PeeringDB Workshop

How is PeeringDB organised? // Track 1

arnold@peeringdb.com
• Please always use the tutorial DB at https://tutorial.peeringdb.com

• What is PeeringDB?

• Organisation
  • History
  • Association
  • Committees
What is PeeringDB?

**Mission statement:** “PeeringDB, a nonprofit member-based organization, facilitates the exchange of user-maintained interconnection related information, primarily for Peering Coordinators and Internet Exchange, Facility, and Network Operators.”
Why should I have a record in PeeringDB?

• As a network a PeeringDB record makes it easy for other networks to find you, and helps you to establish peering / interconnection
• As a colocation provider a PeeringDB record creates visibility, and helps you to attract additional networks and IXes
• As an IX a PeeringDB record provides information about your participants, and colocations where your service is available
• Provides a user-friendly GUI and a powerful API for automation
Governance and Membership

• PeeringDB is a United States 501(c)(6) volunteer organization that is 100% funded by sponsorships
• Healthy organization, building financial reserves and executing the longterm strategic plan
• Membership rules
  • A corporation, limited liability company, partnership or other legal business entity may be a Member of the Corporation
  • Membership is determined by having both an active PeeringDB.com account and an individual representative or role subscription to the PeeringDB Governance mailing list
  • 364 addresses subscribed to the Governance mailing list (as of Feb 14, 2022)
  • Governance list is at http://lists.peeringdb.com/cgi-bin/mailman/listinfo/pdb-gov
  • More information available at http://gov.peeringdb.com/
Governance

• The Members
  • Any corporation, limited liability company, partnership or other legal business entity may be a Member
  • One (virtual/online) member meeting per year
    • Next meeting is Tuesday, April 12th, at 1600 UTC

• The Board
  • Sets strategic directions and overlooks financial issues
  • Half of the board is elected every year

• The Committees
  • Responsible for the day-to-day work
    • Admin Committee
    • Operations Committee
    • Outreach Committee
    • Product Committee

• https://docs.peeringdb.com/gov/
Board of Directors and Officers

Chris Caputo – Secretary & Treasurer (Non-Board Member)

Patrick Gilmore – Director (Term Expires 2023)

Aaron Hughes – President (Term Expires 2022)

Christopher Malayter – Director (Term Expires 2023)

Bijal Sanghani – Director (Term Expires 2023)

Job Snijders – Vice President (Term Expires 2022)
## Committees

<table>
<thead>
<tr>
<th>Admin Committee</th>
<th>Operations Committee</th>
<th>Outreach Committee</th>
<th>Product Committee</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Manage administration of user accounts and PeeringDB records</td>
<td>• Manage PeeringDB infrastructure</td>
<td>• Manage marketing and social media</td>
<td>• Manage roadmap and development priorities</td>
</tr>
<tr>
<td>• Answer support tickets</td>
<td></td>
<td>• Develop and maintain presentations, workshops and webinars</td>
<td>• Ask for input from the community on desired features</td>
</tr>
<tr>
<td>• Cleansing and completion of PeeringDB records</td>
<td></td>
<td>• Coordinate presentations and attendance at events</td>
<td>• Write SoWs to solicit bids to complete requested features</td>
</tr>
<tr>
<td>Leads: Patrick Gilmore (Chair) and Darwin Costa (Vice Chair)</td>
<td>Leads: Job Snijders (Chair) and Aaron Hughes (Vice Chair)</td>
<td>Leads: Ben Ryall (Chair) and Bijal Sanghani (Vice Chair)</td>
<td>Leads: Stephen McManus (Chair) and Matt Griswold (Vice Chair)</td>
</tr>
<tr>
<td>Contact: <a href="mailto:admincom@lists.peeringdb.com">admincom@lists.peeringdb.com</a></td>
<td>Contact: <a href="mailto:pdb-ops@lists.peeringdb.com">pdb-ops@lists.peeringdb.com</a></td>
<td>Contact: <a href="mailto:outreachcom@lists.peeringdb.com">outreachcom@lists.peeringdb.com</a></td>
<td>Product Manager: Leo Vegoda</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Contact: <a href="mailto:productcom@lists.peeringdb.com">productcom@lists.peeringdb.com</a></td>
</tr>
</tbody>
</table>

2022-02-25 Apricot 2022, Virtual Meeting
Admin Committee volunteers are based around the world in a variety of time zones with diverse language skills.

