



IXP Manager Workshop Installation, Configuration

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IXP Manager Workshop

IXP Manager Walk-Through Tutorial

- Live walk-through of IXP Manager installation
 - Ubuntu server 16.04 running on ESXi
 - Username: ixpmanager
 - Password: ixpmanager
 - IP addresses: 220.247.153.223 - 220.247.153.242
- Goals:
 - Set up basic IXP parameters
 - Set up Customer + Ports
 - Set up Simple Route Server configuration

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IXP Manager Software Install

- `cd /srv`
- `sudo bash`
- `git clone https://github.com/inex/ixp-manager /srv/ixpmanager`
- `cd ixpmanager`
- `./tools/installers/ubuntu-lts-1604-ixp-manager-v4.sh`
- Fill in values as appropriate
- Make a note of the username and password at the end. You'll need this.

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IXP Manager Software Install

- `cd /srv/ixpmanager`
- `cat .ixp-manager-installer-settingsrc`

IXP Manager Workshop Walkthrough

Basic Infrastructure

- Step 1: Create a data centre using the Facilities menu
 - Name: Dataspace Pvt. Ltd
 - Short Name: Dataspace
 - Tag: dataspace
 - Peering DB Facility: Dataspace
- Step 2: Create a Rack
 - Name: My IXP Cabinet
 - Facility: Dataspace
 - Colocation Ref: X1Y1
 - U's Count From: Bottom

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Add a Patch Panel

- Step 1: Click on Patch Panels
 - Patch Panel Name: PP-0001
 - Rack: “IXP Cabinet”
 - Cable Type: UTP
 - Connector Type: RJ45
 - Number of ports: 12
 - Click Add

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Adding a Switch

- Step 1: Add a new Switch
 - Scroll to bottom and click: Add by SNMP
 - Name: ixpswitch.example.com
 - Hostname: 220.247.153.221
 - Type: Switch
 - Cabinet: My IXP Cabinet
 - Infrastructure: Infrastructure #1
 - SNMP Community: foobar
 - Click: Next

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Setting Port Types

- Step 1: Configure Peering Ports
 - Change Type for ports 1-8 to Peering
- Step 2: Configure Core Ports
 - Change Type for ports 23-24 to Core

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Create a Peering VLAN

- Step 1: Click on VLANs
 - Name: Peering VLAN 01
 - 802.1q Tag: 200
 - Infrastructure #1
 - Config Name: peering_vlan_01
- Click Add

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Adding IP Addresses - IPv4

- Step 1: Click IP Addresses
 - Select “Peering VLAN 01”
 - Click “Switch to IPv4”
 - Click + to add
- Step 2: Add addresses
 - Set Network to “192.168.0.0/27”
 - Click Add Addresses

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Adding IP Addresses - IPv4

- Step 1: Click IP Addresses
 - Select “Peering VLAN 01”
 - Click + to add
- Step 2: Add addresses
 - Set Network to “2001:db8::/123”
 - Click “Enter decimal values only”
 - Click Add Addresses

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Add Your First Customer

- Step 1: Click Customers
 - Click + at top Right-Hand Side to add a new Customer
- Step 2: fill in Customer Details
 - Name: Internet Widgets
 - Type: Full
 - Short Name: internetwidgets
 - Date Joined: click today's date
 - Status: Normal
 - MD5 Support: Yes

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Add Your First Customer

- Step 3: fill in Peering Details
 - AS Number: 2128
 - Max Prefixes: 20
 - IPv4 Peering Macro: AS-INEXIE
 - IPv6 Peering Macro: AS-INEXIE
 - Peering Policy: Open
 - IRRDB Source: RIPE
 - Click Add
- Step 3: fill in Billing Details
 - Click Add to ignore this section

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Workflow: Adding a Customer Port

- Step 1: Click on Cog, select “Provision New Port...”
 - VLAN: Peering VLAN 01
 - Switch: select ixpswitch.example.org
 - Switch Port: select Port 1 (Peering)
 - Status: Awaiting Cross-connect
 - Speed: 10G
 - Tick “Route Server Client”
 - Tick “Apply IRRDB Filtering”
 - Tick “AS112 Client”

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Workflow: Configuring IP Addresses

- Step 1: Click “IPv6 Enabled”
 - IPv6 Address: 2001:db8::10
 - IPv6 hostname: internetwidgets6.example.com
 - IPv6 MD5: click on icon to generate random password
- Step 1: Click “IPv4 Enabled”
 - IPv4 Address: 192.168.0.10
 - IPv4 hostname: internetwidgets4.example.com
 - IPv4 MD5: click on icon to generate random password
- Click “Save Changes”

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Workflow: Adding a Cross-Connect

- Step 1: Create a new cross-connect
 - Click on Patch Panels
 - Click “PP-0001” hotlink to get list of Patch Panel ports
 - On port 1, select “Allocate” from Action menu
 - Description: Internet Widgets
 - Colocation Reference: 12345
 - Switch: select ixpswitch.example.org
 - Switch Port: select Port 1
 - IXP Manager should automatically assign this to Customer: Internet Widgets
 - Click Save Changes

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Workflow: Completing the Customer Install

- Step 1: Change all links from “Waiting X-Connect” to “Connected”
 - Click on Customers
 - Click on Internet Widgets to get into the customer view
 - Click on Ports tab
 - Click the Pencil Icon to edit
 - Under the Physical Interfaces menu click the pencil icon to edit customer
 - Change Status: to Connected
- Step 2 Teaser:
 - Do the same for Internet Widgets’ cross-connect

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Advanced: Adding a Route Server

- Step 1: Click on Routers on Right Hand Side
 - Click + to add a new Router
 - Handle: rs1-lan1-ipv4
 - VLAN: Peering VLAN 01
 - Protocol: IPv4
 - Type: Route Server
 - Name: IXP Route Server #1
 - Short Name: RS1 - VLAN01 - IPv4
 - Router ID: 192.168.0.2
 - Peering IP: 192.168.0.2
 - ASN: 43760
 - Software: BIRD
 - Management Host: 192.168.0.1
 - Tick “BGP LC” to enable BGP Large Community support
- Template: api/v4/router/server/bird/standard

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Advanced: Testing the Route Server

- Step 1: Click on Routers on Right Hand Side
 - Click the Paper Icon on the Left to see the generated configuration
 - Note that the session is set up with empty prefix filters
- Step 2: Add prefix filters
 - edit .env to include `IXP_IRRDB_BGPQ3_PATH=/usr/bin/bgpq3`
 - `# ./artisan irrdb:update-asn-db`
 - `# ./artisan irrdb:update-prefix-db`
- Step 3: Examine prefix filters in prefix analysis tool
 - Check generated route server configuration

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THANK YOU

Thanks!



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