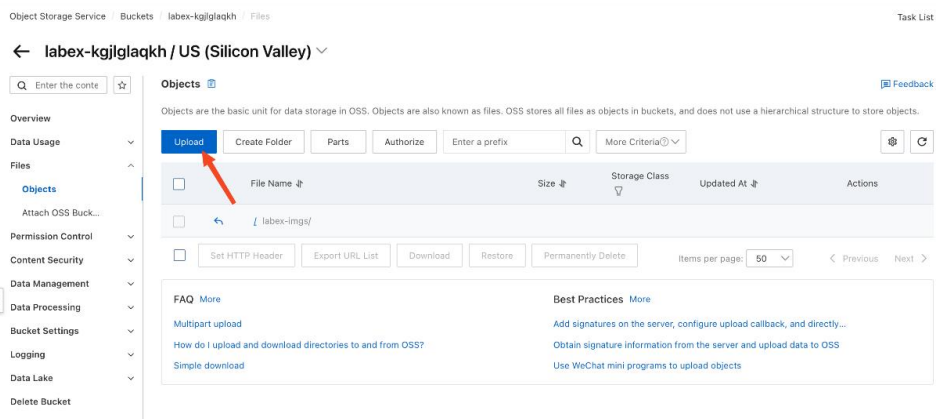
To make it easier to manage uploaded files, I click "Create Directory" to set up a directory.



The screenshot shows the 'Create Directory' dialog box in the Alibaba Cloud OSS console. The dialog box has a 'Directory Name' field with the value 'labex-imgs' entered. Below the field, there are 'Directory naming conventions' listed. At the bottom of the dialog box, there are 'OK' and 'Cancel' buttons. The 'OK' button is highlighted with a red box.



I enter the labex-imgs directory and click the **"Upload"** button to upload files. I can either drag or select files to upload. After uploading, I can see a list of images, although no images are provided, so I will need to upload my own test image.



Upload

Create Folder

Parts

Authorize

Batch Operation

Refresh

Enter a file name prefix

	File Name	Size	Storage Class	Updated At	Actions
	labex-imgs/				
	[267]-[Use Metabase For Database Visual Analysis].png	88.159KB	Standard	Sep 16, 2020, 16:16:16	View Details More
	[268]-[Play Online Videos Stored In Alibaba Cloud E-MapRedu...]	113.328KB	Standard	Sep 16, 2020, 16:16:26	View Details More

100 / Files

Versioning

Unversioned

Access Control List (ACL)

Public Read/Write

Type

Standard(Locally Redundant Storage)

Region

US (Silicon Valley)

Created At

Sep 16, 2020, 15:53

Upload

Create Folder

Parts

Authorize

Batch Operation

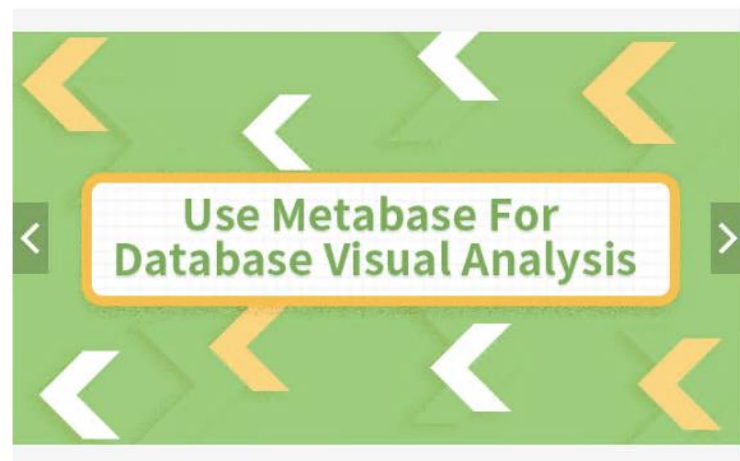
Refresh

Enter a file name prefix

	File Name	Size	Storage Class	Updated At	Actions
	labex-imgs/				
	[267]-[Use Metabase For Database Visual Analysis].png	88.159KB	Standard	Sep 16, 2020, 16:16:16	View Details More
	[268]-[Play Online Videos Stored In Alibaba Cloud E-MapRedu...]	113.328KB	Standard	Sep 16, 2020, 16:16:26	View Details More

View Details

Image Processing



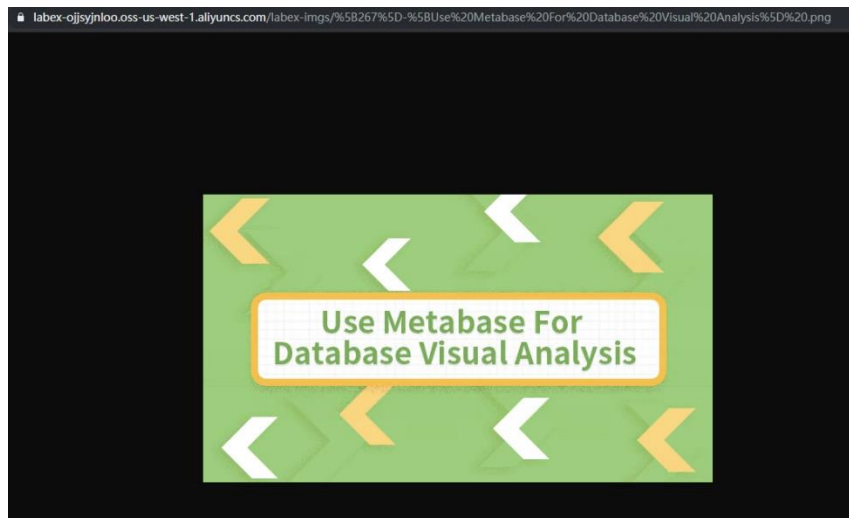
File Name labex-imgs/[267]-[Use Metabase For Database Visual Analysis].png [Copy](#)

