

## ***IBM API CONNECT MANAGEMENT SETUP***

IBM DataPower Installation & Configuration

IBM API Connect Management Installation & Configuration

IBM API Connect Developer Portal Installation & Configuration

IBM DataPower, API Connect Management & API Connect Developer Portal Integration



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## Introduction

This document provides the information/instructions for installing, configuration & integration of IBM DataPower, API Connect Management & API Connect Developer Portal.

## Running DataPower Install wizard

1. Log into the DataPower virtual appliance with username **admin** password **admin**

```
login: admin
Password: *****_
```

```
The Installation Wizard helps to perform the following tasks:
(1) Configure network interfaces
(2) Configure network services (such as DNS)
(3) Configure a unique system identifier
(4) Configure remote management access
(5) Configure a user account that can reset passwords
(6) Configure the RAID volume
(7) Review and save the configuration
```

2. Enter **y** to enable Secure Backup mode.
3. Enter **y** to confirm Secure Backup mode.
4. Enter **n** to disable common criteria compatibility mode
5. Enter **Passw0rd!** & confirm your new admin password (we will use the same password for everything in the Workshop for the sake of simplicity).
6. Enter **y** to run the install wizard
7. Enter **y** to configure network interfaces
8. Enter **y** to say you have all the information
9. Enter **y** to configure eth0
10. Enter **n** to disable DHCP
11. Enter the eth0 IPv4 address for the interface in CIDR notation, (**192.168.1.77/24**). 255.255.255.0
12. Enter the IP address for the IPv4 default gateway (**192.168.1.77**).
13. Enter **n** to skip the eth1 configuration.
14. Enter **n** to skip the eth2 configuration.
15. Enter **n** to skip the eth3 configuration.

```
Step 1 - Do you want to configure network interfaces? [y]:y

To perform these tasks, you will need the following information:
(1) The interfaces that are connected
(2) Whether to use DHCP or a static IP address and subnet mask
(3) The IP address of the default gateway

Do you have this information? [y]:y
Do you want to configure the eth0 interface? [y]:y
Modify Ethernet Interface configuration

Do you want to enable DHCP? [y]:n
Enter the IPv4 address for the interface in CIDR notation: 192.168.1.77/24
Enter the IPv4 address for the default gateway []:192.168.1.1
Do you want to configure the eth1 interface? [y]:n
Do you want to configure the eth2 interface? [y]:n
Do you want to configure the eth3 interface? [y]:n
```

## API Connect Management Setup

16. Enter **y** to configure network services
17. Enter **y** to configure DNS
18. Enter **y** to say you have all the information
19. Enter the IP address of the DNS server (IP May vary )

```
Step 2 - Do you want to configure network services? [y]:y
Do you want to configure DNS? [y]:y

This configuration requires the IP address of the DNS server.

Do you have this information? [y]:y
Enter the IP address of the DNS server: 192.168.1.1
Modify DNS Settings configuration
```

20. Enter **y** for defining a unique system identifier for this appliance

```
Step 3 - Do you want to define a unique system identifier for the appliance? [y]:y
Enter a unique system identifier: PantherDP
```

21. Enter **y** to configure remote management access
22. Enter **y** to say you have all the information
23. Enter **y** to enable ssh
24. Press **enter** to use all local IP addresses
25. Press **enter** to accept the default port (22)
26. Enter **y** to enable the WebGUI
27. Press **enter** to use all local IP addresses
28. Press **enter** to accept the default port (9090)

```
Step 4 - Do you want to configure remote management access? [y]:y

These configurations require the IP address of the local interface that manages the appliance.

Do you have this information? [y]:y
Do you want to enable SSH? [y]:y
Enter the local IP address [0 for all]: 192.168.1.77
Enter the port number [22]: 22
SSH service listener enabled

Do you want to enable WebGUI access [y]:y
Enter the local IP address [0 for all]: 192.168.1.77
Enter the port number [9090]: 9090
```

29. Enter **y** to configuring a user account that can reset passwords
30. Press **enter** to accept the default user account (password-reset-user)
31. Enter **Passw0rd!** & confirm with the new password-reset-user password.
32. Enter **n** to skip configuring a hard disk array
33. Enter **n** to skip reviewing the current configuration
34. Enter **y** to save the current configuration
35. Enter **y** to overwrite the previous configuration

```

Step 5 - Do you want to configure a user account that can reset passwords? [y]: y
Enter the name of the user account that can reset passwords [password-reset-user]: admin2
New User configuration
Enter new password: *****
Re-enter new password: *****
Cleared RBM cache

Note: Configuration of the RAID array is required to use the RAID array in this appliance.

Step 6 - Do you want to configure the RAID array? [y]:n

Step 7 - Do you want to review the current configuration? [y]:y

ethernet: eth0 [up]
-----
admin-state enabled
ip-config-mode static
ip-address 192.168.1.77/24
ipv4-default-gateway 192.168.1.1

