Elastic Compute Service

Tutorials

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Tutorials

Deploy LNMP

Build LNMP environment under CentOS 6

This article describes how to build LNMP environment under CentOS on an ECS instance with the basic configuration.

LNMP means:

- Linux: A family of free and open-source UNIX-like software operating systems (OS).
- Nginx: A lightweight HTTP and reverse proxy server.
- MySQL: A relational database management system.
- PHP: A scripting language that is especially suited for web development.

This method is applicable to individual users who are familiar with Linux, but new to website construction by using Alibaba Cloud ECS.

Follow these steps to build LNMP environment on an ECS instance:

- 1. Prepare the compiling environment
- 2. Install Nginx
- 3. Install MySQL
- 4. Install PHP-FPM
- 5. Test

Step 1. Prepare the compiling environment

Follow these steps to prepare the compiling environment.

Check the version of the operating system.

cat /etc/redhat-release CentOS release 6.5 (Final)

Note: This article is based on a Linux instance running CentOS 6.5. You may have different OS versions. The same is applicable to the Nginx, MySQL, and PHP versions mentioned in the following paragraphs.

Disable SELINUX: Run the command to modify the configuration file, which will permanently take effect after restarting the service.

sed -i 's/SELINUX=.*/SELINUX=disabled/g' /etc/selinux/config

Run the command to make the configuration take effect immediately.

setenforce 0

Add a security rule to accept Internet access to the Web server on the instance. For more information, see Add a security group rule.

Step 2: Install Nginx

Nginx is a small and highly-efficient Web server based on Linux. Follow these steps to install Nginx:

Add a user to run the Nginx service process.

groupadd -r nginx
useradd -r -g nginx nginx

Download the source code package, decompress it, and then compile.

wget http://nginx.org/download/nginx-1.10.2.tar.gz
tar xvf nginx-1.10.2.tar.gz -C /usr/local/src
yum groupinstall "Development tools"
yum -y install gcc wget gcc-c++ automake autoconf libtool libxml2-devel libxslt-devel perl-devel perlExtUtils-Embed pcre-devel openssl-devel
cd /usr/local/src/nginx-1.10.2
./configure \
--prefix=/usr/local/nginx \
--conf-path=/usr/sbin/nginx.conf \
--error-log-path=/var/log/nginx/error.log \

--http-log-path=/var/log/nginx/access.log \

--pid-path=/var/run/nginx.pid \ --lock-path=/var/run/nginx.lock \ --http-client-body-temp-path=/var/tmp/nginx/client \ --http-proxy-temp-path=/var/tmp/nginx/proxy \ --http-fastcgi-temp-path=/var/tmp/nginx/fcgi \ --http-uwsgi-temp-path=/var/tmp/nginx/uwsgi \ --http-scgi-temp-path=/var/tmp/nginx/scgi \ $--user = nginx \setminus$ --group=nginx \ --with-pcre \ --with-http_v2_module \ --with-http_ssl_module \ --with-http_realip_module \ --with-http_addition_module \ --with-http_sub_module \ --with-http_dav_module \ --with-http_flv_module \ --with-http_mp4_module \ --with-http_gunzip_module \ --with-http_gzip_static_module \ --with-http_random_index_module \ --with-http_secure_link_module \ --with-http_stub_status_module \ --with-http_auth_request_module \ --with-mail \ --with-mail_ssl_module \ --with-file-aio \ --with-ipv6 \ --with-http_v2_module \ --with-threads \ --with-stream \ --with-stream ssl module # make && make install # mkdir -pv /var/tmp/nginx/client

Add a SysV startup script.

```
# vim /etc/init.d/nginx
#!/bin/sh
#
# nginx - this script starts and stops the nginx daemon
#
# chkconfig: - 85 15
# description: Nginx is an HTTP(S) server, HTTP(S) reverse \
# proxy and IMAP/POP3 proxy server
# processname: nginx
# config: /etc/nginx/nginx.conf
# config: /etc/sysconfig/nginx
# pidfile: /var/run/nginx.pid
# Source function library.
. /etc/rc.d/init.d/functions
# Source networking configuration.
. /etc/sysconfig/network
# Check that networking is up.
```

```
[ "$NETWORKING" = "no" ] && exit 0
```

nginx="/usr/sbin/nginx" prog=\$(basename \$nginx) NGINX_CONF_FILE="/etc/nginx/nginx.conf" [-f /etc/sysconfig/nginx] && . /etc/sysconfig/nginx lockfile=/var/lock/subsys/nginx start() { [-x \$nginx] || exit 5 [-f \$NGINX_CONF_FILE] || exit 6 echo -n \$"Starting \$prog: " daemon \$nginx -c \$NGINX_CONF_FILE retval=\$? echo [\$retval -eq 0] && touch \$lockfile return \$retval } stop() { echo -n \$"Stopping \$prog: " killproc \$prog -QUIT retval=\$? echo [\$retval -eq 0] && rm -f \$lockfile return \$retval killall -9 nginx } restart() { configtest || return \$? stop sleep 1 start } reload() { configtest || return \$? echo -n \$"Reloading \$prog: " killproc \$nginx -HUP RETVAL=\$? echo } force_reload() { restart } configtest() { \$nginx -t -c \$NGINX_CONF_FILE } rh_status() { status \$prog } rh_status_q() { rh_status >/dev/null 2>&1 } case "\$1" in start) rh_status_q && exit 0 \$1 ;; stop) rh_status_q || exit 0

\$1 ;; restart|configtest) \$1 ;; reload) rh_status_q || exit 7 \$1 ;; force-reload) force_reload ;; status) rh_status ;; condrestart|try-restart) rh_status_q || exit 0 ;; *) echo \$"Usage: \$0 {start|stop|status|restart|condrestart|try-restart|reload|force-reload|configtest}" exit 2 esac

Grant the permission to run the script.

chmod +x /etc/init.d/nginx

Add Nginx to the service management list, and set it to automatically start on startup.

chkconfig --add nginx
chkconfig nginx on

Start the service.

service nginx start

Access the instance by using http://Public IP address. If the following page appears, Nginx is installed successfully.