ETag 6D2B71AB8F6455635FFA350DEEFE0928

HTTPS ☒

URL <https://labex-ojjsynl00.oss-us-west-1.aliyuncs.com/labex-imgs/%5B267%5D-%5BUse%20Metabase%20For%20Database%20Visual%20Analysis%5D%20.png>

[Download](#) [Copy File URL](#)

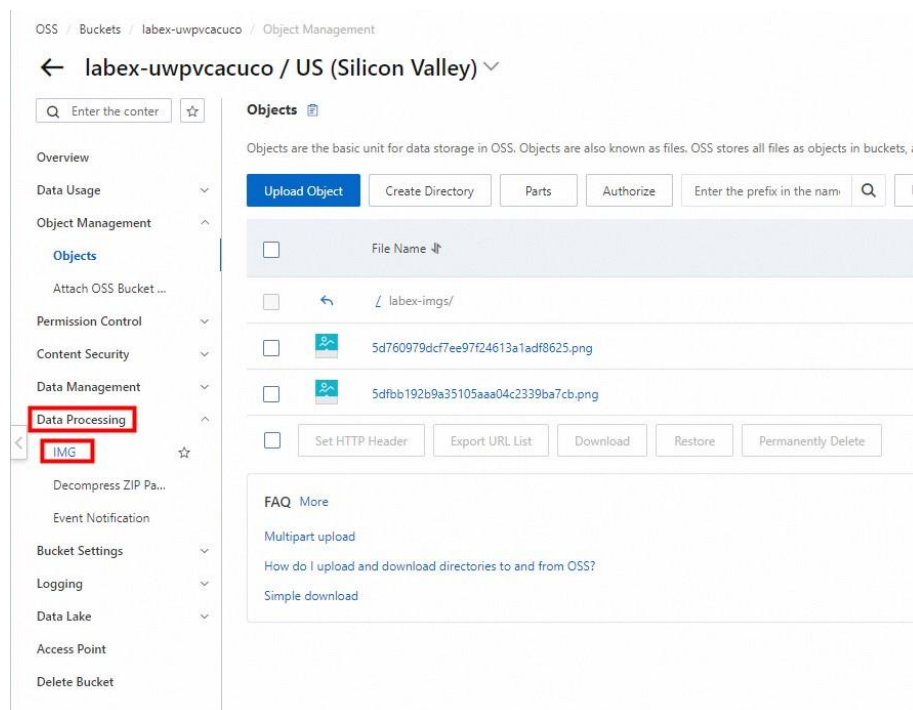


By following these instructions, I can use the Alibaba Cloud OSS service to store my picture resources. The OSS service also allows for storing other resource types.

2.5 Add watermark

The OSS storage service provides multiple options for processing image resources. For instance, I can specify a domain name to view images for copyright protection. Here, I will add a watermark for added protection.

To add a watermark, I select IMG to enter the image processing console, then click "Create Style."



OSS / Buckets / labex-uwpvcacuco / IMG

← labex-uwpvcacuco / US (Silicon Valley) ▾

Q Enter the conter ☆

Overview ☆

Data Usage ▾

Object Management ▾

Permission Control ▾

Content Security ▾

Data Management ▾

Data Processing ▾

IMG

Decompress ZIP Pa...

Event Notification

Bucket Settings ▾

Logging ▾

Data Lake ▾

Access Point

Delete Bucket

IMG ⓘ

You can include image processing (IMG) parameters, such as the watermark parameter and the parameter that is used convert the form

ⓘ When you use the IMG feature, you are charged data processing fees, API operation calling fees, and traffic fees. [Learn More](#)

URL Format for Image Processing ⓘ

Default: `Domain Name/sample.jpg?x-oss-process=style/stylename`

Style Management

Create Style Import Style Export Style Access Settings Delete

<input type="checkbox"/>	Rule Name	Code

FAQ More

[Image resizing](#)

[Image watermark](#)

[Advanced image compression](#)

Create Style

Basic Settings Advanced Settings

Rule Name ⓘ 9/63

Naming conventions:

1. The rule name must be 1 to 63 characters in length.
2. The rule name can contain only digits, letters, underscores (`_`), hyphens (`-`), and periods (`.`).

Image

Format Conversion

Progressive Display ⓘ ☐

Auto Orientation ⓘ ☒

Quality ⓘ

90

Resize

Resize Type

Effects

Brightness 0

Contrast 0

Full Screen

`image/auto-orient,1/quality,q_90/watermark,text_aGVsbG8gbGFiZXg,size_40,x_10,y_10`

Replicate

OK Cancel

Create Style

Blur

Radius

5

Deviation

5

Rotate

0

Watermark

No Watermark

Image

Text

hello labex

11/16

Font

Default Font

40

px

Color

Rotation Angle

0

Tiling

Shadow

Watermark Transparency

100

Position

↖

↑

↗

←

→

↔

↙

↓

↘

Y Margin

10

px

X Margin

10

px

Full Screen

image/auto-orient,1/quality,q_90/watermark,text_aGVsbG8gbGFiZXg,size_40,x_10,y_10

Replicate

OK

Cancel

In the dialog box, I set the "Style Name" to img-style and choose "Text Watermark" with the content set as "labex."