```

36. Check the IP addresses you configured above by entering the command **show int**

```

idg# show int

interface          IP Address          RX (Kb/pkts/errs)  TX (Kb/pkts/errs)
-----
lo                 127.0.0.1           302921/2184857/0    302921/2184857/0
sit0               0/0/0               0/0/0
ip6tnl0            0/0/0               0/0/0
eth0               192.168.1.77        353095/1881006/0    513454/2970261/0
eth1               0/0/0               0/0/0
eth2               0/0/0               0/0/0
eth3               0/0/0               0/0/0

```

## Accepting the license (datapower)

1. Navigate to the following URL in a browser: <https://192.168.1.77:9090/> (use the eth0 IP address)
2. Proceed through any security warnings about the certificate
3. Log in with username "admin", the new password you specified (Passw0rd!) and the default domain.
4. Click "I agree" to accept the license.

### Software License Agreement

By clicking on the "I Agree" button below, you agree to the terms of the license agreement and non-IBM terms, if applicable. If you do not agree, click the "I do not Agree" button.

Non-IBM Terms

I agree

I do not agree

5. The appliance reloads. The next time you log into the console, the wizard is not displayed.



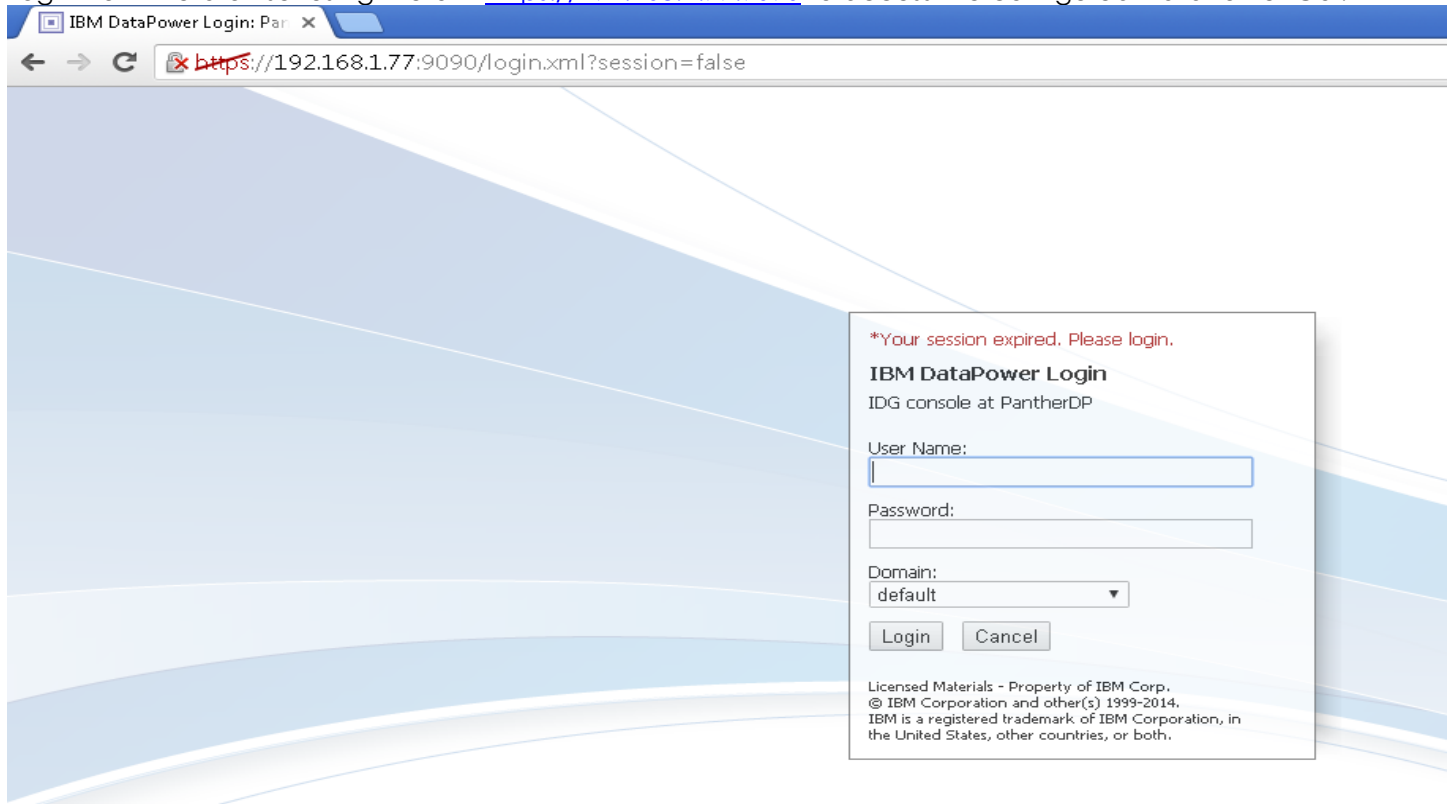
## Software License Agreement

Agreement Accepted.