Step3. Install MySQL

Follow these steps to install MySQL.

Prepare the compiling environment.

yum groupinstall "Server Platform Development" "Development tools" -y # yum install cmake -y

Create a directory to store the data of MySQL.

```
# mkdir /mnt/data
# groupadd -r mysql
# useradd -r -g mysql -s /sbin/nologin mysql
# id mysql
uid=497(mysql) gid=498(mysql) groups=498(mysql)
```

Change the owner and group of the data directory.

chown -R mysql:mysql /mnt/data

Decompress and compile the stable source code package downloaded from MySQL official website. In this article, we use version 5.6.24.

tar xvf mysql-5.6.24.tar.gz -C /usr/local/src

cd /usr/local/src/mysql-5.6.24 # cmake . -DCMAKE_INSTALL_PREFIX=/usr/local/mysql \ -DMYSQL_DATADIR=/mnt/data \ -DSYSCONFDIR=/etc \ -DWITH_INNOBASE_STORAGE_ENGINE=1 \ -DWITH_ARCHIVE_STORAGE_ENGINE=1 \ -DWITH_BLACKHOLE_STORAGE_ENGINE=1 \ -DWITH READLINE=1 \ -DWITH_SSL=system \ -DWITH_ZLIB=system \ -DWITH_LIBWRAP=0 \ -DMYSQL_TCP_PORT=3306 \ -DMYSQL_UNIX_ADDR=/tmp/mysql.sock \ -DDEFAULT_CHARSET=utf8 \ -DDEFAULT_COLLATION=utf8_general_ci # make && make install

Change the group of the installation directory to mysql.

chown -R mysql:mysql /usr/local/mysql/

Initialize the database.

/usr/local/mysql/scripts/mysql_install_db --user=mysql --datadir=/mnt/data/

Note: After completing the minimum installation of the CentOS 6.5 operating system, a my.cnf file is generated under the /etc directory. You must rename this file. For example, rename it as /etc/my.cnf.bak. Otherwise, this file will interfere with the correct configuration for MySQL source code installation, leading to MySQL start failure.

Copy the configuration file and startup script.

cp /usr/local/mysql/support-files/mysql.server /etc/init.d/mysqld # chmod +x /etc/init.d/mysqld # cp support-files/my-default.cnf /etc/my.cnf

Set automatic start on startup.

chkconfig mysqld on
chkconfig --add mysqld

Modify the installation path and data storage path in the configuration file.

```
# echo -e "basedir = /usr/local/mysql\ndatadir = /mnt/data\n" >> /etc/my.cnf
Set the PATH environment variable.
# echo "export PATH=$PATH:/usr/local/mysql/bin" > /etc/profile.d/mysql.sh
# source /etc/profile.d/mysql.sh
Start the service.
# service mysqld start
# mysql -h 127.0.0.1
```

Step 4. Install PHP-FPM

Nginx cannot process PHP. As a Web server, when Nginx receives a request, it does not support directly calling or parsing the external program. It must use FastCGI to call such programs. However, in case of PHP requests, Nginx will transfer the request to a PHP interpreter, and return the result to the client. PHP-FPM is a FastCGI process manager that supports parsing PHP code. PHP-FPM provides better PHP process management methods, which can effectively control the memory and process, and can support smoothly reloading PHP configuration.

Follow these steps to install PHP-FPM.

Install dependency package.

yum install libmcrypt libmcrypt-devel mhash mhash-devel libxml2 libxml2-devel bzip2 bzip2-devel

Decompress the source code package downloaded from the official website, and then compile and install it.

```
# tar xvf php-5.6.23.tar.bz2 -C /usr/local/src
# cd /usr/local/src/php-5.6.23
# ./configure --prefix=/usr/local/php \
--with-config-file-scan-dir=/etc/php.d \
--with-config-file-path=/etc \
--with-mysql=/usr/local/mysql \
--with-mysql=/usr/local/mysql \
--with-mysqli=/usr/local/mysql/bin/mysql_config \
--enable-mbstring \
--enable-mbstring \
--with-freetype-dir \
--with-jpeg-dir \
--with-jpeg-dir \
--with-libxml-dir=/usr \
```

```
--with-openssl \
```

--enable-xml \ --enable-sockets \ --enable-fpm \ --with-mcrypt \ --with-bz2 # make && make install

Add the PHP and PHP-FPM configuration files.

cp /usr/local/src/php-5.6.23/php.ini-production /etc/php.ini
cd /usr/local/php/etc/
cp php-fpm.conf.default php-fpm.conf
sed -i 's@;pid = run/php-fpm.pid@pid = /usr/local/php/var/run/php-fpm.pid@' php-fpm.conf

Add the PHP-FPM startup script.

cp /usr/local/src/php-5.6.23/sapi/fpm/init.d.php-fpm /etc/init.d/php-fpm
chmod +x /etc/init.d/php-fpm

Add PHP-FPM to the service list, and set it to automatically start on startup.

chkconfig --add php-fpm
chkconfig --list php-fpm
chkconfig php-fpm on

Start the service.

service php-fpm start

Follow these steps to configure Nginx to support fastcgi:

i. Back up the default configuration file.

cp /etc/nginx/nginx.conf /etc/nginx/nginx.confbak
cp /etc/nginx/nginx.conf.default /etc/nginx/nginx.conf

ii. Edit /etc/nginx/nginx.conf:

i. Add a home page in the PHP format into the supported home page formats as shown:

location / { root /usr/local/nginx/html; index index.php index.html index.htm;
}
i. Delete comments in front of the following content:

[location ~ \.php\$ {
 root /usr/local/nginx/html;
 fastcgi_pass 127.0.0.1:9000;
 fastcgi_index index.php;
 fastcgi_param SCRIPT_FILENAME /usr/local/nginx/html/\$fastcgi_script_name;
 include fastcgi_params;
}
ii. Reload the Nginx configuration file.
service nginx reload

Create an index.php test page under /usr/local/nginx/html/, the content of which is shown as follows:

```
# cat index.php
<?php
$conn=mysql_connect('127.0.0.1','root','');
if ($conn){
echo "LNMP platform connect to mysql is successful!";
}else{
echo "LNMP platform connect to mysql is failed!";
}
phpinfo();
?>
```

Step 5. Test

Access the instance by using http://Public IP address/index.php. If the following page appears, LNMP environment is built successfully.