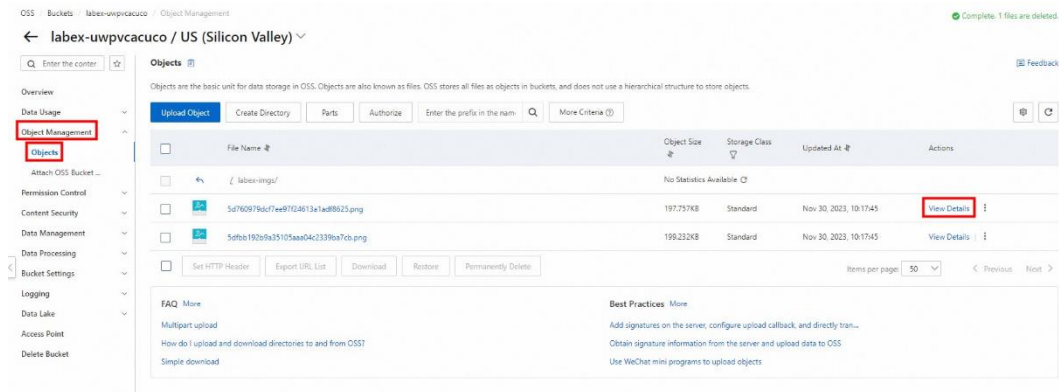
- **Style Name : **img-style
- **Watermark : **Text Watermark
- **Text Content : **labex

This will preview the watermark effect on the right side. I can experiment with other settings if I choose, then click "OK" to apply the changes.

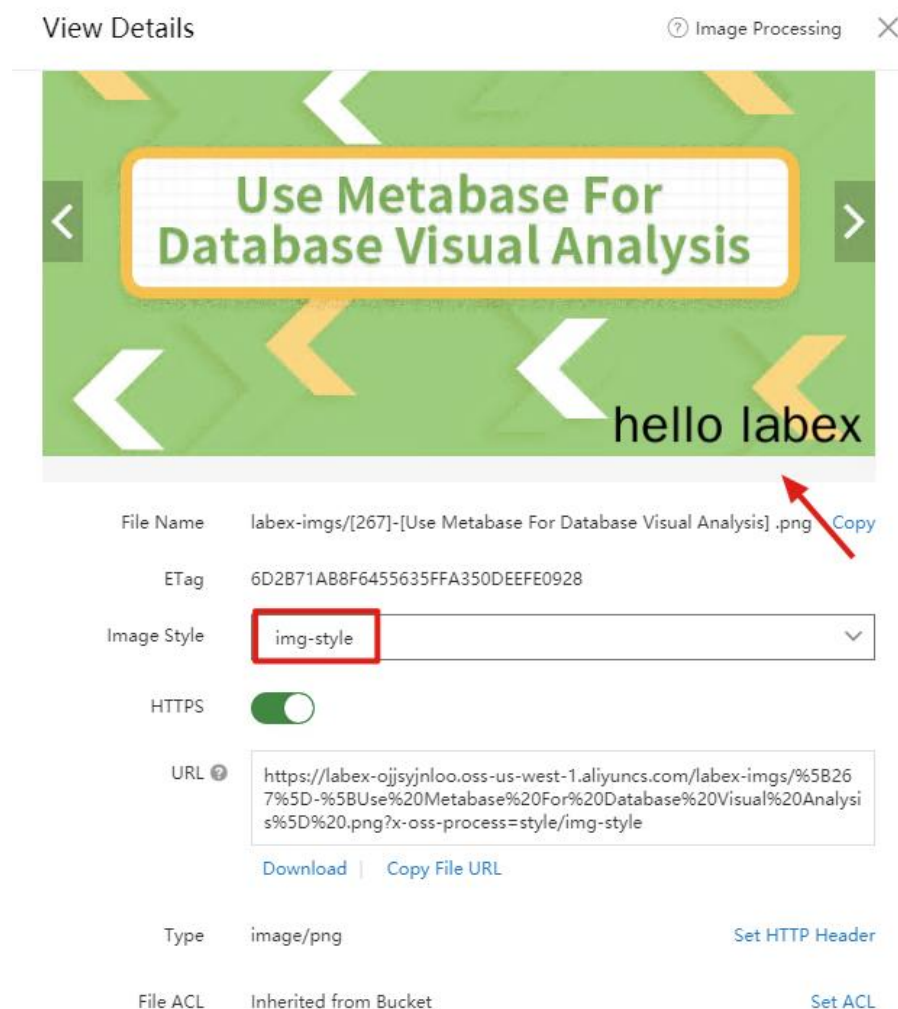
Style Management		
<div> <div>Create Style</div> <div>Import Style</div> <div>Export Style</div> <div>Access Settings</div> <div>Delete</div> </div>		
<input type="checkbox"/>	Rule Name	Code
<input type="checkbox"/>	img-style	image/auto-orient,1/quality,q_90/watermark,text_aGVsbG8gbGFiZXg,size_40,x_10,y_10
<div> <div>FAQ More</div> <div> <div>Image resizing</div> <div>Image watermark</div> <div>Advanced image compression</div> </div> <div> <div>Format conversion</div> <div>Image quality adjustment</div> <div>Save processed images</div> </div> </div>		

Click "Edit" to modify the style, and "Delete" to delete the style.