Goal is to resolve support tickets within 24 hours.

Support Ticket Statistics

- Total Tickets/Year
- PDB v2.0
- PDB v1.0 resp. YTD


Graph showing increase in support tickets from 2012 to 2022 with a peak increase in 2016.

PeeringDB
2022-02-25
Apricot 2022, Virtual Meeting
Product Development

• All issues tracked using our GitHub repository
  • Anyone can open a feature requests or file a bug report
  • Open and transparent process for product development
  • Documented Decision making and Workflow process

• Product Committee issue process
  • Evaluate and prioritize the requests
  • Request a quote for development costs
  • Request budget from the board
  • Manage implementation and scheduling

• Your input is needed on features!

2022-02-25
Apricot 2022, Virtual Meeting
Become a PeeringDB Sponsor!

- **Diamond Sponsorship** - $25,000 / year
  - Limited to 2 sponsors
  - Very large logo on top line of Sponsors page with URL
  - Diamond Sponsor badge display on all records
  - Social media promotion

- **Platinum Sponsorship** - $10,000 / year
  - Large logo on second line of Sponsors page with URL
  - Platinum Sponsor badge display on all records
  - Social media promotion

- **Gold Sponsorship** - $5,000 / year
  - Medium logo on third line of Sponsors page
  - Gold Sponsor badge display on all records
  - Social media promotion

- **Silver Sponsorship** - $2,500 / year
  - Small logo on fourth line of Sponsors page
  - Silver Sponsor badge display on all records
  - Social media promotion

Contact sponsorship@peeringdb.com for sponsorship info!

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Microsoft

<table>
<thead>
<tr>
<th>Organization</th>
<th>Microsoft Corporation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Also Known As</td>
<td>8068 8059</td>
</tr>
<tr>
<td>Company Website</td>
<td></td>
</tr>
<tr>
<td>Primary ASN</td>
<td>8075</td>
</tr>
</tbody>
</table>

DE-CIX Frankfurt

<table>
<thead>
<tr>
<th>Organization</th>
<th>DE-CIX Management GmbH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long Name</td>
<td>Deutscher Commercial Internet Exchange</td>
</tr>
<tr>
<td>City</td>
<td>Frankfurt</td>
</tr>
<tr>
<td>Country</td>
<td>DE</td>
</tr>
<tr>
<td>Continental Region</td>
<td>Europe</td>
</tr>
<tr>
<td>Media Type</td>
<td>Ethernet</td>
</tr>
</tbody>
</table>

Proud Sponsor of

Contact sponsorship@peeringdb.com for sponsorship info!
Thank you to our sponsors!

Diamond Sponsor
amazon
Microsoft

Platinum Sponsors
apnic
DeCIX
Meta
NTT
Yahoo!

Gold Sponsors
Akamai
BCIX
Deepeedge
Edgeuno.com
Inter.link
Internet Society
KDDI
Telehouse

Silver Sponsors
anexia
amsIA
BBIX
cologix
DATA4
Digital Realty
Fancox
Convergence.net
Interxion
Interлан
JPIX
lacnic
LINX
LL-IX
Netrality
Netnod
Newby Ventures
NIX
NYIIX
PeeringDB
RackCentre
RIPE NCC
TERACOM
Zenlayer

2022-02-25
Apricot 2022, Virtual Meeting
• Please always use the tutorial DB at https://tutorial.peeringdb.com

• Registering
  • Yourself
  • Your organization

• Adding information
  • About your organization
  • About your network / Autonomous System
  • Adding your peering policy

• Internet Exchanges and Facilities
  • Add where your network is present
  • Managing Suggestions
Registering

