Developer Services Portal Guide

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SAP API Management, On-Premise Edition

Typographic Conventions

Type Style	Description
Example	Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options. Textual cross-references to other documents.
Example	Emphasized words or expressions.
EXAMPLE	Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE.
`Example`	Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools.
`Example`	Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.
`<Example>`	Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.
EXAMPLE	Keys on the keyboard, for example, F2 or ENTER.

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1 SAP API Management Developer Services Portal

This section will guide you to install the Developer Services Portal of SAP API Management.

1.1 Overview

SAP API Management Developer Services Portal is a template, portal for content and community management.

It is based on the open source Drupal (www.drupal.org) project. The default setup allows creating and managing API documentation, forums, and blogs. A built-in test console allows testing of APIs in real time from within the portal.

Apart from content management, Developer Services Portal has various features for community management such as manual/automatic user registration and moderating user comments. Role- Based Access Control (RBAC) model controls the access to features on the Developer Services Portal. For example, you can enable controls to allow registered user to create forum posts, use test consoles, and so on.

This version of this document has details specific to Developer Services Portal version SP08.

1.2 Supported Network Topologies

The components of the SAP API Management Developer Services Portal can be installed in different network configurations, or topologies, including:

- Single machine - All SAP API Management Developer Services Portal components installed on a single machine.
- Small - The Drupal database is installed on a separate machine from the other components.

> **Note**
>
> These topologies are the only topologies supported by SAP API Management. If you use a different network topology, SAP API Management might not be able to support it.

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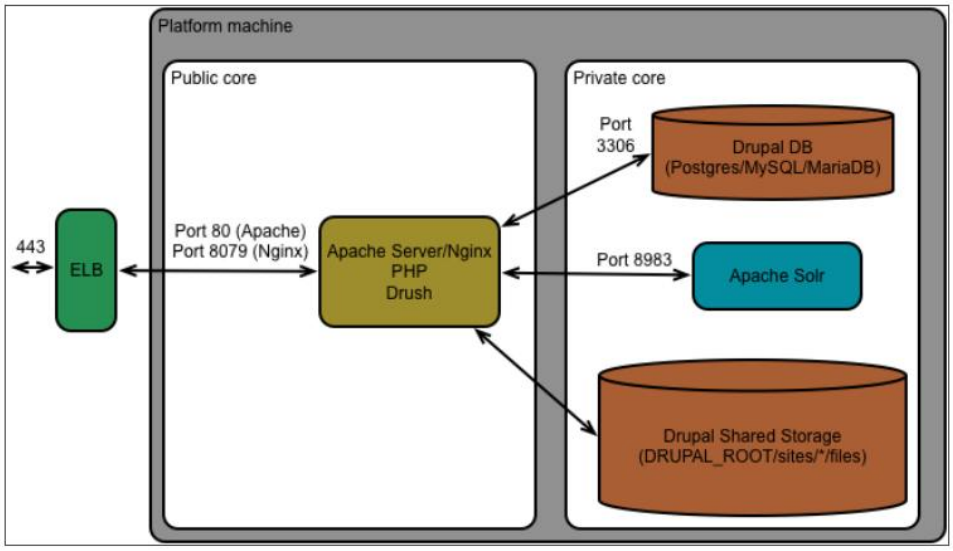
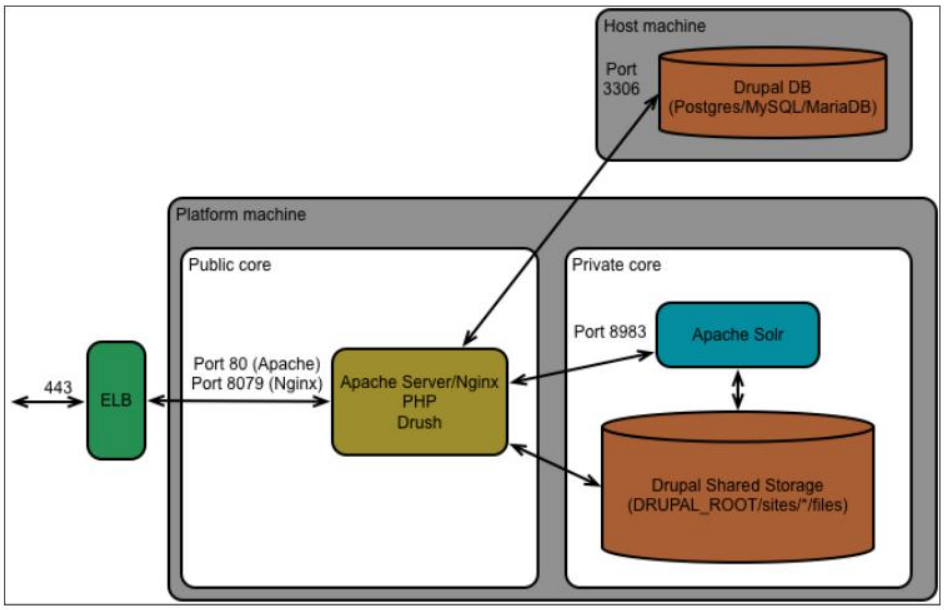
The following figure shows the single-machine topology where all components of the SAP API Management Developer Services Portal are installed on a single machine:



- On a new install of SP07, the installation script installs Postgres and Nginx.
- On an upgrade to SP07 from a previous version of the portal, you retain your existing database and web server:
  - Apache and MySQL 5.0.15 or later for all 6.x operating systems
  - Apache and MariaDB 5.1.38 or later for all 7.x operating systems

In this figure, the Public core contains the components that are publicly accessible. The Private core contains components that are not publicly accessible.