The appliance is processing the request, which takes a few minutes to complete. When complete, refresh the browser to log on to the appliance.

## GUI Connectivity checks

Login from the browser using the URL <https://192.168.1.77:9090> to access the configured DataPower GUI.



## CLI Access

As the GUI appeared the virtual appliance should be accessible from putty also

```
idg# show version

Serial: 00000000
Version: IDG.7.5.0.0
Build: 274960
Build date: 2016/03/11 15:09:45
Watchdog build: IDG.7.5.0.0
Installed DPOS: IDG.7.5.0.0
Running DPOS: IDG.7.5.0.0
XML accelerator: embedded
Machine type: 5725
Model type: T09
Access Manager: all
  Coproc: 1.2
    DCO: 5.13
    JMS: 2.0.3
    MQ: 8.0.0.0
    ODBC: 7.15
    ODR: ODRLIB855.ODRLIB_a1528.01
```

## API Connect Management Setup

### Enabling the XML Management Interface Port

The show XML Management Interface port must be enabled to allow IBM API Management to configure the gateway server.

- Log in to DataPower
- Select **Network > Management > XML Management Interface**
- Set Administrative State to enabled and keep the default port (5550)
- Click the Apply button and the object status should change to [up] at the top of the page.
- Click the Save Configuration link at the top right.

### Idle timeout

- Key in web management in the left panel search field.
- Select Web Management Service.
- Change the Idle timeout value from 600 to 6000 seconds.
- Click the Apply button and the object status should change to [up] at the top of the page.
- Click the Save Configuration link at the top right.

### Configuring the API Connect Management appliance

Once the appliance is successfully started you will get a login prompt. The following instructions are for API Management V4.0.

- Login with username admin and password !n0r1t5@C
- net set eth0 address 192.168.1.16 mask 255.255.255.0
- net set gateway static 192.168.1.1 eth0
- net set nameserver static 192.168.1.2
- net set ntp static 192.168.1.1
- net set search none
- net restart (this may take 1 minute to complete)
- net show all (if Network is inactive message appears, wait a little longer for the networking to restart fully and repeat this command until the correct details display)

```
new-host-5/APIConnect> net show all
Hostname (DHCP from eth0): new-host-5
Domain (DHCP from eth0): home
Domain Search (Static): [None]
Nameservers (Static): 192.168.1.1
Gateway (Static on eth0): 192.168.1.1
NTP (DHCP from eth0): [None]

Carrier timeout: 30 seconds

Eth0 (00:0c:29:7c:ff:0e): Static
  Address: 192.168.1.16, Netmask: 255.255.255.0, Broadcast: 192.168.1.255
  MTU: 1500
  Link Status is not available
```

### Verifying the APIConnect system status

Execute the command "system show status" to verify the current running status of the virtual appliance.

## API Connect Management Setup

```
new-host-5/APIConnect> system show status
Appliance Status
-----
System: Up
Network: Up
Runtime: Up
```

```
new-host-5/APIConnect> system show version
Product: API Connect
Node: Management
Version: API Connect 5.0.0.0_20160321-2040_adc87c5ec0a4 (Mar 21 2016, SOURCE ID: c45501c)
Serial Number: VMWSI9OE2RXNKK7J
```

### Accepting License (API Connect Management)

At this point both appliances should be started.

- Log into the Cloud Management Console: <https://192.168.1.16/cmc/>
- Accept any security trust exceptions that pop up.
- When the login screen pops up, log in with Username **admin** and Password: **!n0r1t5@C**
- Click the **Accept All Licenses, Terms and Notices** button.

You will be required to change the admin password to something else upon logging in for the first time.

### Configuring the API Connect Developer Portal

At this point both gateway and management appliances should be started and configured.