Registering for the Apricot 2022, Virtual Meeting.
Choose a username

Password must be at least 10 characters long

Use a real work e-mail address
  - Ideally the one you registered the ASN with

And put in your first and last name

You receive a confirmation email

Click on the link in the email
Registering

- You can choose a language
  - If your language is not available yet and you want to help – let us know!
  - Not all languages are fully translated
- To re-send the confirmation email, click the button
- Further options here:
  - Change email address
  - Change password
- You have to click the link in the email to continue!
Once your email is confirmed:

- Get affiliated with an organization
  - Your company
  - Which is already in PeeringDB

- Or is new to PeeringDB
  - Can be an ISP – enter your AS number!
  - Or a Datacenter
  - Or an Internet Exchange
• Once approved, you can edit your organization

• Click on your organization to continue...
Enter information about your organization – click on edit

### ACME Alternative Hosting

Some of the data on this page is incomplete, please update the fields marked with 🔍 to improve data quality.

<table>
<thead>
<tr>
<th>Website</th>
<th>Address 1</th>
<th>Address 2</th>
<th>Location</th>
<th>Country Code</th>
<th>Notes</th>
</tr>
</thead>
</table>

### Facilities

<table>
<thead>
<tr>
<th>Name</th>
<th>Country City</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Networks

<table>
<thead>
<tr>
<th>Name</th>
<th>ASN</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACME Alternative Hosting</td>
<td>64501</td>
</tr>
</tbody>
</table>

### Exchanges

<table>
<thead>
<tr>
<th>Name</th>
<th>Country City</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[Edit button highlighted]
• Lets focus on the left side of the screen

• Enter the required information (use either your Sheet or your real company information)

• Use the notes field to promote your company as a peer (if you want to)
  • You can use Markdown (see handout for URL)
• You can also change your company name
• Enter some information and click “Save”
Now it gets interesting

With your basic company information now in, let’s add information about your network

Click on your network name – beside your AS number on the right side
• Again, click on „Edit“ (top right)
• Here is a lot of information to enter
• Most is self-explanatory
• But some is not that obvious
  • Title here is your network name
  • Does not have to be the same as your company name
  • Some companies run more than one network/ASN
  • Or use a different name for their networking business (dba)
<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization</td>
<td>ACME Alternative Hosting Inc.</td>
</tr>
<tr>
<td>Also Known As</td>
<td></td>
</tr>
<tr>
<td>Company Website</td>
<td><a href="http://www.example.com">http://www.example.com</a></td>
</tr>
<tr>
<td>Primary ASN</td>
<td>64501</td>
</tr>
<tr>
<td>IRR Record</td>
<td></td>
</tr>
<tr>
<td>Route Server URL</td>
<td><a href="http://www.example.com">http://www.example.com</a></td>
</tr>
<tr>
<td>Looking Glass URL</td>
<td><a href="http://www.example.com">http://www.example.com</a></td>
</tr>
<tr>
<td>Network Type</td>
<td>Not Disclosed</td>
</tr>
<tr>
<td>IPv4 Prefixes</td>
<td>0</td>
</tr>
<tr>
<td>IPv6 Prefixes</td>
<td>0</td>
</tr>
<tr>
<td>Traffic Levels</td>
<td>Not Disclosed</td>
</tr>
<tr>
<td>Traffic Ratios</td>
<td>Not Disclosed</td>
</tr>
<tr>
<td>Geographic Scope</td>
<td>Not Disclosed</td>
</tr>
<tr>
<td>Protocols Supported</td>
<td>Unicast IPv4, Multicast, IPv6</td>
</tr>
<tr>
<td>Last Updated</td>
<td>2018-12-12T12:48:07Z</td>
</tr>
<tr>
<td>Notes</td>
<td>Markdown enabled</td>
</tr>
</tbody>
</table>

- Use this field for an alternative name
- Or an “old” name if you changed names
- Or leave it empty
- Company website – remember this is PeeringDB
  - Put in the URL your peers should see
- AS number – your main one
  - If you have more, you can add them later
Network Information

- IRR Record
  - Your AS-Macro (also called AS-Set)
  - Registered in an IRR database
  - Create an AS-Set if you don’t have one