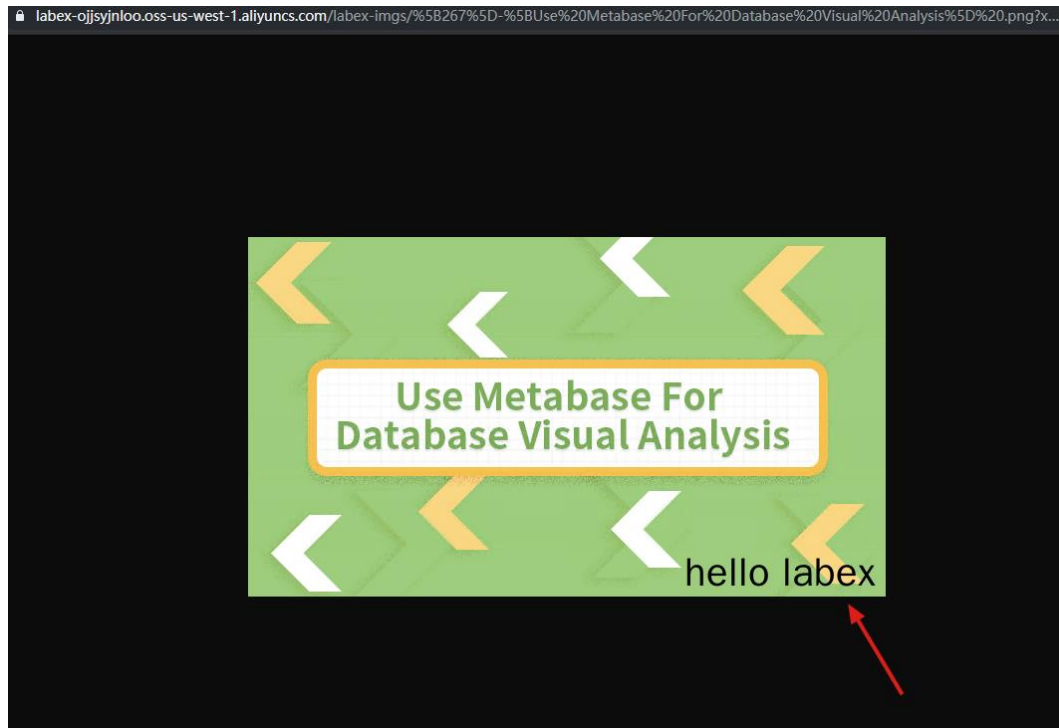
If i want to edit the picture, go back to Files management page, view picture list and click **View Details**.



In **Image Style**, select **img-styles** i just created and i can see that the URL has changed and watermark is added in image preview.



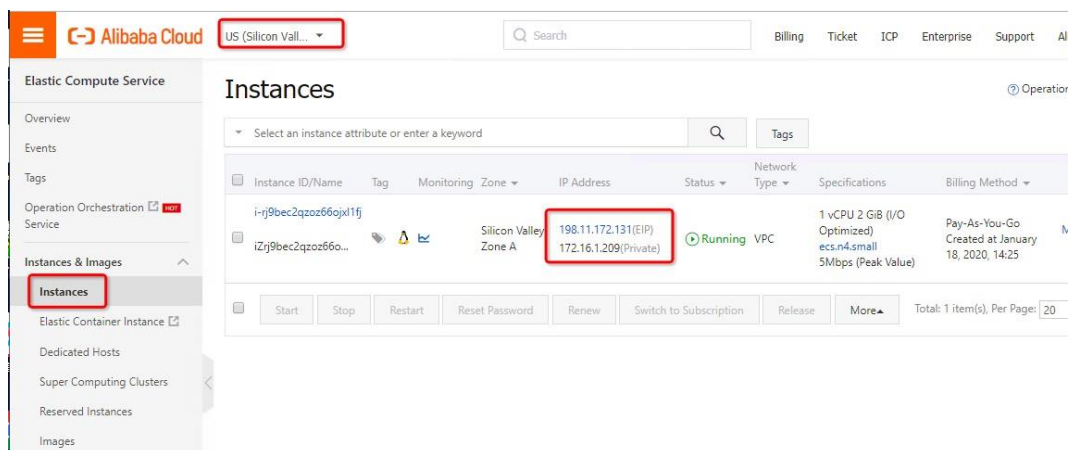
Copy the image URL address after applying the watermark style and access it in the browser:



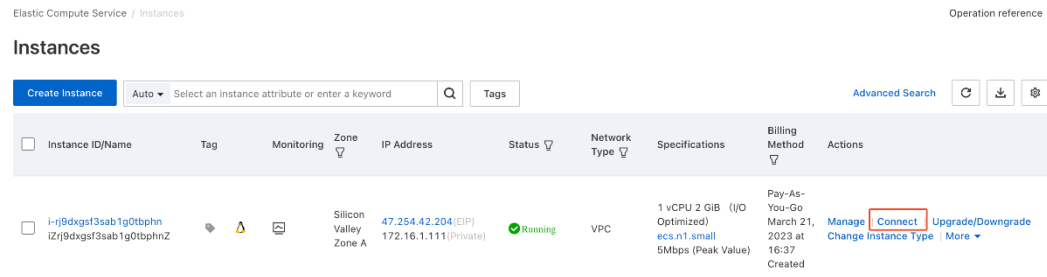
3. Set up the Ghost Blog System on the ECS Instance