The following figure shows the small topology where the MySQL server resides on a separate machine:



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1.2.1 Developer Services Portal Components

Component	Description	Installed by
ELB	An Enterprise Load Balancer (ELB).	Your network provider.
Nginx 1.10.1	The Nginx web server used for new installations of SP07.	Developer Services Portal
Apache Server Version 2.2	Depending on your topology, you can have a single Apache server instance (single machine and small) or multiple (medium and large). For medium and large, you must provide a way to synchronize the instances.	Developer Services Portal
Postgres 9.4	The database used by Drupal for new installations of SP07.	Developer Services Portal or connect to an existing installation. If you want to connect to a remote Postgres installation, it must be version 9.4.
MySQL 5.0.15 or later	The database used for upgrades on RedHat 6 or CentOS 6,	Developer Services Portal, or connect to an existing installation. If MySQL is installed by the Developer Services Portal installer, it installs the latest version available for your OS. If you want to connect to a remote MySQL installation, it must be version 5.0.15 or later.
MariaDB 5.1.38 or later	The database used for upgrades on RedHat 7 or CentOS 7,	Developer Services Portal or connect to an existing installation. If MariaDB is installed by the Developer Services Portal, it installs the latest version available for your OS. If you want to connect to a remote MariaDB installation, it must be version 5.1.38 or later.
Drupal shared storage	The shared storage area used by Drupal for uploaded files, static scripts, and other information.	Developer Services Portal
Drush 6.2	The Drupal command line interface.	Developer Services Portal
PHP 7.0	Server-side scripting engine.	Developer Services Portal
Apache Solr	The Drupal search server. Apache Solr uses the Apache Lucene search library.	Developer Services Portal, but it is not enabled by default. Only enable it if you have a large amount of data on the portal. See Developer Services portal installation for instructions on enabling it.

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1.3 Prerequisites

Note

Do not install Developer Services Portal on the same servers as SAP API Management Edge.

Following are the hardware and software prerequisites for Developer Services Portal installation.

Hardware	Requirements
Operating System	· SUSE Linux Enterprise Server (SLES) release versions SUSE12 SP1 and SUSE12 SP2 are officially supported for new installation. · SUSE Linux Enterprise Server (SLES) release version SUSE12 SP2 is officially supported for upgrade.
	· Red Hat Enterprise Linux (RHEL) 64 bit (6.6, 6.7, 6.8, 7.0, 7.1, 7.2 and 7.3 are officially supported)
	· CentOS (64-bit version) (6.6, 6.7, 6.8, 7.0, 7.1, 7.2 and 7.3 are officially supported)
RAM	1GB
Hard Disk	10 GB
Network Interface	· Active Internet Connection. · As part of the installation process, the installer downloads resources from the web. If your environment is set up to proxy outgoing HTTP and HTTPS requests, then your proxy must be configured to correctly handle redirected requests that might occur during a download. For example, a request to `https://drupal.org/ returns` an HTTP 301 status code and redirects to `https://www.drupal.org/`. · Your proxy should be configured to return an HTTP 200 status code with the requested content from the redirect. · For SAP API Management installations, if your environment is set up to proxy outgoing HTTPS requests, then your proxy must support TLSv1.0. OpenSSL 0.9.8 does not support TLSv1.1 or TLSv1.2, only TLSv1.0.

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1.4 Requirements

1.4.1 Red Hat Enterprise Linux (RHEL) Requirements

RHEL has extra requirements due to a subscription needed to access software downloads from Red Hat. The server must be able to connect to the Internet to download RPMs via yum. If using RHEL, the server must be registered on the Red Hat Network (RHN) and registered to the server optional channel.

The Red Hat requirements are checked during the install and will prompt you with information if the server is not already configured properly.

```
> subscription-manager register --username=my_username  password=my_password --auto-attach
```

Replace `my_username` and `my_password` with your Red Hat credentials.

If you have a trial version of RHEL, you can obtain a 30-day trial license. See https://access.redhat.com/solutions/32790 for more information.

1.4.2 SUSE Enterprise Linux Server Requirements

On SUSE 12 and above, you need to have the following extensions and modules enabled:

- SUSE Linux Enterprise Software Development Kit
- Web and Scripting Module

The extensions and modules can be installed during server installation or by using the YaST tool after the server is installed.

1.4.3 SMTP requirements

SAP API Management requires that you configure an SMTP server to send email messages from the portal. Therefore, you must ensure that the Drupal can access the necessary port on the SMTP server. For non-TLS SMTP, the port number is typically 25. For TLS-enabled SMTP, it is often 465, but check with your SMTP provider.

1.4.4 Additional Requirements

In order to perform the installation, the user installing the software must have root access.

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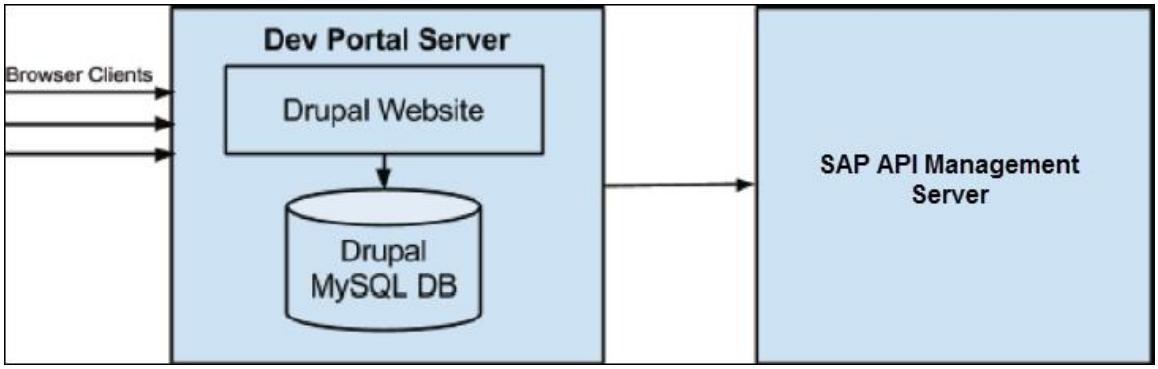
1.4.5 Deployment Architecture

Developer Services Portal has a single interface with the SAP API Management Server via a REST API in order to store and retrieve information about a user's application. Developer Services Portal will need to be able to connect to the Management Server via HTTP or HTTPS, depending on your installation.