- Route Server URL
- Looking Glass URL
Network Information

<table>
<thead>
<tr>
<th>Organization</th>
<th>ACME Alternative Hosting Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Also Known As</td>
<td>ACME Hosting</td>
</tr>
<tr>
<td>Company Website</td>
<td><a href="http://www.acme.example">http://www.acme.example</a></td>
</tr>
<tr>
<td>Primary ASN</td>
<td>64501</td>
</tr>
<tr>
<td>IRR Record</td>
<td>AS64501:AS-ACME-HOSTING</td>
</tr>
<tr>
<td>Route Server URL</td>
<td><a href="http://www.example.com">http://www.example.com</a></td>
</tr>
<tr>
<td>Looking Glass URL</td>
<td><a href="http://www.example.com">http://www.example.com</a></td>
</tr>
<tr>
<td>Network Type</td>
<td>Content</td>
</tr>
<tr>
<td>IPv4 Prefixes</td>
<td>3</td>
</tr>
<tr>
<td>IPv6 Prefixes</td>
<td>3</td>
</tr>
<tr>
<td>Traffic Levels</td>
<td>1G-1000Mbps</td>
</tr>
<tr>
<td>Traffic Ratios</td>
<td>Mostly Outbound</td>
</tr>
<tr>
<td>Geographic Scope</td>
<td>Regional</td>
</tr>
<tr>
<td>Protocols Supported</td>
<td>Unicast IPv4, IPv6</td>
</tr>
<tr>
<td>Last Updated</td>
<td>2018-12-12T12:48:07Z</td>
</tr>
</tbody>
</table>

- Fill in the rest
  - Either according to your sheet
  - Or choose your real network
- In „Notes“ you can use Markdown
  - You can give your peers free text information
  - Like details about your peering policy or special services
  - More about your peering policy further down below
Now we add information about Peering!

Important: Allowing IXP Update helps maintaining DB accuracy

So please allow if you trust your IXPs

You trust either all or none
Peering Information

- **Preview** lets you see what will happen with the next import.
- **Postmortem** shows what happened at the last import.
- Use the dropdowns to indicate your general peering policy.
- In case of selective/restrictive, you may provide a URL at “Peering Policy.”
• To inform peers how to contact you
  • In a number of roles
• You can add as many as you need
  • „Add Contact“ to save a contact
  • Public or for authenticated Users
• You do not have to fill out all fields
• Keep your contact info up to date
• A technical contact is mandatory if you add a connection to an IXP
Review what you have entered

• You now have entered:
  • Information about your organization, like:
    • Address
    • Website
    • Free form text
  • Network information
    • Your AS number
    • Number of prefixes you announce
    • Traffic info
  • Peering information, like peering policy
  • Contacts for your peers
• Please check if everything is correct
Add peering at an IXP

- Click on „Edit“ at the top right again
- Enter an IXP name in Exchange
  - And select the IXP you are connected to from the list
- Enter speed, IPv4 and IPv6
- Select “RS Peer“ if you are peering with the route server
- Click on „Add Exchange Point“!
- And then click on „save“. 
Data Ownership

- How to resolve conflicts when more than one party is involved?
  - Ex.: netixlan

- A Task Force (so-called DOTF) created a policy document
- Recommendations incorporated in latest releases
• Go to your network page
• Click on „Review suggestions“
• You see a list of IX with suggestions
• Select one
• You have a couple of choices
  • Auto-add: add entry as suggested
  • Auto-resolve: resolve as suggested
  • Dismiss: ignore suggestion
Presence at a datacenter

- Now again click on „edit“
- Scroll down and enter a city or datacenter name in „Facility“
- Select the facility you are in from the list and....
- ...click on „Add Facility“
- When you have added all facilities click on „Save“
Check what you have entered

- Click on the name of the IXP you entered
- Find your entry in the list
- Do the same for the facilities you are in
Add your own facility

- If you run your **own** datacenter
- Why not add it to PeeringDB?
- Go to your organization page
- Scroll down to „Manage“
- Choose „Add Facility“
Add your own facility