PHP Version 5.6.23	php
System	Linux iZuf66k0f52wt2c8lbplg2Z 2.6.32-573.22.1.el6.x86_64 #1 SMP Wed Mar 23 03:35:39 UTC 2016 x86_64
Build Date	Dec 12 2016 21:27:46
Configure Command	'/configure''~-prefix=furr/local/pbg''~=vith=config=file=xcar=dit=/etc/pbp.d''=vith=config=file= path=/etc''-with=config''-= enable=mbtring''-with=festyp=dir''=vith=prefite''-with=prefite''-with=file''-with= libml=dir=/urr''-with=opensil''=enable=mal''==enable=tockets''==enable=fpm''=with=scrypt''= with=bc2'
Server API	FPM/FastCGI
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/etc

Configure Java Web

Deploy a Java Web project

This article describes how to deploy a Java Web project on a Linux instance with the basic configuration. This method is applicable to individual users who are new to website construction by using ECS.

Configuration requirements

The following programs are used as examples to deploy the Java Web project:

- OS: CentOS 7.4
- Tomcat: Tomcat 8.5.23
- JDK: JDK 1.8.0_141

Preparations

The firewall is enabled by default for CentOS 7.4. You can disable the firewall, or add rules on the firewall by referring to official documents to open Ports 80, 443, or 8080 for inbound access.

• Disable the firewall.

systemctl stop firewalld.service

• Set the firewall not to be enabled automatically at startup.

systemctl disable firewalld.service

Create a user www to run Tomcat.

useradd www

Add a security group rule to open Port 8080 for HTTP access. For more information, see Add a security group rule.

Creates a root directory for the Java Web project.

mkdir -p /data/wwwroot/default

Create a Tomcat test page.

echo Tomcat test > /data/wwwroot/default/index.jsp chown -R www.www /data/wwwroot

Download source code

Run the following command to download the tomcat package.

wget https://mirrors.aliyun.com/apache/tomcat/tomcat-8/v8.5.23/bin/apache-tomcat-8.5.23.tar.gz

Note: The source code is constantly upgraded. You can find the installation package at: https://mirrors.aliyun.com/apache/tomcat/tomcat-8/.

Run the following command to download the JDK package.

wget http://mirrors.linuxeye.com/jdk/jdk-8u141-linux-x64.tar.gz

Note: The source code is constantly upgraded. You can find the installation package at: http://mirrors.linuxeye.com/jdk/.

Install JDK

To install JDK, follow these steps:

Run mkdir /usr/java to create a directory.

Run the following command to decompress jdk-8u141-linux-x64.tar.gz to the /usr/java directory.

tar xzf jdk-8u141-linux-x64.tar.gz -C /usr/java

Follow these steps to set environment variables:

- i. Run vi /etc/profile.
- ii. Press the i key to enter the Edit mode.
- iii. Add the following lines into the /etc/profile file:

```
#set java environment
export JAVA_HOME=/usr/java/jdk1.8.0_141
export CLASSPATH=$JAVA_HOME/lib/tools.jar:$JAVA_HOME/lib/dt.jar:$JAVA_HOME/lib
export PATH=$JAVA_HOME/bin:$PATH
```

iv. Press the Esc key, and then type :wq to save and close the file.

Run source /etc/profile to load the new environment variable.

Check the version of JDK. When the JDK version is displayed, it indicates that JDK has been installed successfully.

```
java -version
java version "1.8.0_141"
Java(TM) SE Runtime Environment (build 1.8.0_141-b15)
Java HotSpot(TM) 64-Bit Server VM (build 25.141-b15, mixed mode)
```

Install Tomcat

To install Tomcat, follow these steps:

Run the following commands one by one to decompress apache-tomcat-8.5.23.tar.gz, rename the Tomcat directory, and set user permissions.

tar xzf apache-tomcat-8.5.23.tar.gz mv apache-tomcat-8.5.23 /usr/local/tomcat/ chown -R www.www /usr/local/tomcat/

Note:

In the /usr/local/tomcat/ directory:

- The bin directory stores some Tomcat script files, including scripts for enabling and disabling Tomcat service.
- The conf directory stores various global configuration files for Tomcat server, the most important of which are server.xml and web.xml.
- The webapps directory is the main Web publishing directory of Tomcat, which stores Web application files by default.

- The logs directory stores Tomcat log files.

Follow these steps to configure the server.xml file:

i. Switch to the /usr/local/tomcat/conf/ directory: cd /usr/local/tomcat/conf/.

ii. Rename the server.xml file: mv server.xml server.xml_bk.

- iii. Create a new server.xml file:
 - a. Run vi server.xml.
 - b. Press the i key to enter the Edit mode.
 - c. Add the following content.