1. Ensure that the Advanced Portal VM is started
2. Using the VMware console, log into the advanced portal using the default credentials of admin / !n0r1t5@C
3. Change the networking for the eth0 interface on the portal by doing the following
  - a. Type in **sudo nano /etc/network/interfaces**
  - b. We will be focusing on the following sections in this file

```
# The primary network interface
allow-hotplug eth0
iface eth0 inet dhcp

# Secondary interface
auto eth1
iface eth1 inet dhcp
```

- c. Change the Primary network interface information to the following:

```
allow-hotplug eth0
iface eth0 inet static
address 192.168.1.15
netmask 255.255.255.0
gateway 192.168.1.1
```

- d. Comment out the two lines under secondary interface. The screen should appear like below.



## API Connect Management Setup

```
# The primary network interface
allow-hotplug eth0
iface eth0 inet static
address 192.168.1.15
netmask 255.255.255.0
gateway 192.168.1.1
```

- e. Key Ctrl I+ x to exit; y to save the changes; Enter to write.  
Expect a response like: [Wrote 21 lines] and focus returns to the command line.
- f. You will need to recycle networking by typing the following (or reboot the VM):  

```
sudo ifdown eth0
sudo ifup eth0
sudo /etc/init.d/networking stop
sudo /etc/init.d/networking start
```

If all went well, expect to see:

**[OK] Configuring network interfaces . . . . Done**

- g. Issue the command ifconfig to verify that eth0 addressing is correct – 192.168.1.15.

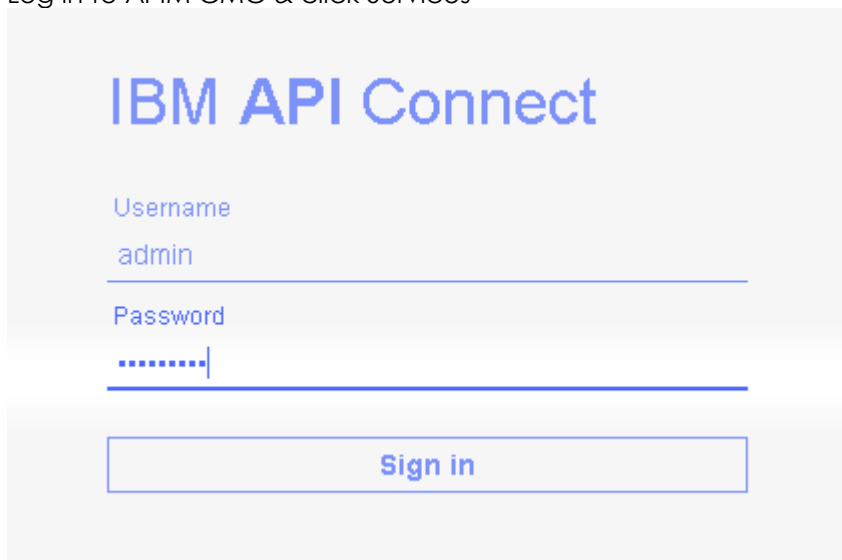
```
admin@developerportal:~$ ifconfig
eth0      Link encap:Ethernet  HWaddr 00:0c:29:3e:f3:87
          inet addr:192.168.1.15  Bcast:192.168.1.255  Mask:255.255.255.0
```

## API Connect Developer Portal CLI Access & GUI access

Now this appliance can be accessible from putty but GUI will not be available until this was integrated with the APIM appliance.

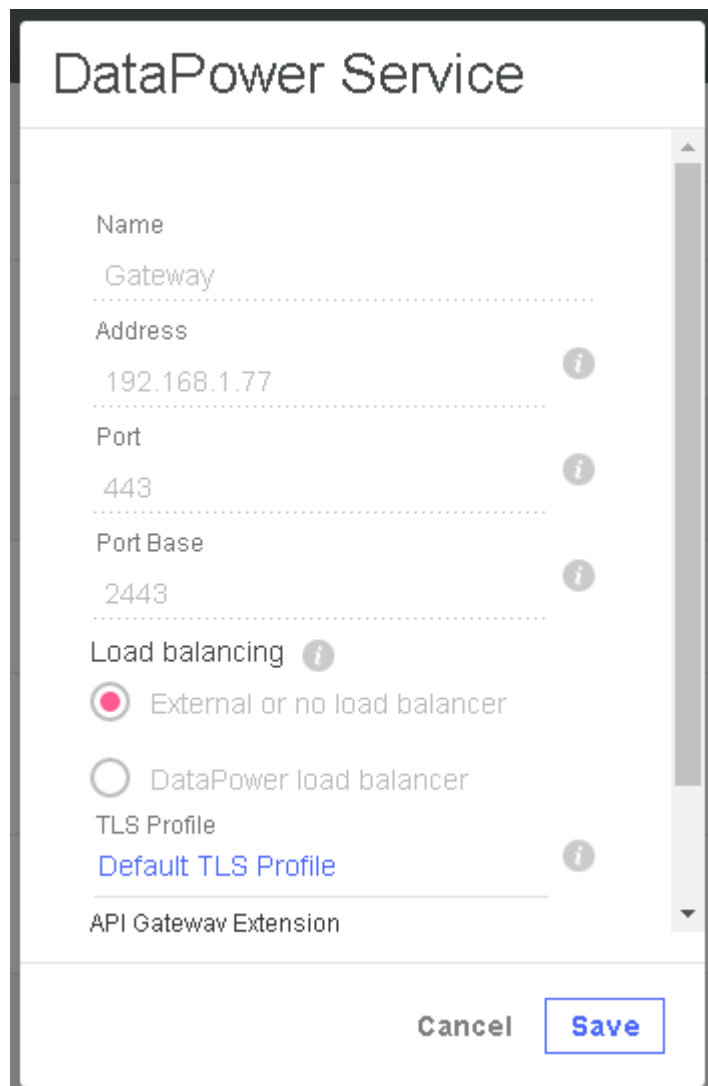
## Integrating DataPower & API Connect Management