3.1 Remotely log on to the ECS instance

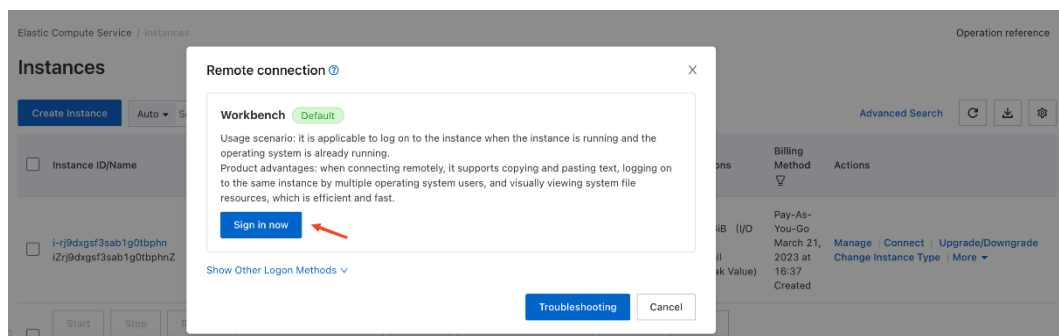
After checking my running ECS instance in the console, I can now remotely log on to it and deploy the application. First, I view the IP address (EIP) of the ECS instance.



In the ECS console, I locate the target ECS instance and click **"Connect"** in the Actions column.



Alibaba Cloud provides a useful tool called Workbench, which is a terminal program that runs in the browser and connects seamlessly to my instance, offering advanced features. If I want to use Workbench, I click **"Sign in now."**

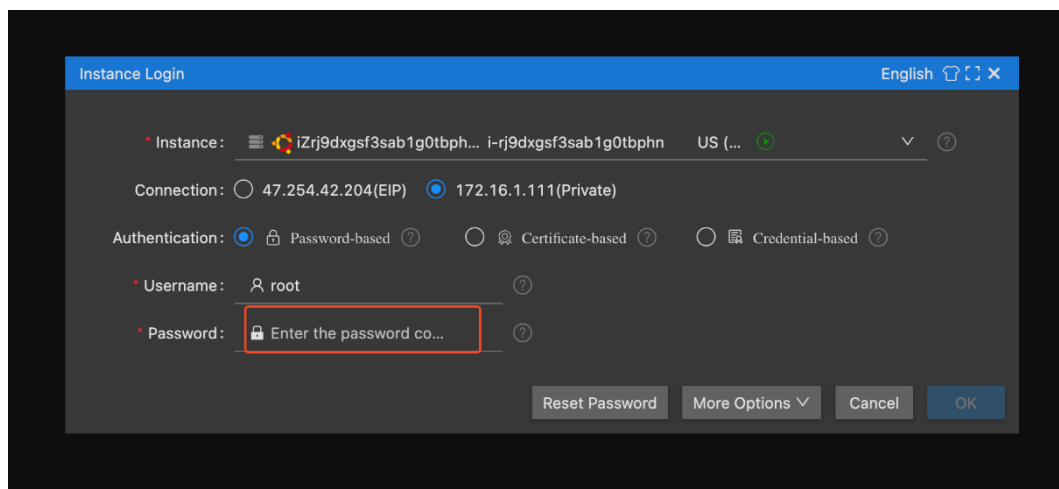


The default account name and password of my ECS instance:

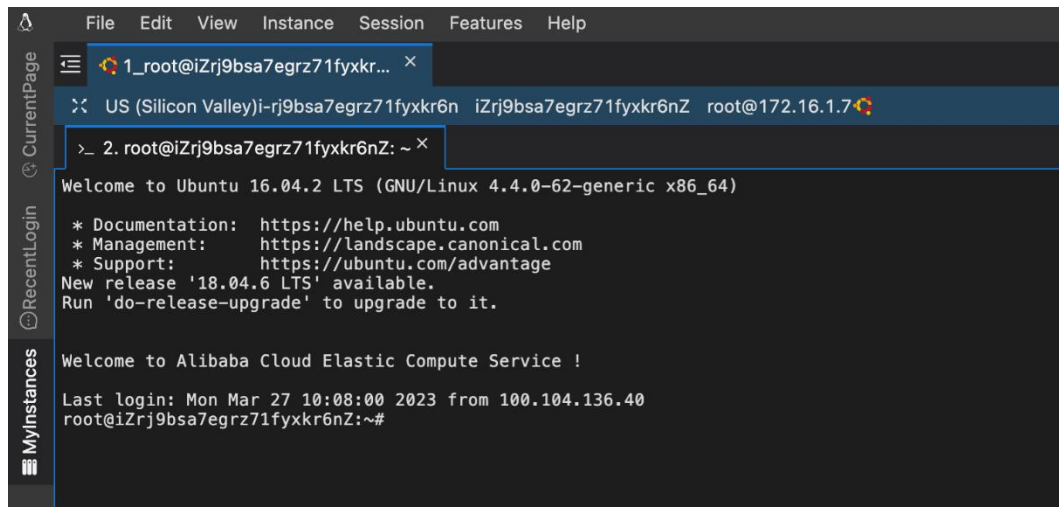
Account name: root

Password: nkYHG890..