<?xml version="1.0" encoding="UTF-8"?> <Server port="8006" shutdown="SHUTDOWN"> <Listener className="org.apache.catalina.core.JreMemoryLeakPreventionListener"/> <Listener className="org.apache.catalina.mbeans.GlobalResourcesLifecycleListener"/> <Listener className="org.apache.catalina.core.ThreadLocalLeakPreventionListener"/> <Listener className="org.apache.catalina.core.AprLifecycleListener"/> <GlobalNamingResources> <Resource name="UserDatabase" auth="Container" type="org.apache.catalina.UserDatabase" description="User database that can be updated and saved" factory="org.apache.catalina.users.MemoryUserDatabaseFactory" pathname="conf/tomcat-users.xml"/> </GlobalNamingResources> <Service name="Catalina"> <Connector port="8080" protocol="HTTP/1.1" connectionTimeout="20000" redirectPort="8443" maxThreads="1000" minSpareThreads="20" acceptCount="1000" maxHttpHeaderSize="65536" debug="0" disableUploadTimeout="true" useBodyEncodingForURI="true" enableLookups="false" URIEncoding="UTF-8"/> <Engine name="Catalina" defaultHost="localhost"> <Realm className="org.apache.catalina.realm.LockOutRealm"> <Realm className="org.apache.catalina.realm.UserDatabaseRealm" resourceName="UserDatabase"/> </Realm> <Host name="localhost" appBase="/data/wwwroot/default" unpackWARs="true" autoDeploy="true"> <Context path="" docBase="/data/wwwroot/default" debug="0" reloadable="false" crossContext="true"/> <Valve className="org.apache.catalina.valves.AccessLogValve" directory="logs" prefix="localhost_access_log." suffix=".txt" pattern="%h %l %u %t "%r" %s %b" /> </Host> </Engine> </Service> </Server>

Follow these steps to set JVM memory parameters:

- i. Run vi /usr/local/tomcat/bin/setenv.sh.
- ii. Press the i key to enter the Edit mode.
- iii. Add the following content.

JAVA_OPTS='-Djava.security.egd=file:/dev/./urandom -server -Xms256m -Xmx496m - Dfile.encoding=UTF-8'

iv. Press the Esc key, and then type :wq to save and close the file.

Follow these steps to set Tomcat automatic startup script:

i. Run the command to download the script.

wget https://github.com/lj2007331/oneinstack/raw/master/init.d/Tomcat-init

ii. Run the command to rename Tomcat-init.

mv Tomcat-init /etc/init.d/tomcat

iii. Add the permission.

chmod +x /etc/init.d/tomcat

iv. Set the startup script JAVA_HOME.

sed -i 's@^export JAVA_HOME=.*@export JAVA_HOME=/usr/java/jdk1.8.0_141@' /etc/init.d/tomcat

Set automatic startup.

chkconfig --add tomcat chkconfig tomcat on

Start Tomcat.

service tomcat start

Access the instance by using http://Public IP address:8080. If the following page appears,



Build a Magento website on ECS

Magento is an open-source e-commerce platform written in PHP. Many customers use it to build their B2B or B2C e-commerce platforms. This tutorial explains how to build a Magento platform on a single ECS instance.

In this tutorial, we will install the following tools:

- MySQL version: 5.7
- PHP version: 7.0
- Magento version: 2.2

Prerequisites

Create an ECS instance. Make sure the instance meets the following requirements:

Operating system: CentOS 7.2 64bit.

Minimum specifications:

- 2 Core CPU
- 4 GiB RAM
- A 40 GiB Ultra Cloud Disk as the system disk

VPC-connected. If you do not have a VPC network, one will be created when you create an ECS instance.

A public IP address is assigned to the instance.

Inbound Internet traffic to the TCP Port 80 of the ECS instance is allowed. For more information, see Add a security group rule.

Step 1. Install LAMP (Linux, Apache, MySQL, and PHP) on ECS

Connect to the ECS instance and install Apache and MySQL.

[ECS]\$ yum update -y [ECS]\$ yum install httpd –y [ECS]\$ rpm -Uvh http://dev.mysql.com/get/mysql57-community-release-el7-8.noarch.rpm [ECS]\$ yum -y install mysql-community-server

Start Apache and MySQL service and enable them at startup.

[ECS]\$ systemctl start httpd [ECS]\$ systemctl enable httpd [ECS]\$ systemctl start mysqld [ECS]\$ systemctl enable mysqld

Configure the Apache configuration file: /etc/httpd/conf/httpd.conf.

- i. Run vim /etc/httpd/conf/httpd.conf.
- ii. Press the i key.
- iii. Add the LoadModule rewrite_module modules/mod_rewrite.so line below Include conf.modules.d/*.conf, and replace AllowOverride None with AllowOverride all in the following section.

```
Options Indexes FollowSymLinks
#
# AllowOverride controls what directives may be placed in .htaccess files.
# It can be "All", "None", or any combination of the keywords:
# Options FileInfo AuthConfig Limit
#
AllowOverride all
```

iv. Press the Esc key and type :wq to save and exit the file.

Run grep 'temporary password' /var/log/mysqld.log to obtain the temporary password of the root account at the installation of MySQL. The password returns in the result.

Note: Record this password. You will need it during the next step.

2018-03-16T02:23:32.142427Z 1 [Note] A temporary password is generated for root@localhost: pj?eyd6nH!:B

Finish the MySQL security configuration, including:

- Resetting the root account password
- Disabling remote root login
- Removing anonymous users

Removing test database and test database access

Note: In this step, you are asked several questions to enable or disable features. Answer Y to all of them.

[ECS]\$ mysql_secure_installation Securing the MySQL server deployment. Enter password for user root: # Enter your temporary root password that is recorded in the previous step The existing password for the user account root has expired. Please set a new password. New password: # Enter a new strong password, which must be a minimum of 8 characters in length and must include a special character Re-enter new password: # Repeat the new password to confirm it Estimated strength of the password: 100 Do you wish to continue with the password provided?(Press y|Y for Yes, any other key for No) : Y By default, a MySQL installation has an anonymous user, allowing anyone to log into MySQL without having to have a user account created for them. This is intended only for testing, and to make the installation go a bit smoother. You should remove them before moving into a production environment. Remove anonymous users? (Press y|Y for Yes, any other key for No) : Y Success. Normally, root should only be allowed to connect from 'localhost'. This ensures that someone cannot guess at the root password from the network. Disallow root login remotely? (Press y|Y for Yes, any other key for No) : Y Success. By default, MySQL comes with a database named 'test' that anyone can access. This is also intended only for testing, and should be removed before moving into a production environment. Remove test database and access to it? (Press y|Y for Yes, any other key for No) : Y - Dropping test database... Success. - Removing privileges on test database... Success. Reloading the privilege tables will ensure that all changes made so far will take effect immediately. Reload privilege tables now? (Press y|Y for Yes, any other key for No) : Y Success. All done!