Below figure provides details of Dev Portal HTTP/S connection flow:



1.4.6 Information Required Before You Start the Installation

Before starting the install, you must have the following information available:

1. Which platform are you configuring: Red Hat or CentOS? If this is a Red Hat install, the machine must be registered on the Red Hat Network to download RPMs.
2. Do you plan on installing MySQL on the local machine? Some HA installations require MySQL to be on a different machine than the one serving the portal web pages. If this is the case, do not install MySQL locally. If you want a simple install with everything on the same machine, then install MySQL locally.
3. If you intend to access a remote MySQL server, the hostname, port, database name, username, and password of the remote MySQL server. The remote MySQL server should already be configured, before you start the installation.
4. What is the fully-qualified domain name of the web server? (This information will be added to `/etc/hosts`.) This should be an IP address or hostname, such as `portalserver.example.com`. The default value is `localhost`.
5. There are three pieces of information that allow your portal to communicate with the SAP API Management server. This information is as follows:

    1. URL of the SAP API Management API Endpoint: This will be either a hostname or an IP address. This is the REST endpoint to which all calls are made to create apps and register developers for app keys. The default endpoint is `https://api.enterprise.apigee.com/v1`

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For an Edge for Private Cloud installation, the URL is in the form:

`http://`*`EdgeIp`*`:8080/v1`

or:

`https://`*`EdgeIp:SSLport`*`/v1`

Where *EdgeIp* is the IP address of the Edge management server and *SSLport* is the SSL port for the API. For example, 8443.

2. SAP API Management Organization name: There is a relationship between portals and API organizations. You will set up the default organization when you set up the Management API Endpoint. The default value is my-org.
3. Username and password for the management API endpoint: The calls from the portal to SAP API Management are authenticated and must be performed by an administrator for your organization.

   This username/password is for an administrator on your organization and should be used only for connecting to SAP API Management from the portal. For example, if you specify the credentials of a user, and that user is ever deleted on SAP API Management, then the portal will no longer be able to connect to SAP API Management. Therefore, create an administrator on your organization just for this connection.

   For example:

   `dc_devportal+ORGNAME@sap.com:MyP@ssw0rd`

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2 Developer Services Portal Installation

> **Note**
>
> Do not install Developer Services Portal on the same servers as SAP API Management Edge.

Before you install, ensure that:

- You install Postgres before installing the portal. You can either install Postgres as part of installing Edge, or install Postgres standalone for use by the portal.
  - If you install Postgres standalone, it can be on the same node as the portal.
  - If you are connecting to Postgres installed as part of Edge, and Postgres is configured in master/standby mode, specify the IP address of the master Postgres server.
- You are performing the install on the 64-bit version of a supported version of Red Hat Enterprise Linux, CentOS, or Oracle. For the list of supported versions, see Prerequisites.
- Yum is installed.

2.1 Installation Overview

After you install the Edge `apigee-setup` utility on a node, use that utility to install the Developer Services Portal on the node. The `apigee-setup` utility has the form:

```
> sudo /opt/apigee/apigee-setup/bin/setup.sh -p component -f configFile
```

Pass a configuration file to the `apigee-setup` utility that contains the information about the installation. If the configuration file is missing any required information, the `apigee-setup` utility prompts you to enter it on the command line.

The only requirement is that the configuration file must be accessible or readable by the "apigee" user.

For example, use the following command to install the portal:

```
> sudo /opt/apigee/apigee-setup/bin/setup.sh -p dp -f myConfig
```

2.2 Creating a configuration file

> **Note**
>
> Do not set the DEVPORTAL_ADMIN_USERNAME=admin. The admin user account is created by default. If specified, an error message is returned prompting you to configure a different username.

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Shown below is an example silent configuration file for a portal installation. Edit this file as necessary for your configuration. Use the -f option to setup.sh to include this file.

```
IP1=IPorDNSnameOfNode

# Must resolve to IP address or DNS name of host - not to 127.0.0.1 or localhost.
HOSTIP=$(hostname -i)

# Specify the name of the portal database in Postgres.
PG_NAME=devportal

# Specify the Postgres admin credentials.
# The portal connects to Postgres by using the 'apigee' user.
# If you changed the Postgres password from the default of 'postgres'
# then set PG_PWD accordingly.
# If connecting to a Postgres node installed with Edge,
# contact the Edge sys admin to get these credentials.
PG_USER=apigee
PG_PWD=postgres

# The IP address of the Postgres server.
# If it is installed on the same node as the portal, specify that IP.
# If connecting to a remote Postgres server,specify its IP address.
PG_HOST=$IP1

# The Postgres user credentials used by the portal
# to access the Postgres database,
# This account is created if it does not already exist.
DRUPAL_PG_USER=drupaladmin
DRUPAL_PG_PASS=portalSecret

# Specify 'postgres' as the database.
DEFAULT_DB=postgres

# Specify the Drupal admin account details.
# DO NOT set DEVPORTAL_ADMIN_USERNAME=admin.
# The installer creates this user on the portal.
DEVPORTAL_ADMIN_FIRSTNAME=firstName
DEVPORTAL_ADMIN_LASTNAME=lastName
DEVPORTAL_ADMIN_USERNAME=userName
```


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```
DEVPORTAL_ADMIN_PWD=pWord
DEVPORTAL_ADMIN_EMAIL=foo@bar.com

# Edge connection details.
# If omitted, you can set them in the portal UI.
# Specify the Edge organization associated with the portal.
EDGE_ORG=edgeOrgName