- Log in to APIM CMC & click Services



## API Connect Management Setup

- Click service settings under the DataPower Services, Provide DataPower IP in the address field as shown below



**DataPower Service**

Name  
Gateway

Address  
192.168.1.77

Port  
443

Port Base  
2443




Load balancing *i*  
☒ External or no load balancer  
☐ DataPower load balancer

TLS Profile  
Default TLS Profile *i*

API Gateway Extension

Cancel Save

- Click save, once the datapower services was saved, click +server button to add the DataPower to the datapower services.
- Provide the DataPower details like unique identifier, IP, username & password
- Click add
- Adding the DataPower to the datapower servicetakes some time, which will be displayed as a popup/notification.
- During this process the DataPower entry will be visible under the Standalone servers.
- After the addition process was done DataPower will move up to the gateway clusters & appears as active member of the cluster.

DataPower Services							<a href="#">Add DataPower Service</a>
Gateway							 
<a href="#">Add Server</a>							
Status	Server Name	Address	CPU	Memory	Disk	Actions	
ACTIVE	PantherDP	192.168.1.77	0	0	0	 ...	

- Now both the API Connect management & DataPower are integrated.

IBM API Connect

Cloud Manager

Analytics

Services

Organizations

Users

TLS Profiles

User Registries

Settings

Search Servers

Management Services

Management

Add Server

Status	Server Name	Address	CPU	Memory	Disk	Actions
ACTIVE	new-host-5.home	new-host-5.home	3	63	26	<div><div></div>...</div>

DataPower Services

Gateway

Add Server

Status	Server Name	Address	CPU	Memory	Disk	Actions
ACTIVE	PantherDP	192.168.1.77	0	0	0	<div><div></div>...</div>