Install PHP 7.

[ECS]\$ yum install -y http://dl.iuscommunity.org/pub/ius/stable/CentOS/7/x86_64/ius-release-1.0-14.ius.centos7.noarch.rpm
[ECS]\$ yum -y update
[ECS]\$ yum -y install php70u php70u-pdo php70u-mysqlnd php70u-opcache php70u-xml php70u-gd php70u-mcrypt php70u-devel php70u-intl php70u-mbstring php70u-bcmath php70u-json php70u-iconv

Validate PHP installation.

[ECS]\$ php –v PHP 7.0.28 (cli) (built: Mar 1 2018 10:03:25) (NTS) Copyright (c) 1997-2017 The PHP Group Zend Engine v3.0.0, Copyright (c) 1998-2017 Zend Technologies with Zend OPcache v7.0.28, Copyright (c) 1999-2017, by Zend Technologies

Edit the /etc/php.ini file to set your time zone:

- i. Run vim /etc/php.ini.
- ii. Press the i key.
- iii. Find the line starting with date.timezone, which is commented out by default, and add the correct time zone. If your site is in China, add date.timezone = Asia/Shanghai.
- iv. Press the Esc key and type :wq to save and exit the file.

Run systemctl restart httpd to restart httpd.

Step 2. Configure the database

Create a database and a user. Run the following commands, including those typed in the mysql> prompt.

Note: You must replace YourRootPass with a password. Make sure that you have recorded the password you set here. You need it later. Once you have run FLUSH PRIVILEGES;, type exit; and then press the Enter key to quit the MySQL shell.

[ECS]\$ mysql -u root -p Enter password: Welcome to the MySQL monitor. Commands end with ; or \g. Your MySQL connection id is 5 Server version: 5.7.21 MySQL Community Server (GPL) Copyright (c) 2000, 2018, Oracle and/or its affiliates. All rights reserved. Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners. Type 'help;' or '\h' for help. Type '\c' to clear the current input statement. mysql> CREATE DATABASE magento; Query OK, 1 row affected (0.00 sec) mysql> GRANT ALL ON magento.* TO test@localhost IDENTIFIED BY 'YourRootPass'; Query OK, 0 rows affected, 1 warning (0.00 sec) mysql> FLUSH PRIVILEGES; Query OK, 0 rows affected (0.01 sec)

Test the new user.

[ECS]\$ mysql -u test -p Enter password: # Enter the password you set for the `YourRootPass` in the preceding step Welcome to the MySQL monitor. Commands end with ; or \g. Your MySQL connection id is 6 Server version: 5.7.21 MySQL Community Server (GPL) Copyright (c) 2000, 2018, Oracle and/or its affiliates. All rights reserved. Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners. Type 'help;' or '\h' for help. Type '\c' to clear the current input statement. mysql>

Test the new database: At the mysql> prompt, type show databases;, and you can view the following database listing.

mysql> show databases;
++ Database
++
information_schema magento
++
2 rows in set (0.00 sec) mysql>

Type "exit;" and then press the Enter key to quit the MySQL shell.

Step 3. Install and configure Composer

Install Composer.

[ECS]\$ curl -sS https://getcomposer.org/installer | php

Configure Composer.

[ECS]\$ mv /root/composer.phar /usr/bin/composer

Test Composer.

[ECS]\$ composer -V

You will obtain the following result, if the steps are successfully completed.

Composer version 1.6.3 2018-01-31 16:28:17

Step 4. Install and configure Magento

Download Magento from github.

[ECS]\$ yum -y install git [ECS]\$ cd /var/www/html/ [ECS]\$ git clone https://github.com/magento/magento2.git

Switch the version of Magento to the stable production version.

[ECS]\$ cd magento2 && git checkout tags/2.1.0 -b 2.1.0

Move the installation files to the Apache root directory.

Note: If you skip this step, you will only be able to access your Magento service at http://your-server-ip /magento2.

[ECS]\$ shopt -s dotglob nullglob && mv /var/www/html/magento2/* /var/www/html/ && cd ..

Set Magento file permissions.

[ECS]\$ chown -R :apache /var/www/html [ECS]\$ find /var/www/html -type f -print0 | xargs -r0 chmod 640 [ECS]\$ find /var/www/html -type d -print0 | xargs -r0 chmod 750 [ECS]\$ chmod -R g+w /var/www/html/{pub,var} [ECS]\$ chmod -R g+w /var/www/html/{app/etc,vendor} [ECS]\$ chmod 750 /var/www/html/bin/magento

Install Magento.

[ECS]\$ composer install

Step 5. Test the installation

Use your browser to access your server at http://public IP address of your ECS instance. You will see a welcome screen like this one.



Click **Agree and Setup Magento** and fill in the database information, web configuration, and accounts as follows.

Add a database.

٥ ١						
O Readiness Check	Add a Database	3 Web Configuration	4 Customize Your Store	5 Create Admin Account	6 Install	Back Next
ep 2: Ado	l a Databas	e				
Datab	ase Server Host	t \star localhost				
Database Se	erver Username	test				
Database S	erver Password	•••••				
1	Database Name	e • magento				
	Table prefix	(optional)				

Configure the web. You can customize your Magento admin address in this step. If not, a default address is assigned. For example, admin_1x13y5 in this tutorial.

	Readiness Check	Add a Database	Web Configuration Back	Customize Your Store Next	Create Admin Account	Install
ep 3: Web (Configuratio	on				
Your Stor	e Address	http:/	V			
Magento Admi	n Address 🔹 h	ttp://	admin_1xl3y	5/ AL	unique URL helps keep stomers safer. Use onl	your store and ly letters, numbers, and

Customize your store. Set the time zone of the site.