# Specify the URL of the Edge management API.
# For a Cloud based installation of Edge, the URL is:
# https://api.enterprise.com/v1
# For a Private Cloud installation, it is in the form:
# http://<ms_ip_or_DNS>:8080/v1 or
# https://<ms_ip_or_DNS>:TLSport/v1
MGMT_URL=https://api.enterprise.com/v1

# The org admin credentials for the Edge organization in the form
# of Edge emailAddress:pword.
# The portal uses this information to connect to Edge.
DEVADMIN_USER=orgAdmin@myCorp.com
DEVADMIN_PWD=pWord

# The PHP port.
# If omitted, it defaults to 8888.
PHP_FPM_PORT=8888

# You must configure the SMTP server used by the portal.
# The properties SMTPHOST and SMTPPORT are required.
# The others are optional with a default value as notated below.
# SMTP hostname. For example, for the Gmail server, use smtp.gmail.com.
SMTPHOST=smtp.gmail.com

# Use SSL for SMTP: 'y' or 'n' (default).
SMTPSSL="n"

# SMTP port (usually 25).
# The value can be different based on the selected encryption protocol.
# For example, for Gmail, the port is 465 when using SSL and 587 for TLS.
SMTPPORT=25

# Username used for SMTP authentication, defaults is blank.
```


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```
SMTPUSER=your@email.com

# Password used for SMTP authentication, default is blank.
SMTPPASSWORD=yourEmailPassword
```

2.3 Test your connection to SAP API Management Edge

Test your connection to the SAP API Management Edge's management server by executing the following cURL command from a command prompt on the portal server:

```
> curl -u {EMAIL}:{PASSWORD} https://{hostname}:8080/v1/organizations/{ORGNAME}
```

or

```
> curl -u {EMAIL}:{PASSWORD} https://{hostname}:TLSPort/v1/organizations/{ORGNAME}
```

Where `EMAIL` and `PASSWORD` are the email address and password of the administrator for `ORGNAME`.

Make sure to specify the hostname and port number specific to your installation of SAP API Management Edge. Port 8080 is the default port used by SAP API Management Edge. If you are connecting to an organizationi n the cloud, then the request URL is:

```
https://api.enterprise.com/v1/organizations/{ORGNAME}
```

If successful, this command returns a response similar to the following:

```
{
  "createdAt" : 1348689232699,
  "createdBy" : "USERNAME",
  "displayName" : "cg",
  "environments" : [ "test", "prod" ],
  "lastModifiedAt" : 1348689232699,
  "lastModifiedBy" : "foo@bar.com",
  "name" : "cg",
  "properties" : {
    "property" : [ ]
  },
  "type" : "trial"
}
```

2.4 Remove pre-7.0 versions of PHP

The install script checks for pre-7.0 versions of PHP on the system before starting the installation. If pre-7.0 versions of PHP exist, the following warning message displays:

```
The following packages present on your system conflict with software we are about to
install. You will need to manually remove each one, then re-run this install script.
```


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```
php
php-cli
php-common
php-gd
php-mbstring
php-mysql
php-pdo
php-pear
php-pecl-apc
php-process
php-xml
```

- For CentOS and Red Hat Enterprise Linux (RHEL), remove the PHP packages using the following command:
  `yum remove <package-name>`

- For SUSE Enteprise Linux servers, remove the PHP packages using the following command:
  `zypper remove <package-name>`

2.5 Install Postgres

The portal requires Postgres to be installed before you can install the portal. You can either install Postgres as part of installing Edge, or install Postgres standalone for use by the portal.

- If you are connecting to Postgres installed as part of Edge, and Postgres is configured in master/standby mode, specify the IP address of the master Postgres server.
- If you install Postgres standalone, it can be on the same node as the portal.

For information on installing Postgres as part of installing Edge, refer the section Install Edge components on a node in the Installation and Onboarding guide.

To install Postgres standalone:

1. Install the Edge `apigee-setup` utility on the node using the internet or non-internet procedure. Refer the section Install Edge components on a node in the Installation and Onboarding guide for more information.

2. Create a config file for Postgres, as shown below:

```
# The pod and region of Postgres. Use the default values shown below.
 MP_POD=gateway
 REGION=dc-1

 # Set the Postgres password. The default value is 'postgres'.
```


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```
PG_PWD=postgres
```

3. At the command prompt, run the setup script to install Postgres:

   ```
   > /opt/apigee/apigee-setup/bin/setup.sh -p pdb -f configFile
   ```

The “-p pdb” option specifies to install Postgres.

The configuration file must be accessible or readable by the "apigee" user. For example, put the file in the `/tmp` directory on the node.

2.6 Install Developer Portal Services using the SAP API Management Edge Gateway Build (using RPMs)

1. Install the Edge `apigee-setup` utility on the node using the internet or non-internet procedure. Refer the section Install the Edge apigee-setup utility in the Installation and Onboarding guide for more information.
2. Ensure that you have installed Postgres, either Postgres standalone or as part of installing Edge.
3. At the command prompt, run the setup script:

   ```
   > /opt/apigee/apigee-setup/bin/setup.sh -p dp -f configFile
   ```

   The “-p dp” option specifies to install the portal.

   The configuration file must be accessible or readable by the "apigee" user. For example, put the file in the `/tmp` directory on the node.
4. Navigate to the portal home page at `http://localhost:8079` or to the DNS name of your portal.
5. Log in to the portal using the administrator credentials that you set in the config file.

2.7 Ensure that the Update manager module is enabled

To receive notifications of Drupal updates, ensure that the Drupal Update manager module is enabled. From the Drupal menu, select *Modules* and scroll down to the *Update manager* module. If it is not enabled, enable it.

Once enabled, you can see the available updates by using the *Reports > Available Updates* menu item. You can also use the following Drush command:

```
> drush pm-info update
```

> **Note:**
>
> You have to run this command from the root directory of the site. By default, the Developer Services Portal is installed at `/var/www/html`. Therefore, you should first change directory to `/var/www/html` before running the command. If you did not install the portal in the default directory, change to your installation directory.
>
> Use the *Reports > Available Updates > Settings* menu item to configure the module to email you when updates are available and to set the frequency for checking for updates.