In the pop-up window, I only need to enter the password since all other configurations are already associated with this instance by default.



Then I click **"OK"** to connect to the instance, and I am logged in successfully.



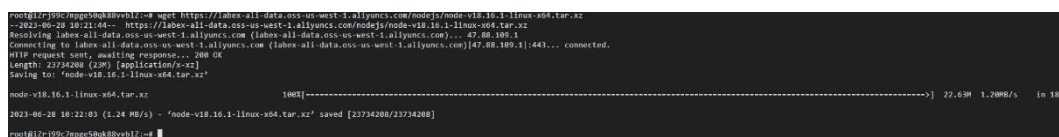
I can also choose the tool i prefer to connect to the ECS instance. For details of remote logon, refer to [logon](#).

3.2 Configure the Node.js environment

The Ghost blog system relies on the Node.js environment to function. I will first configure the Node.js development environment on the ECS instance by following these steps:

1). Download the Node.js installation package:

`wget https://labex-ali-data.oss-us-west-1.aliyuncs.com/nodejs/node-v18.16.1-linux-x64.tar.xz`



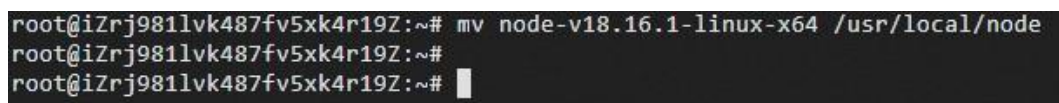
2). Decompress the package:

`tar -xvf node-v18.16.1-linux-x64.tar.xz`



3). Move the unzipped directory to /usr/local:

`mv node-v18.16.1-linux-x64 /usr/local/node`



4). Add Node.js to the system path by editing `/etc/profile` :

```
export NODE_HOME=/usr/local/node
```

```
export PATH=$PATH:$NODE_HOME/bin
```

```
# /etc/profile: system-wide .profile file for the Bourne shell (sh(1))
# and Bourne compatible shells (bash(1), ksh(1), ash(1), ...).

if [ "${PS1:-}" ]; then
  if [ "${BASH:-}" ] && [ "$BASH" != "/bin/sh" ]; then
    # The file bash.bashrc already sets the default PS1.
    # PS1='\h:\w\$ '
    if [ -f /etc/bash.bashrc ]; then
      . /etc/bash.bashrc
    fi
  else
    if [ "`id -u`" -eq 0 ]; then
      PS1='# '
    else
      PS1='$ '
    fi
  fi
fi

if [ -d /etc/profile.d ]; then
  for i in /etc/profile.d/*.sh; do
    if [ -r $i ]; then
      . $i
    fi
  done
  unset i
fi

export NODE_HOME=/usr/local/node
export PATH=$PATH:$NODE_HOME/bin

~
~
~
~
~

"/etc/profile" 29L, 647C written
```

5). Apply the changes:

```
source /etc/profile
```

```
root@iZj6cc9z4q1hs1pcf5g2n5Z:~# source /etc/profile
root@iZj6cc9z4q1hs1pcf5g2n5Z:~#
```

6). Verify the installation by checking the version:

node -v

```
npm -v
```

```
root@iZrj93ope8yizd32wtgojfZ:~# node -v
v18.16.1
root@iZrj93ope8yizd32wtgojfZ:~# npm -v
9.5.1
root@iZrj93ope8yizd32wtgojfZ:~#
```

3.3 Deploy the Ghost blog system

What is Ghost?

Ghost is a blog platform written in JavaScript and available in open source code based on the MIT license. Ghost aims to simplify publishing of personal websites and online publishing. Ghost is a personal blog system, which is developed based on Node.js and MySQL. Ghost supports MySQL, MariaDB, SQLite, and PostgreSQL.

Since Ghost is developed based on Node.js, the Node.js environment has already been configured. To deploy the Ghost blog system, I:

1). Install the Ghost CLI:

`npm install ghost-cli -g`

```
root@iZrj9gxoc6yghya0ifsng2Z:~# npm install ghost-cli -g
> yarn@1.22.10 preinstall /usr/local/node/lib/node_modules/ghost-cli/node_modules/yarn
> ; (node ./preinstall.js > /dev/null 2>&1 || true)

/usr/local/node/bin/ghost -> /usr/local/node/lib/node_modules/ghost-cli/bin/ghost
+ ghost-cli@1.17.3
added 417 packages from 207 contributors in 21.01s
root@iZrj9gxoc6yghya0ifsng2Z:~#
```

2). Create a new user "ghost" and set permissions:

`useradd ghost`

`mkdir /home/ghost`

`chown -R ghost:ghost /home/ghost`

```
root@iZrj9guyozsg67nt9r36icZ:~# useradd ghost
root@iZrj9guyozsg67nt9r36icZ:~#
root@iZrj9guyozsg67nt9r36icZ:~# mkdir /home/ghost
root@iZrj9guyozsg67nt9r36icZ:~#
root@iZrj9guyozsg67nt9r36icZ:~# chown -R ghost:ghost /home/ghost
root@iZrj9guyozsg67nt9r36icZ:~#
root@iZrj9guyozsg67nt9r36icZ:~#
```