Ô	
O O O S 6 Readiness Add Web Customize Create Install Check a Database Configuration Your Store Admin Account Install	Back Next
Step 4: Customize Your Store	
Store Default Time Zone + China Standard Time (Asia/Shanghai)	
Store Default Currency • US Dollar (USD) •	
Store Default Language * English (United States)	
Advanced Modules Configurations \odot	

Create an administrator account.

ປາ						
0	-0		0	-0	6	Back Next
Check	a Database	Configuration	Your Store	Admin Account	mstan	
ten 5: Cre	ate Admin	Account				
ep 5. ere		Account				
eate a new Ac	imin account to	manage your s	tore.			
	New Username	e 🔸				
	New Emai	1 *				
	New Password	4 *				
					_	
Co	ofirm Parnword					

Install the store.

0					-	Try Again Back	Next
Readiness Check	Add a Database	Web Configuration	Customize Your Store	Create Admin Account	Install	ny rgani	THE M
ср 0. Ш3							to shall be a
							instailing.

When you get a page like this, the store is installed successfully.

Please keep this informa	tion for your records.
Magento Admin Info:	
Username:	
Email:	
Password:	*****
Your Store Address:	http:///
Magento Admin Address	: http:// /admin_1xl3y5/
Database Info:	
Database Name:	magento
Username:	test
Password:	*****
For security, remove writ	e permissions from these directories: '/var/www/html/app/etc'

<u>Click</u>	Launch Magento Adm	i <mark>n</mark> to ente	r the Dasł	nboard of the	store	
Û	-				System	n Messages: 🛕 1
	Dashboard				۹.	Lines -
\$ 54.05	Store Views: Al Store Views •					Reload Data
OUSTOMENS	Lifetime Sales \$0.00	Chart is disabled. To enabl	e the chart, click here.	Shipping	Quentity	
	Average Order \$0.00	\$0.00	\$0.00	\$0.00	0	
LL LL	Last Orders We couldn't find any records.	Bestsellers Most Viewed Products New Customers Customers				
	Last Search Terms We couldn't find any records.					
	Top Search Terms We couldn't find any records.					
NO PHITNERS & DITENSIONS	Conversity © 2017 Materito Commerce Inc. All rights reserved.					Mananta un 210

As an administrator of the store, you can access the Dashboard at the Magento admin address to manage it. For example, http://public IP address of your ECS instance/admin_1xl3y5/ in this tutorial. And your users can access your site at the http://public IP address of your ECS instance.

Step 6. Configure the cron job

Run crontab -u apache -e.

Add the following in the /etc/crontab file.

*/10 * * * * php -c /etc /var/www/html/bin/magento cron:run
*/10 * * * * php -c /etc /var/www/html/update/cron.php
*/10 * * * * php -c /etc /var/www/html/bin/magento setup:cron:run

Now you have a functional e-commerce site.

For more information about Magento configuration, see the official documentation.

Build a WordPress website

This document describes how to create a WordPress website by using an image available on the Alibaba Cloud Marketplace. The image contains both an operating system and all applications required to start your WordPress website, including CentOS, Nginx, MySQL, PHPWind, and phpMyAdmin.

WordPress is a popular personal blog and website builder. Alibaba Cloud Elastic Compute Service (ECS) makes publishing a WordPress site simple and straightforward. You can build a WordPress by creating an ECS instance and performing a few simple configurations.

As your business develops and your website attracts more visitors, you can scale your service capacity, both vertically and horizontally, by combining other Alibaba Cloud products. For example:

- Adding ECS instances and using Server Load Balancer to more evenly process your workload.
- Using Auto Scaling to automatically add or remove instances according to traffic conditions.
- Using Object Storage Service (OSS) to store static web pages, massive pictures, and videos.

Software and versions

The applications in the image include:

- Nginx 1.10.1: high-performance web server software
- MySQL 5.7.13: a relational database management system
- PHP 5.4.45: a popular server-side scripting language

- phpMyAdmin 4.4.15.7: a web GUI for the administration of MySQL
- OpenSSH-server 6.6: a secure remote console for server management
- OpenSSH-sftp-server 6.6: a secure FTP for file uploading
- WordPress 4.5.3: a content management system for building websites

Note: The versions listed are included as of the publishing date of this document. Your versions may be different.

Install the WordPress image

Log on to the ECS console.

Go to Alibaba Cloud Marketplace.

Click LEMP on CentOS7.2 64bits.

Click Choose Your Plan.



Choose Your Plan

Choose initial configuration mode.

If you want to configure only essential parameters of the instance and use the default settings for others, click **Quick Buy**. If you want to configure all parameters, click **Advanced Buy**. In this document we use **Quick Buy** as an example.

Infrastructure & Developer > W	Wordpress on LEMP CentOS7.2 Wordpress of Linux Architecture:64-b INFINITY GLOBAI	64bits on LEMP CentOS7.2 it - SOLUTIONS PTE LTD	64bits
Click 'Accept Terms & Buy Once you accept the terms, you	Quick Buy Now' to launch this softwa will have access to launch any	are with the settings below. y version of this software in any su	Advanced Buy
VERSION		Release Date Release Note	11/08/2016 Initial release v1.0

Choose an image version.

Release Date 11/08/2016 Release Note Initial release v1

Choose a region. For more information about these parameters, see Create an instance running Linux.

7		
GION	Hong Kong	\sim
82		

Choose an ECS instance type.

After choosing a type, you can see the corresponding details.

ecs.n1.small		Generation	Generation I
ecs.n2.small ecs.e3.small		CPU	1 core
ecs.n1.medium ecs.n2.medium	~	Memory	2 GB
		I/O Optimization	Yes
		System Disk	40 GB

Choose a network type.

Network Type varies for different ECS features, but both of these network access services are BGP lines.

RK					
IWO	classic	\sim	Network Performance	Medium	~

Choose the network performance.

Choose a purchasing plan: Subscription or Pay-As-You-Go.