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2.8 Configure the Apache Solr search engine (Optional)

By default, the Drupal modules that connect to the Apache Solr search engine are disabled when you install the portal. Most portals use the internal Drupal search engine, and therefore do not require the Drupal Solr modules.

If you decide to use Solr as your search engine, you must install Solr locally on your server and then enable and configure the Drupal Solr modules on the portal.

To enable the Drupal Solr modules:

1. Log in to your portal as a user with admin or content creation privileges.
2. Select Modules in the Drupal menu.
3. Enable the Apache Solr Framework module and the Apache Solr Search module.
4. Save your changes.
5. Configure Solr as described at https://drupal.org/node/1999280.

2.9 Install SmartDocs (Optional)

SmartDocs lets you document your APIs on the Developer Services portal in a way that makes the API documentation fully interactive. However, to use SmartDocs with the portal, you must first install SmartDocs on SAP API Management Edge.

- If you are connecting the portal to an SAP API Management Edge installation, you must ensure that SmartDocs is installed on SAP API Management Edge.
- If you are connecting the portal to an SAP API Management Edge, you must ensure that SmartDocs is installed on SAP API Management Edge.

2.10 What next?

Your next steps after you install the Developer Services portal are to configure and customize it for your specific requirements.

The following table lists some of the most common tasks that you perform after installation, and includes links to the SAP API Management documentation where you can find more information:

Table 1: Additional tasks

Task	Description
Customize the theme	The theme defines the appearance of the portal, including colors, styling, and other visual aspects.

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Task	Description
Customize the appearance	The home page includes the main menu, welcome message, header, footer, and title.
Add and manage user accounts	The registration process controls how new developers register an account on the portal. For example, do new developers get immediate access to the portal, or do they have to be verified by an administrator. This process also controls how a portal administrator is notified when a new account is created.
Configuring email	The portal sends emails in response to certain events. For example, when a new developer registers on the portal and when a developer loses their password.
Adding terms and conditions	Add a Terms & Conditions page that developers must accept before being allowed to access the portal.
Set user roles and permissions	The portal implements a role-based authorization model. Before allowing developers to register, define the permissions and roles used by the portal.
Add blogs and forums	The portal has built-in support for blogs and threaded forums. Define the permissions required to view, add, edit, and delete blog and forum posts.
Ensure you are doing database backups	Ensure that you are backing up the Drupal database. Note that because every installation is different, it is up to you to determine how best to back up the database.
Set up a hostname	If you do not set up a hostname in your DNS server, you can always access the site via the server's IP address. If you want to use a hostname, you can configure DNS for the server, which should work correctly without any other configuration on a basic setup. If you set up a load balancer or are getting incorrect URLs on your site for some other reason, you can set $base_url in the Dev Portal `settings.php` file, which by default is located in the `/var/www/html/sites/default` directory.

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3 Post installation Tasks

3.1 Set the HTTP port used by the portal

3.1.1 For the portal running on Nginx

By default, the Nginx server installed with the portal listens for request on port 8079. Use the procedure below to configure Nginx to use a different port:

> **Note:**
>
> By default, the portal runs as the user "apigee". However, ports 1000 and below are often protected ports, which do not allow access to the "apigee" user. Therefore, you typically use ports above 1000 with the portal.

1. Ensure that the desired port number is open on the Edge node.
2. Open `/<inst_root>/apigee/customer/application/drupal-devportal.properties` in an editor. If the file and directory does not exist, create it.
3. Set the following propertty in drupal-devportal.properties:

   `conf_devportal_nginx_listen_port=`*PORT*

   where *PORT* is the new port number.
4. Save the file.
5. Restart the portal:

   ```
   /<inst_root>/apigee/apigee-service/bin/apigee-service apigee-drupal-devportal
   restart
   ```

3.1.2 For the portal running on Apache

By default, the Apache server installed with the portal listens for request on port 80. Use the procedure below to configure Apache to use a different port:

1. Open httpd.conf in an editor:

   ```
   > vi /etc/httpd/conf/httpd.conf
   ```
2. Search for `'Listen 80'` and replace `'80'` with the desired port number.
3. Save the file.
4. Restart Apache:

   ```
   > service httpd restart
   ```


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3.2 Starting, stopping or restarting the portal

3.2.1 For the portal running on Nginx

To start, stop, or restart the portal components, use the `apigee-service` command:

```
> /opt/apigee/apigee-service/bin/apigee-service compName stop|start|restart
```

Where `compName` can be one of the following: `apigee-drupal-devportal, apigee-drupal-contrib, apigee-drupal, apigee-drush, apigee-php`

3.2.2 For the portal running on Apache

To start, stop, or restart the portal, you actually start, stop, or restart the Apache web server. For example, to restart Apache on RedHat and CentOS, use the following command:

```
> service httpd restart
```

To stop or start Apache on RedHat and CentOS, use the commands:

```
> service httpd stop
> service httpd start
```

3.3 Commonly used Drush commands

Drush is the Drupal command line interface. You can use it to perform many tasks as a Drupal administrator. Drush is installed for you when you install the portal.

3.3.1 How to run Drush commands

You have to run Drush commands from the root directory of the portal site. By default, the Developer Services Portal is installed at:

/opt/apigee/apigee-drupal (Nginx)

/var/www/html (Apache)

Therefore, you should first change directory to correct root directory before running Drush commands.

If you did not install the portal in the default directory, change to your installation directory.