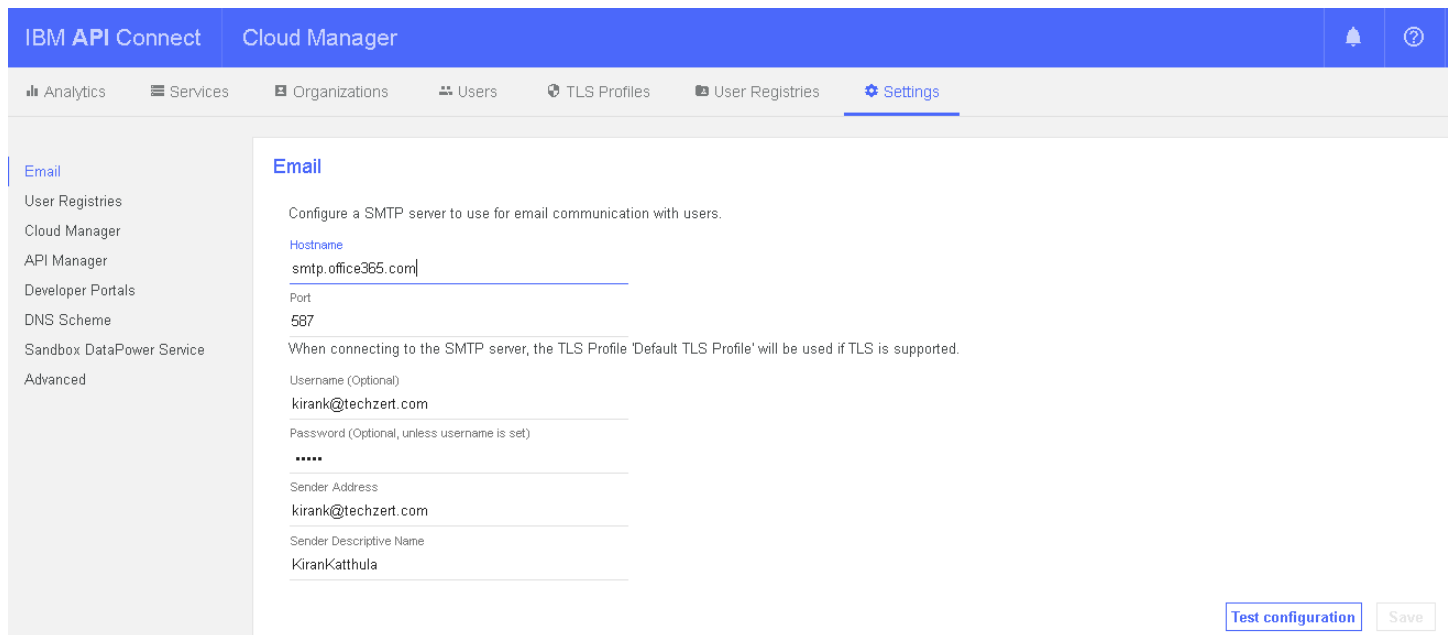
Add DataPower Service

- To verify the successful integration check for the API management domain in the drop down in DataPower.

## API Connect Management Setup

### Integrating API Connect Management & API Connect Developer Portal

- Login to the API management Cloud Management Console & click settings
- Add valid SMTP credentials/details, which is mandatory configuration for creating API manager login.
- Add the details as mentioned below

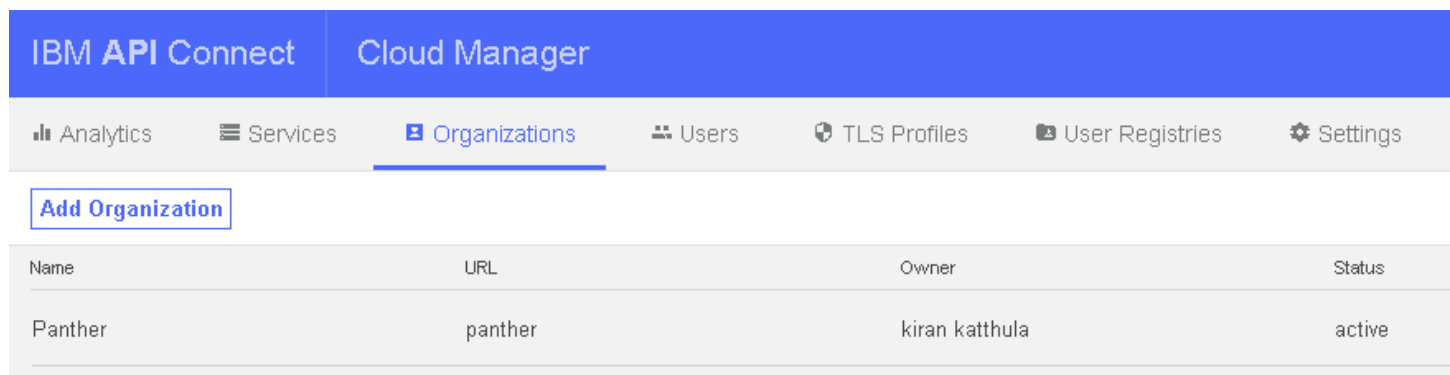


The screenshot shows the 'Email' configuration page in the IBM API Connect Cloud Manager. The page has a blue header with 'IBM API Connect' and 'Cloud Manager'. Below the header is a navigation bar with tabs: Analytics, Services, Organizations, Users, TLS Profiles, User Registries, and Settings (selected). On the left is a sidebar with links: Email, User Registries, Cloud Manager, API Manager, Developer Portals, DNS Scheme, Sandbox DataPower Service, and Advanced. The main content area is titled 'Email' and contains the following fields and text:

- Configure a SMTP server to use for email communication with users.**
- Hostname:** smtp.office365.com
- Port:** 587
- When connecting to the SMTP server, the TLS Profile 'Default TLS Profile' will be used if TLS is supported.**
- Username (Optional):** kirank@techzert.com
- Password (Optional, unless username is set):** \*\*\*\*\*
- Sender Address:** kirank@techzert.com
- Sender Descriptive Name:** KiranKatthula

At the bottom right, there are two buttons: 'Test configuration' and 'Save'.

- Click organisations tab in the menu & add a organisation along with a valid/working mail id.