Click Agree Terms and Buy Now to buy the instance.

Wait several minutes for the image to install.

When the image is installed, the following message appears:



Log on to the ECS console, locate the instance you bought, and note down the public IP address. You must change the password and then restart the instance.

Enter the public IP address in the browser, for example, http://47.89.30.144.You are redirected to install WordPress.

Choose a language, and then click **Continue**.



Enter the following configurations for WordPress:

- Site title: Specify the title of your website.
- User name: Specify your user name for WordPress.
- Password: Specify your password for WordPress.
- Your Email: Specify your email address.

Welcome	
Welcome to the fam	nous five-minute WordPress installation process! Just fill in the information below and
you'll be on your wa	y to using the most extendable and powerful personal publishing platform in the world
Information	needed
Diassa provida tha f	allowing information. Don't works you can always change these settings later
Please provide the l	onowing information. Don't worry, you can always change these settings later.
Site Title	
Username	
Username	Usernames can have only alphanumeric characters, spaces, underscores, hyphens, periods, and the @ symbol.
Username Password	Usernames can have only alphanumeric characters, spaces, underscores, hyphens, periods, and the @ symbol.
Username Password	Usernames can have only alphanumeric characters, spaces, underscores, hyphens, periods, and the @ symbol. ####################################
Username Password	Usernames can have only alphanumeric characters, spaces, underscores, hyphens, periods, and the @ symbol.
Username Password Your Email	Usernames can have only alphanumeric characters, spaces, underscores, hyphens, periods, and the @ symbol. ////////////////////////////////////
Username Password Your Email	Usernames can have only alphanumeric characters, spaces, underscores, hyphens, periods, and the @ symbol.
Username Password Your Email Search Engine	Usernames can have only alphanumeric characters, spaces, underscores, hyphens, periods, and the symbol.

Click Install WordPress.

When installation is finished, the following page appears. Click Log In.

Success!	
WordPress has be	een installed. Thank you, and enjoy!
Username	alidocs
Password	Your chosen password.
Log In	

Enter the configured user name and password to log on to WordPress.

Username or Email alidocs Password member Me
Lost your password? ← Back to Alibaba Cloud docs

You can now customize your website on the WordPress Dashboard.

Congratulations! You have successfully created your WordPress site on Alibaba Cloud! You can now start designing and using your site.

For more instructions on how to use WordPress, go to https://wordpress.org.

ICP Filing

If your website is hosted in mainland China, you must complete ICP filing before users can access your website. For more information on ICP filing, see the ICP Filing Guide.

Build an FTP site on an ECS instance

Build an FTP site on a Windows ECS instance

This article describes how to build an FTP site on a Windows ECS instance. This method is applicable to Windows Server 2008 and later versions. In this article, Windows Server 2008 R2 is used.

The procedure for building an FTP site on a Windows ECS instance is as follows:

- Step 1. Add IIS and FTP service roles
- Step 2. Create FTP username and password
- Step 3. Set permissions for shared files
- Step 4. Add and configure an FTP site
- Step 5. Configure a security group and firewall
- Step 6. Test

Step 1. Add IIS and FTP service roles

You must install IIS and FTP services before building an FTP site.

To install IIS and FTP services, follow these steps:

Connect to a Windows instance.

Click the Server Manager icon.

In the left-side navigation pane, click **Roles**, and then click **Add Roles**.

File Action View Help		
🗢 🔿 🙋 📅 📓		
Server Manager (iZ: Z)	Roles	
Configuration	View the health of the roles installed on your server and add or remove roles and features.	
in California	Roles Summary	Roles Summary Help
	Roles: 0 of 17 installed	Add Roles

In the Add Roles Wizard window, click Next.

Select Web Server (IIS), and then click Next.

Select IIS Management Console and FTP Server, and then click Next.

Click Install.

Step 2. Create FTP username and password

If you want to allow anonymous users to access the FTP, skip this step.

To create a Windows username and password to be used by the FTP, follow these steps:

Click the Server Manager icon.

In the left-side navigation pane, select **Configuration** > **Local Users and Groups**, and then double-click **Users**.

Right click the blank space, and then select New User.

On the **New User** dialog box, type the new user information. For example, *ftptest* is used in this article.

Note: The password must contain a mixture of upper-case letters, lower-case letters, and numbers. Otherwise, the password is invalid.

Step 3. Set permissions for shared files

You must set permissions to read, write, or execute for folders shared to users on the FTP site.

Create a folder for the FTP site, right click the folder, and then select **Properties**.

Click Security, select Users, and then click Edit.

Edit Permissions for Users. In this example, we grant all permissions.

Step 4. Add and configure an FTP site

Follow these steps to install an FTP site.

Select Start > Administrative Tools > Internet Information Services (IIS) Manager.

On the left-side navigation pane, click the instance ID, and then right click **Sites** and click **Add FTP Site**.

In the **Add FTP Site** wizard, specify the FTP site name and the physical path of the shared folder, and then click **Next**.

Use the default value for the IP address, and then type the port number of this instance. The default FTP port number is 21.

Select SSL settings, and then click Next.

- Allow SSL: Allows the FTP site to support both non-SSL and SSL connections with the client.
- **Require SSL**: Requires SSL encryption for communication between the FTP server and the client.
- No SSL: No SSL encryption is required.

Select one or more authentication methods.

- **Anonymous**: Allows any user to access the shared content, by entering the username **anonymous** or **ftp**.
- **Basic**: Requires users to enter the valid username and password before they can access the shared content. The basic authentication method transmits the unencrypted password through the network. Therefore, use this authentication method only when you are sure that the connection between the client and the FTP server is secure, for example, when SSL is used.

Select one of the following options from the Authorization list, and set permissions.

- All users: All users (both anonymous and identified users) can access the relevant content.
- Anonymous users: Anonymous users can access the relevant content.
- **Specified roles or user groups**: Only members of the specific role group or user group can access the relevant content. Enter the role group or user group in the corresponding field.
- **Specified users**: Only the specified users can access the relevant content. Enter the username in the corresponding field.