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3.3.2 Determining the portal root directory

If you do not know the installation directory, use the following command to locate the `devportal.conf` file:

```
>  apachectl -S
```

That command displays a line showing the location of the devportal.conf file:

```
*:80   192.168.52.155 (/etc/httpd/conf/vhosts/devportal.conf:1)
```

Use the `cat` command to view the file:

```
> cat /etc/httpd/conf/vhosts/devportal.conf
```

The output from this command lists the installation directory:

```
<VirtualHost *:80>
 DocumentRoot "/var/www/html"
```

3.3.3 Example Drush Commands

The following table lists common Drush commands:

Task	Description
`drush status`	Check Drupal status.
`drush archive-dump --destination=../tmp/dc.tar`	Backup Drupal to a specific location.
`drush dc-getorg`	Return the SAP API Management Edge organization associated with the portal.
`drush dc-setorg {ORGNAME}`	Set the SAP API Management Edge organization associated with the portal.
`drush dc-getauth`	Get the SAP API Management Edge organization administrator user name (email address) and password associated with the portal.
`drush dc-setauth {orgAdminEmail}`	Set the SAP API Management Edge organization administrator user name (email address). You will be prompted to set the password.
`drush dc-getend`	Get the SAP API Management Edge endpoint associated with the portal.

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Task	Description
`drush dc-setend http://{SERVERENDPOINT:8080/v1`	Set the SAP API Management Edge endpoint associated with the portal.
`drush dc-test`	Test the connection from the portal to the SAP API Management Edge organization using the organization administrator's credentials.

3.4 Configuring the portal to use HTTPS

All SAP API Management installations of the portal require the portal to be behind a load balancer. Therefore, you configure SSL on the load balancer itself, and not on the portal. The procedure that you use to configure SSL is therefore dependent on the load balancer.

For the portal running on Apache:

However, if necessary, you can configure SSL on the web server that hosts the portal. By default, SAP API Management installs the Apache web server.

1. Obtain your SSL key and certifcate.
2. Ensure that you install `mod_ssl` as described above by using the command:

   ```
   > yum install mod_ssl
   ```
3. Update `/etc/httpd/conf/httpd.conf`:
   1. If you want to disable HTTP access on port `80`, search for `'Listen 80'` and comment it out.
   2. Add the following lines at the end of file:

      ```
      LoadModule ssl_module modules/mod_ssl.so
      Listen 443
      ```
4. Setup a virtual host by editing `/etc/httpd/conf/vhosts/devportal.conf` to add the following:

   ```
   <VirtualHost *:443>
     ServerName localhost
     SSLEngine on
     SSLCertificateFile "<public cert path>"
     SSLCertificateKeyFile "<private key path>"
     DocumentRoot "/var/www/html"
     <Directory "/var/www/html">
       Options Indexes FollowSymLinks MultiViews
       AllowOverride All
       Order allow,deny
       Allow from all
     </Directory>
   </VirtualHost>
   ```


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Also, comment out the existing VirtualHost definition if you do not want to use HTTP.

5. Because SSL is configured in `httpd.conf`, you do not need `ssl.conf`:

   ```
   > mv /etc/httpd/conf.d/ssl.conf /etc/httpd/conf.d/ssl.conf.orig
   ```

6. Restart Apache:

   ```
   > service httpd restart
   ```

   You might be prompted to enter the passphrase for your key file.

You should be able to access the portal over SSL.

3.5 Uninstalling the SAP API Management Edge for Developer Services Portal

To uninstall the SAP API Management Edge for Developer Services Portal completely from your system, perform the steps described in the section Uninstalling SAP API Management Edge of the Technical Operations Guide.

Alternatively, you can uninstall the following Developer Services Portal components individually:

- `apigee-drupal`
- `apigee-drupal-contrib`
- `apigee-drupal-devportal`
- `apigee-drush`
- `apigee-php`

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4 Upgrading the Developer Services Portal

This procedure describes how to upgrade an existing SAP API Management Developer Channel Services on-premise installation.

All new installations of the portal for SP07 use Postgres as the database and Nginx as the web server. However, an upgrade to SP07 from a previous release of the portal retains the database and Apache web server used in the previous release. That means your current SP07 portal can use any one of the following configurations:

- Nginx/Postgres for all new SP07 installations
- Apache/MySQL 5.0.15 or later for all 6.x operating systems updated to SP07
- Apache/MariaDB 5.1.38 or later for all 7.x operating systems updated to SP07

Before you start the update process, you must determine your current configuration and then perform the correct update procedure.

4.1 Determining the correct update procedure

The procedure that you use to update the portal is based on your current installation:

- If your installation uses Apache/MySQL or Apache/MariaDB from a system updated to SP07, then use Upgrading portal using a .tar file.
- If your installation uses Nginx/Postgres from a new SP07 installation, then use Upgrading a portal using RPMs.

4.2 Determining your current installation type

If you are unsure about your current installation type, use the following command to determine it:

- `ls /opt`

  If you are using Nginx/Postgres, this command returns the following directories: `/opt/apigee` and `/opt/nginx`

  If you are using Apache/MySQL or Apache/MariaDB, the command returns no directories.

- `/opt/apigee/apigee-service/bin/apigee-all status`

  If you are using Nginx/Postgres, you will see the following output:

  ```
  + apigee-service apigee-drupal-devportal status
  OK: apigee-drupal-devportal is up and running
  + apigee-service apigee-lb status
  ```


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```
apigee-service: apigee-lb: OK
+ apigee-service apigee-postgresql status
apigee-service: apigee-postgresql: OK
apachectl -S
```

If you are using Apache/MySQL or Apache/MariaDB, then this command returns the web root directory of the portal, in the form:

```
*:80          192.168.56.102 (/etc/httpd/conf/vhosts/devportal.conf:1)
```

4.3 Default installation directory

The upgrade process assumes that the Developer Services Portal was installed at:

- `/opt/apigee/apigee-drupal` (Nginx)
- `/var/www/html` (Apache)

If you did not install the portal in the default directory, modify the paths in the procedure below to use your installation directory.

If you do not know the installation directory, you can determine it as described in Commonly used Drush commands.

4.4 Supported upgrade versions

This upgrade procedure is supported for the following versions of the portal:

- OPDK-17-01.x
- OPDK-17-05.x

To determine your portal version, open the following URL in a browser: http://yourportal.com/buildInfo

> **Note:**
>
> In SP08 this link is removed. To determine the version, open the *Reports > Status report* menu entry in Drupal. The portal version appears in the table in the row named *Install profile*.

> **Note:**
>
> If nothing is displayed or a version other than one listed above is displayed, then you cannot use this upgrade process.

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Note:

If for some reason you removed the `buildInfo` file, then you can determine the version from the `profiles/apigee/apigee.info` file. The default install location is `/var/www/html/profiles/apigee/apigee.info`, but you might have changed it at install time if you installed the portal in a directory other than `/var/www/html`. The `apigee.info` file contains a line in the form below containing the version:

```
version = "OPDK-4.17.05"
```

4.5 Before you upgrade

For existing installations, if you have modified any code in Drupal core or in any non-custom modules, your modifications will be overwritten. This includes, among other things, any changes you may have made to `.htaccess`. You should assume that anything outside the `/sites` directory is owned by Drupal. An exception to this rule is `robots.txt`; if this file exists in the web root, it will be preserved for you.

Before proceeding with the installation, make a backup of your entire Drupal web root directory. After performing the installation steps described below, you can restore your customizations from the backup.

4.6 Upgrading SAP API Management Developer Services Portal using RPMs

Use the following procedure to update the portal RPM on a node:

1. Change to the Drupal directory, `/opt/apigee/apigee-drupal` by default:

   ```
   > cd /opt/apigee/apigee-drupal
   ```

2. Backup your Drupal database instance. The pg_dump command creates a copy of the database:

   ```
   pg_dump --dbname=devportal --host=192.168.56.101 --username=drupaladmin --password
   --format=c > /tmp/portal.dmp
   ```

   where:

   - `dbname` specifies the database name as specified by the `PG_NAME` property in the portal installation configuration file
   - `host` specifies the IP address of the portal node.
   - `username` specifies the Postgres username used by the portal to access the data base as specified by the `DRUPAL_PG_USER` property in the portal installation configuration file.
   - You are prompted for the Postgres user password as defined by the `DRUPAL_PG_PASS` property in the portal installation configuration file.

   If you later have to restore from the backup, use the command:

   ```
   pg_restore --clean --dbname=devportal --host=localhost  --username=apigee <
   /tmp/portal.dmp
   ```


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3. Make a backup of your entire Drupal web root directory. The default install location is `/opt/apigee/apigee-drupal`, but you might have changed it.

   If you are unsure of the location of this directory, use the `drush status` command or the *Configuration > Media > File entry* in the Drupal menu to determine the location of the public file system and private file system path (for the next step).
4. Make a backup of the files in `/opt/apigee/data/apigee-drupal-devportal/private`.
5. On the new node, untar the file to the `/tmp` directory:

   ```
   > tar -xzf apigee-4.17.05.tar.gz
   ```

   This command creates a new directory, named repos, in the directory containing the .tar file. For example `/tmp/repos`.
6. Install the Edge `apigee-service` utility and dependencies from `/tmp/repos`:

   ```
   > sudo bash /tmp/repos/bootstrap_4.17.05.sh apigeeprotocol="file://"
   apigeerepobasepath=/tmp/repos
   ```

   1. Use `apigee-service` to update the `apigee-setup` utility:

      ```
      > /opt/apigee/apigee-service/bin/apigee-service apigee-setup update
      ```
   2. Run the update utility on your node to update the Postgres database:

      ```
      > /opt/apigee/apigee-setup/bin/update.sh -c ps -f configFile
      ```

      where `configFile` is the configuration file that you used to install the Postgres database. The only requirement on the config file is that the configuration file must be accessible or readable by the "apigee" user.
   3. Start Postgres:

      ```
      > /opt/apigee/apigee-service/bin/apigee-service apigee-postgresql start
      ```
   4. Run the update utility on your node to update the portal:

      ```
      > /opt/apigee/apigee-setup/bin/update.sh -c dp -f configFile
      ```

      where configFile is the configuration file that you used to install the portal. The only requirement on the config file is that the configuration file must be accessible or readable by the "apigee" user.

4.7 Upgrading SAP API Management Developer Services Portal using a .tar file

1. Backup of your Drupal MySQL instance.

   For more information, see http://www.thegeekstuff.com/2008/09/backup-and-restore-mysql-database-using-mysqldump/

   1. Option 1: Use Drush

      The Drush command `sql-dump` creates a copy of the database. From your Drupal directory, `/var/www/html` by default, run the command:

      ```
      > drush sql-dump > /path/to/backup_dir/database-backup.sql
      ```

      Use `drush help sql-dump` for more information.

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2. Option 2: Use MySQLdump

   Use the `mysqldump` command to create a copy of the database:

   ```
   mysqldump -u USERNAME -p'PASSWORD' DATABASENAME > /path/to/backup_dir/database-backup.sql
   ```

   There should be no space between the `-p` option and the password. Single quotes around the password are required if the password contains special characters.

   You set the `USERNAME` and `DATABASENAME` when you installed the portal. By default, both are devportal.

2. Make a backup of your entire Drupal web root directory. The default install location is `/var/www/html`, but you might have changed it at install time.
3. Download the Developer Services Portal `DeveloperServices_x.y.z.tar.gz` file, where x.y.z corresponds to the portal version number.

   You can download a file from the link sent to you by SAP API Management in a browser or by copying it and then adding it to the following cURL command:

   ```
   > curl -kOL <paste link here>
   ```

4. For an upgrade on a server with an Internet connection:
   1. Extract the portal upgrade file:
      ```
      > tar -xvf <tar file>
      ```

      This extract creates a new directory called `DeveloperServices-4.x.y.z`.

   2. Change to the `DeveloperServices-4.x.y.z` directory.
   3. Download the latest Drupal version by using the following command:
      ```
      > drush dl drupal
      ```
      This command creates a directory named drupal-x.y, where x.y corresponds to the current version of Drupal.

   4. Run the networked-update.sh script:
      ```
      > ./networked-update.sh
      ```
      Depending on file permissions, you might have to use sudo to run this command, or run it as an administrator.

   5. To receive notifications of Drupal updates, ensure that the Drupal Update manager module is enabled. From the Drupal menu, select *Modules* and scroll down to the Update manager module. If it is not enabled, enable it.
      Once enabled, you can see the available updates by using the *Reports > Available Updates* menu item.

      Use the *Reports > Available Updates > Settings* menu item to configure the module to email you when updates are available and to set the frequency for checking for updates.

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5. For an upgrade on a server with no Internet connection:

   Note:

   You need to configure PHP Repository with the following packages installed and enabled:
   php7-phar
   php7-curl
   php7-openssl
   php7-ctype

   1. On the server where you downloaded the Developer Channel Services DeveloperServices_x.y.z.tar file, extract the portal upgrade file:
      `> tar -xvf <tar file>`
      This command extract creates a new directory called DeveloperServices-4.x.y.z.

   2. Change to the DeveloperServices-4.x.y.z directory.
   3. Run the non-networked-update.sh script:
      `> ./non-networked-update.sh`
      Depending on file permissions, you might have to use sudo to run this command, or run it as an administrator.
      This command downloads all the necessary update files and packages them into a single file named devportal-update.tgz and writes the file to a location of your choosing.

   4. Copy `devportal-update.`tgz to the target server, the one running the portal.
      Note: Do not copy the devportal-update.tgz to the web root of the target server.

   5. Untar the devportal-update.tgz file to the current directory:
      `> tar -xzf /path/to/devportal-update.tgz`

   6. Change to the developer-update directory.
   7. Run the following command to install the update:
      `> ./install-update.sh`
   8. Answer the prompts.

The upgrade is now complete.

4.8 Upgrading the Drupal version of Developer Services Portal

In SAP API Management, installation of the Developer Services portal, you might get a notification that a new version of Drupal is available. A new version can mean a Drupal feature release, patch, security update, or other

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type of Drupal update. In the case of a security update, you want to upgrade your installation of Drupal as soon as possible to ensure that your site remains secure.

The procedure below describes how to upgrade a Drupal.

> **Note:**
>
> This procedure only upgrades your installation of Drupal. It does not upgrade the Apigee software that ships as part of the portal.

4.8.1 Determining your current Drupal version

Before you start the Drupal upgrade, you can determine your current Drupal version by running the following command from the Drupal installation folder. By default, Drupal is installed in `/var/www/html`:

```
> cd /var/www/html
> drush status | grep 'Drupal version'
```

You should see output in the form:

```
Drupal version                  :  7.31
```

If you installed Drupal in a directory other than `/var/www/html`, make sure to change to that directory before running the drush command.

4.8.2 Upgrading Drupal

To upgrade your Drupal installation:

1. Change to the /var/www directory, the default installation directory. Modify this directory if you installed the portal in a different location.

2. Download the latest Drupal code by using the following command:

   > drush dl drupal

   The command creates a directory named drupal-x.y under /var/www, where x.y corresponds to the current version of Drupal.

   Note: If your portal is on a server with no external internet connection, perform this step on a server with internet access, and then copy the drupal-x.y directory to your portal server.

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3. Remove the `sites` directory under the `drupal-x.y` directory:

```
> rm -R -f drupal-x.y/sites
```

4. Use the following commands to copy files from the `/var/www/html` directory to `drupal-x.y`:

```
> cp html/buildinfo drupal-x.y
> cp -r html/sites drupal-x.y
> cp -r html/profiles/apigee drupal-x.y/profiles
```

5. Set file ownership. This command makes user `root` the user-owner and group `apache` the group-owner of all files and directories in Drupal's root directory and all subdirectories and files in those subdirectories:

```
> cd drupal-x.y
> chown -R root:apache .
> find . -type d -exec chmod u=rwx,g=rx,o= '{}' \;
> find . -type f -exec chmod u=rw,g=r,o= '{}' \;
```

Modify this command if you use different owner/group combination. For more information, see https://www.drupal.org/node/244924.

6. Set the files permissions in the `sites/files`, `sites/private`, and `sites/tmp` directories. Change the paths as necessary if you moved these directories from their default location. You can use the `drush vget file_` command to determine the location of these directories if you moved them.

```
> cd drupal-x.y/sites
> find . -type d -name files -exec chmod ug=rwx,o= '{}' \;
> for d in ./*/files
do
   find $d -type d -exec chmod ug=rwx,o= '{}' \;
   find $d -type f -exec chmod ug=rw,o= '{}' \;
done
> for d in ./*/private
do
   find $d -type d -exec chmod ug=rwx,o= '{}' \;
   find $d -type f -exec chmod ug=rw,o= '{}' \;
done
> for d in ./*/tmp
do
   find $d -type d -exec chmod ug=rwx,o= '{}' \;
   find $d -type f -exec chmod ug=rw,o= '{}' \;
done
```

7. Backup your existing Drupal installation and copy the Drupal update to your Drupal installation directory:

```
> mv html html-bak; mv drupal-x.y html
```


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Depending on file permissions, you might have to use `sudo` to run this command, or run it as an administrator. Modify the destination directory if you installed Drupal in a directory other than `/var/www/html`.

8. Change directories to your Drupal installation directory:

   ```
   > cd /var/www/html
   ```

9. Run the following drush command to update the Drupal database:

   ```
   > drush updb -y
   ```

10. Clear all caches:

    ```
    > drush cc all
    ```

The upgrade is now complete.

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