3). Switch to the "ghost" user:

`su - ghost`

```
root@iZrj9guyozsg67nt9r36icZ:~# su - ghost
$
$
```

4). Install Ghost:

`ghost install local`

```
$ ghost install local
✓ Checking system Node.js version - found v14.18.0
✓ Checking current folder permissions
✓ Checking memory availability
✓ Checking free space
✓ Checking for latest Ghost version
✓ Setting up install directory
✓ Downloading and installing Ghost v4.17.1
✓ Finishing install process
✓ Configuring Ghost
✓ Setting up instance
✓ Starting Ghost

Ghost uses direct mail by default. To set up an alternative email method read our docs at https://ghost.org/docs/config/#mail
-----

Ghost was installed successfully! To complete setup of your publication, visit:

    http://localhost:2368/ghost/

$
```

5). Stop the Ghost service:

```
ghost stop
```

```
$  
$ ghost stop  
✓ Stopping Ghost: ghost-local  
$  
$  
$
```

The Ghost application has been deployed on the ECS instance in the preceding step. However, some further modifications are required for normal use of the Ghost application.

To make the Ghost content accessible on the public network, I need to modify the configuration file to set the listener port to 80, which is a standard port for web pages.

Modify the Ghost configuration file.

```
ls
```

```
vim config.development.json
```

```
$ ls  
config.development.json  content  current  versions  
$  
$ vim config.development.json
```

Modify the configuration file, as shown in the following figure. ***Please replace the public IP address of your current ECS instance***

```
{  
  "url": "http://47.88.53.37:3268/",  
  "server": {  
    "port": 3268,  
    "host": "0.0.0.0"  
  },  
  "database": {  
    "client": "sqlite3",  
    "connection": {  
      "filename": "/home/ghost/content/data/ghost-local.db"  
    }  
  },  
  "mail": {  
    "transport": "Direct"  
  },  
  "logging": {  
    "transports": [  
      "file",  
      "stdout"  
    ]  
  },  
  "process": "local",  
  "paths": {  
    "contentPath": "/home/ghost/content"  
  }  
}
```

After editing the config.development.json file with my ECS instance's IP address, I restart Ghost.

```
$ ghost start
Found a development config but not a production config, running in development mode instead
[ ] Ensuring user is not logged in as ghost user [skipped]
[ ] Checking if logged in user is directory owner [skipped]
✓ Checking current folder permissions
✓ Validating config
✓ Checking memory availability
✓ Checking binary dependencies
✓ Starting Ghost: ghost-local

-----

Your admin interface is located at:

  http://47.88.53.37:3268/ghost/

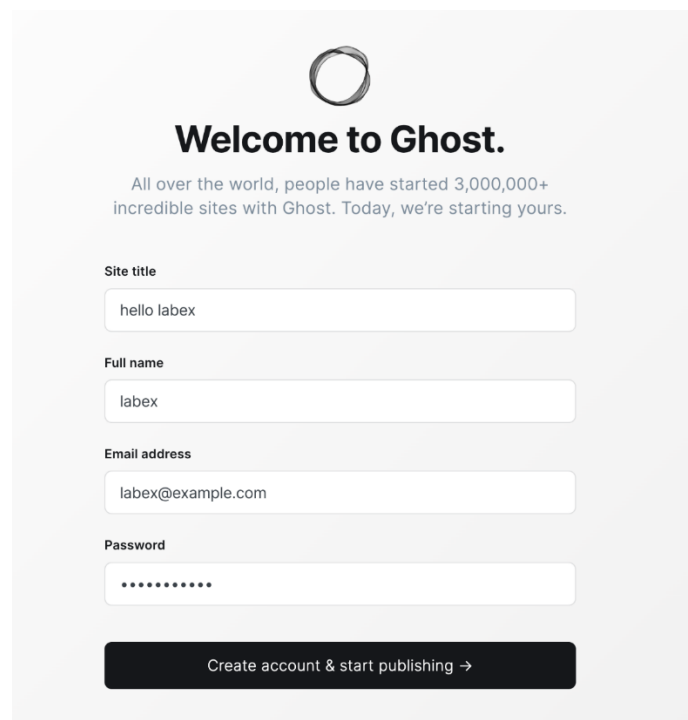
$
$
$ █
```

After this, I can access the Ghost application by entering the ECS instance's IP address in my browser.