The screenshot shows the 'Organizations' page in the IBM API Connect Cloud Manager. The page has a blue header with 'IBM API Connect' and 'Cloud Manager'. Below the header is a navigation bar with tabs: Analytics, Services, Organizations (selected), Users, TLS Profiles, User Registries, and Settings. On the left is a sidebar with links: Add Organization, User Registries, Cloud Manager, API Manager, Developer Portals, DNS Scheme, Sandbox DataPower Service, and Advanced. The main content area shows a table with one organization entry:

Name	URL	Owner	Status
Panther	panther	kiran katthula	active

- An activation mail link will be sent to the mail id configured with the organisation.
- Click the link to generate a api manager login & this organisation will be termed as the API provider organisation.

To activate your account, click the following link:

[https://192.168.1.15/?q=ibm\\_apim/activate/x&activationToken=eyJ1cmwiOiJodHRwczovLzE5Mi4xNjguMS4xNi92MS9wb3J0YWVwdXNlcnMvNTcyYzE0ZjFINGlwZGYwOTc0OTViMTkwL2FjdGl2YXRlliwidXNlcn5hbWUiOiJraXJhbmdhdHRodWxhQGdtYWlsLmNvbSIsImF1dGhlnbRyY2F0aW9uIjpw7InVzZXJuYVw1IjoiNTcyYjhjNmZINGlwZGYwOTc0OTU5NDExLzU3MmI1YmYyZTRiMGRmMDk3NDk1OTNIc2C9GMHVFNnRLOGVlNHBM2JCM2FPMWlWNGRWNWVXMG9HOGtVMnNBNGJEOGlLCjwYXNzd29yZCI6Ikc3OWpyeFo3cjZPQnp1K0NQdCvSkRCb252TVRmRHdyVnJlTjWdsOEjEraCj9LCjwcm92aWRlckNvb3RleHQiOmsib3JnSUQioi1NzJiOGJmMmU0YjBkZjA5NzQ5NTkzZCjllbnZpcm9ubWVudEEljoiNTcyYjhjNmZINGlwZGYwOTc0OTU5NDExLn19](https://192.168.1.15/?q=ibm_apim/activate/x&activationToken=eyJ1cmwiOiJodHRwczovLzE5Mi4xNjguMS4xNi92MS9wb3J0YWVwdXNlcnMvNTcyYzE0ZjFINGlwZGYwOTc0OTViMTkwL2FjdGl2YXRlliwidXNlcn5hbWUiOiJraXJhbmdhdHRodWxhQGdtYWlsLmNvbSIsImF1dGhlnbRyY2F0aW9uIjpw7InVzZXJuYVw1IjoiNTcyYjhjNmZINGlwZGYwOTc0OTU5NDExLzU3MmI1YmYyZTRiMGRmMDk3NDk1OTNIc2C9GMHVFNnRLOGVlNHBM2JCM2FPMWlWNGRWNWVXMG9HOGtVMnNBNGJEOGlLCjwYXNzd29yZCI6Ikc3OWpyeFo3cjZPQnp1K0NQdCvSkRCb252TVRmRHdyVnJlTjWdsOEjEraCj9LCjwcm92aWRlckNvb3RleHQiOmsib3JnSUQioi1NzJiOGJmMmU0YjBkZjA5NzQ5NTkzZCjllbnZpcm9ubWVudEEljoiNTcyYjhjNmZINGlwZGYwOTc0OTU5NDExLn19)

- ## IBM API Connect

[kirank@techzert.com](mailto:kirank@techzert.com)


.....