Click **Finish**.

Step 5. Configure a security group and firewall

After building the FTP site, you must add a rule in the security group to allow inbound traffic on the FTP port. For more information, see Add a security group rule.

By default, TCP port 21 is open on the server firewall by default for the FTP service. If you have entered another port number, you must add an inbound rule to open this port on the firewall.

Step 6. Test

On your local computer, access the FTP site by using ftp://IP address:FTP port (the default port 21 is used if you do not enter the port). For example, you could enter ftp://0.0.0.0:20. You are prompted for your username and password if the configuration was successful. After entering the username and password correctly, you can perform the relevant FTP file operations according to your permissions.

Note: If you use this method to access the FTP site from the client, you must adjust the Internet Explorer settings to open FTP folders. Open Internet Explorer, and then select **Tools** > **Internet Options** > **Advanced**. Select **Enable folder view for FTP sites**, and then clear **Use Passive FTP**.

What to do next

You can take actions to improve your FTP service security. For more information, see FTP anonymous logon and weak password vulnerabilities.

Build an FTP site on a Linux ECS instance

This article describes how to build an FTP site on a Linux ECS instance.

vsftpd is a light, safe, and easy-to-use FTP server for Linux. It is the most popular FTP server across all Linux versions. This article describes how to install vsftpd on a Linux ECS instance running CentOS 7.2 x64.

- Step 1. Install vsftpd
- Step 2. Configure vsftpd
- Step 3. Configure a security group
- Step 4. Test

Step 1. Install vsftpd

Connect to a Linux instance.

Run the following command to install vsftpd.

yum install -y vsftpd

Run the following command to open and view etc/vsftpd.

cd /etc/vsftpd ls

Note:

- /etc/vsftpd/vsftpd.conf is the core configuration file.
- /etc/vsftpd/ftpusers is the blacklist. Users on the blacklist are prevented from accessing the FTP server.
- /etc/vsftpd/user_list is the whitelist. Only the users on the whitelist are allowed to access the FTP server.

Run the following command to set vsftpd to automatically start on startup.

systemctl enable vsftpd.service

Run the following command to start the FTP service.

systemctl start vsftpd.service

Run the following command to view the FTP service port.

netstat -antup | grep ftp

Step 2. Configure vsftpd

After vsftpd is installed, the anonymous FTP function is enabled by default. Using the anonymous FTP function, users can log on to the FTP server without the username and password, but do not have the permission to modify or upload files.

This section describes the following vsftpd configuration methods and the corresponding parameter descriptions for your reference.

- Grant the file upload permission to anonymous users
- Configure local user logon
- Introduction to vsftpd.conf parameters

Grant the file upload permission to anonymous users

You can grant more permissions to anonymous users by modifying the options in the vsftpd.conf configuration file.

Follow these steps to modify /etc/vsftpd/vsftpd.conf.

- i. Run vim /etc/vsftpd/vsftpd.conf.
- ii. Press the i key to enter Edit mode.
- iii. Set write_enable=YES.
- iv. Set anon_upload_enable=YES.
- v. Press the Esc key and then type :wq to save and close the file.

Run the following command to change the permissions of the /var/ftp/pub directory, grant write permissions to the FTP users, and reload the configuration file.

chmod o+w /var/ftp/pub/ systemctl restart vsftpd.service

Configure local user logon

Local user logon refers to a user logging on to the FTP server by using the username and password for the Linux operation system. After vsftpd is installed, only anonymous FTP logon is supported. If you attempt to log on to the FTP server with the Linux username, your access to vsftp will be denied. However, you can adjust the vsftpd configuration to allow logon with a username and password. Follow these steps:

Run the following command to create the ftptest user.

useradd ftptest

Run the following command to modify the password for the ftptest user.

passwd ftptest

Follow these steps to modify /etc/vsftpd/vsftpd.conf:

i. Run vim /etc/vsftpd/vsftpd.conf.

- ii. Press the i key to enter edit mode.
- iii. Set anonymous enable=NO.
- iv. Set local_enable=YES.
- v. Press the Esc key and then type :wq to save and close the file.

Run the following command to reload the configuration file.

systemctl restart vsftpd.service

Introduction to vsftpd.conf parameters

Run cat /etc/vsftpd/vsftpd.conf to view content in the configuration file.

The following table lists all the parameters related to user logon control.

Parameters	Description
anonymous_enable=YES	Allows anonymous logon
no_anon_password=YES	Anonymous users are not prompted for a password when logging on
anon_root=(none)	Root directory for anonymous users
local_enable=YES	Allows local user logon
local_root=(none)	Root directory for local user

The following table lists all the parameters related to user permission control.

Parameters	Descriptions
write_enable=YES	Allows file upload (global control)
local_umask=022	Umask for the local user to upload files
file_open_mode=0666	Uses umask for file upload permission
anon_upload_enable=NO	Allows anonymous users to upload files
anon_mkdir_write_enable=NO	Allows anonymous users to create directories
anon_other_write_enable=NO	Allows anonymous users to modify and delete files and directories
chown_username=lightwiter	Username for anonymously uploaded files

Step 3. Configure a security group

After building the FTP site, you must add a rule to open the FTP port. For more information, see Add a security group rule.

Step 4. Test

On your local computer, access the FTP site by using ftp://public IP address:FTP port (the default port 21 is used if you do not enter the port). For example, ftp://0.0.0.220. You are prompted for your username and password if the configuration was successful. After entering the username and password correctly, you can perform the relevant FTP file operations according to your permissions.

Note: If you use this method to access the FTP site from the client, you must adjust the Internet Explorer settings to open FTP folders. Open Internet Explorer, and then select **Tools** > **Internet Options** > **Advanced**. Select **Enable folder view for FTP sites**, and then clear **Use Passive FTP**.

What to do next

You can take actions to improve your FTP service security. For more information, see FTP anonymous logon and weak password vulnerabilities.