4. Use Ghost as your personal album

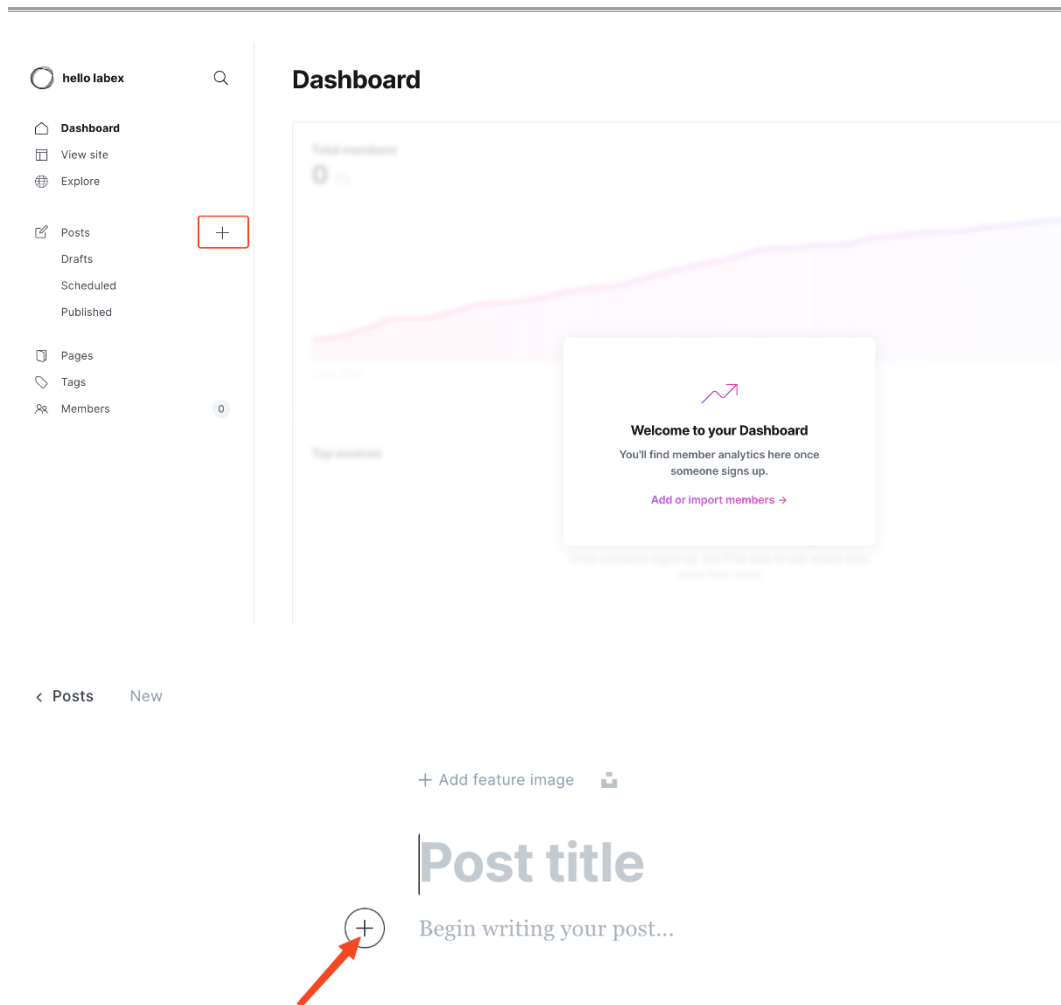
Once the Ghost application is ready, I create a user account to publish images or articles.

Refer to the figure below to set the account information. The password is set to **Aliyun-test**.



The image shows the Ghost application's welcome screen. At the top is the Ghost logo, a circle with a dot inside. Below it is the heading "Welcome to Ghost." followed by a paragraph: "All over the world, people have started 3,000,000+ incredible sites with Ghost. Today, we're starting yours." Below this is a form with four input fields: "Site title" (containing "hello labex"), "Full name" (containing "labex"), "Email address" (containing "labex@example.com"), and "Password" (containing "....."). At the bottom of the form is a dark button with the text "Create account & start publishing →".

After logging in, I add a new post, replacing "**YOUR-OSS-PIC-URL**" with the URL address of the picture I stored on OSS, then click "**Publish.**"



< **Markdown** New

+ Add feature image 

Post title



PRIMARY



Image

Upload, or embed with `/image [url]`



Markdown

Insert a Markdown editor card



HTML

Insert a raw HTML card



Gallery

Create an image gallery



Divider

Insert a dividing line



Bookmark

Embed a link as a visual bookmark



Email content

first

M↓

``

B I H



abc









Preview

Publish



After publishing ready, click Continue.

Ready, set, publish.
Share it with the world.

-  Publish 
-  Not sent as newsletter 
-  Right now 

Continue, final review →



Ready, set, publish. Share it with the world.

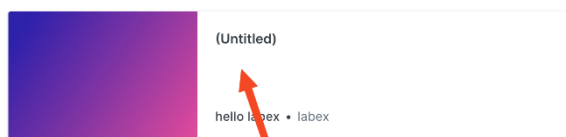
Your post will be published on your site.

Publish post, right now

Back to settings

Click to view.

Boom. It's out there. That's 2
posts published, keep going!



Back to editor

Users can cut off the above result picture when they are doing the lab and send it to the teacher, indicating that the current lab has been completed.

Reminder:

Before i leave this lab, remember to log out your Alibaba RAM account before you click the 'stop' button of your lab. Otherwise you'll encounter some issue when opening a new lab session in the same browser:

Support Tickets

LabEx-PDYy...
RAM User

LabEx-PDYyx@labex621.onaliyun.com
Account ID: 292051379837799439
RAM User

My Identity LabEx-PDYyx
Enterprise Alias labex621

Security Control
Security Information Management
AccessKey Management
Preference Settings

Switch Identity Log Out

Remaining Time: 118 : 17 stop

Log in the Lab Environment of Alibaba Cloud

Account: [redacted]
Password: [redacted]

5. Experiment Summary

Here are my key takeaways from this experiment:

- How to use OSS to manage image resources
- How to configure the Node.js environment on an ECS instance
- How to deploy and modify the Ghost blog system for public access
- How to set up a personal album in the Ghost system using OSS to publish personal images