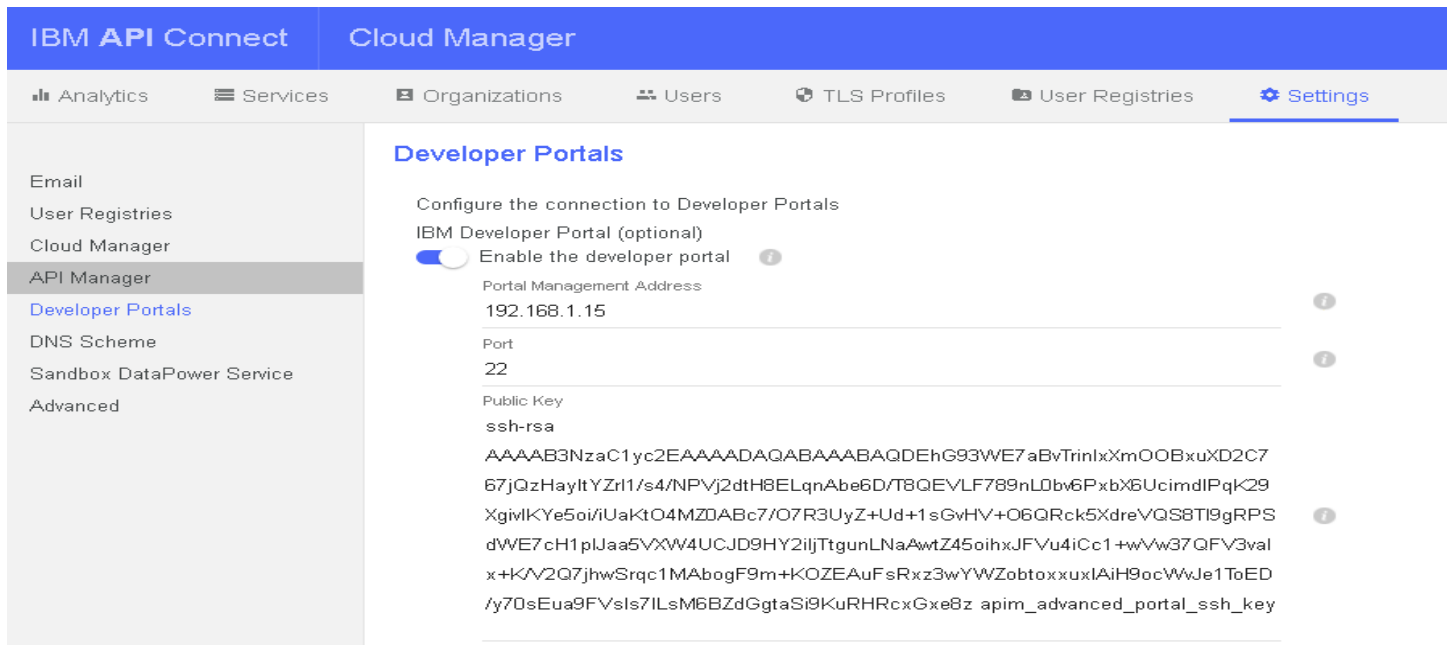
[Sign in](#)

- 

- Last changed: 5/7/2016

## API Connect Management Setup

- Via your browser, connect to the CMC portal (<https://192.168.1.16/cmc/>) and log in as the admin user / PasswOrd!.
- Go to Settings  on the left menu tray and locate the section for the Advanced Developer Portal.
- Ensure the following is filled in  
*Enable Optional Advanced Portal Check box is checked*  
*Enter in the Portal Management Address -> 192.168.1.15*
- Click the Save button.
- Copy the public key.



The screenshot shows the IBM API Connect Cloud Manager interface. The top navigation bar includes Analytics, Services, Organizations, Users, TLS Profiles, User Registries, and Settings. The left sidebar lists various settings categories, with 'Developer Portals' highlighted. The main content area is titled 'Developer Portals' and contains the following configuration options:

- Configure the connection to Developer Portals**
- IBM Developer Portal (optional)**
- Enable the developer portal** (checked)
- Portal Management Address**: 192.168.1.15
- Port**: 22
- Public Key**: ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQDEhG93WE7aBvTrinlxM0OBxuXD2C767jQzHayltYZr1/s4/NPVj2dtH8ELqnAbe6D/T8QEVLF789nLD0v6PxbX6UcimdlPqk29XgiviKYe5oi/iUakT04MZDABc7/O7R3UyZ+Ud+1sGvHV+O6QRck5XdreVQS8T9gRPSdWE7cH1plJaa5VXW4UCJD9HY2iljTtgunLNaAwTz45oihxJFVu4iCc1+wVw37QFV3valx+K/V2Q7jhwSrqc1MAbogF9m+KOZEAuFsRxx3wYVWZobtoxxuxlAiH9ocWwJe1ToED/y70sEua9FVsls7ILsM6BZdGgtaSi9KuRHRcxGxe8z apim\_advanced\_portal\_ssh\_key

- Go to your putty screen, type the following and then paste the contents of the public key into the window
- echo "contents\_pasted\_from\_the\_public\_key\_field" > keyssfile**
- Execute this command to set the APIM host name  
**cat keyssfile | set\_apim\_host DeveloperPortal 192.168.1.16**
- Configure the SMTP server  
**set\_smtp mail\_server\_host\_name port user password**
- Download the cert from the APIM node to this machine. This causes the Advanced Developer Portal to contact the configured Management cluster, download the SSL certificate and add it to the Advanced Developer Portal trust store.  
 Issue the command: **download\_apim\_cert**
- Add the Advanced Developer Portal to your environment.
- 4. Login to API Management
- 5. In the Environment select the Portal tab.
- 6. Click the Advanced Developer Portal button and key in the URL: <https://192.168.1.15>

Click the Save button.