<table>
<thead>
<tr>
<th>Name</th>
<th>ACME Alternative Datacenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website</td>
<td><a href="http://www.acme.example">http://www.acme.example</a></td>
</tr>
<tr>
<td>Address 1</td>
<td>Old Road 301</td>
</tr>
<tr>
<td>City</td>
<td>Vienna</td>
</tr>
<tr>
<td>State</td>
<td></td>
</tr>
<tr>
<td>Zip-Code</td>
<td>A-1001</td>
</tr>
<tr>
<td>Country</td>
<td>Austria</td>
</tr>
<tr>
<td>CLLI Code</td>
<td></td>
</tr>
<tr>
<td>NPA-NXX</td>
<td></td>
</tr>
</tbody>
</table>

Add a new Facility to your Organization. Note that the newly created Facility will need to be approved by PeeringDB staff before it will appear in the search results or the API listings.

To be listed as a Facility in PeeringDB we would expect that you offer colocation, data center and/or meet-me-room services to the public.

- Fill in applicable fields
- CLLI and NPA-NXX: deprecated
- Click „Submit Facility“
- Entry will be reviewed
- And added or declined
Suggesting a facility

- For facilities you don’t own
- But you are in or know about
- Choose “Suggest Facility”
- Is reviewed by PeeringDB staff
# Suggesting a facility

- Fill in applicable fields
- CLLI and NPA-NXX: deprecated
- Click „Suggest Facility“
- Entry will be reviewed
- And added or declined

<table>
<thead>
<tr>
<th>Name</th>
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</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>Address 1</td>
<td>Old Road 301</td>
</tr>
<tr>
<td>Address 2</td>
<td></td>
</tr>
<tr>
<td>City</td>
<td>Vienna</td>
</tr>
<tr>
<td>State</td>
<td></td>
</tr>
<tr>
<td>Zip-Code</td>
<td>A-1001</td>
</tr>
<tr>
<td>Country</td>
<td>Austria</td>
</tr>
<tr>
<td>CLLI Code</td>
<td></td>
</tr>
<tr>
<td>NPA-NXX</td>
<td></td>
</tr>
</tbody>
</table>
Adding users

• You do not have to be the only person working with PeeringDB
• Other users from your organization may also register!
• Users can be „admin“ or „member“
  • The first user automatically will be an „admin“
• Administrators are allowed to edit all fields (of your organization)
• Members rights can be as restrictive or as open as you need them to be
• Let’s try it out
• Request affiliation with the organization you just presented
Affiliate with an organization

• Go to your profile page (1)
• Request affiliation
  • Either use the AS number (2)
  • Or name and select (3)
  • Click on „Affiliate“ (4)
• Admin of organization gets an email if there is one. Otherwise PeeringDB support is informed
• They check, and either approve or deny
• Let PeeringDB support know if you do not receive an answer timely
Approve affiliation requests

- Go to your organization page
- Scroll down to the „manage“ section
- Click on the „Users“ tab
- Either approve or deny new users
Users can be admins or members

Use the dropdown to change

For members – you can add permissions

Use the permissions tab to grant create, update and/or delete permission to any entity

Do not forget to „save“ your changes
Removing Users

- Be sure you are logged in as an admin
- Go to your organization page
- Scroll down to the „manage“ section
- Click on the „Users“ tab
- Click on „Remove“ on the right side
- The user is only deleted from your organization
- If you want to remove a user completely, email PeeringDB support
• If you leave an internet exchange:
  – please remove your peering IP addresses

• Go to your network page
• Click on „Edit“ (top right)
• Click on the cross beside the entry of the exchange
• Confirm and do not forget to „Save“
More removing...

- Facilities, Contacts, all the same
- Click on „Edit“
- Click on the remove symbol at the entry
- Click on “Save“
- Remember that **you must have a technical contact when connected to an IXP**
Removing – more information

- Objects are only marked deleted, but stay in the DB
  - Facilities and IXes only can be removed if they don’t have participants
- You cannot simply re-add them
- Please contact support@peeringdb.com if you need help
Removing your organization

- If you dissolve your organization
  - You first have to „empty“ your Ixes, Network and Facilities
- Please contact support@peeringdb.com if you need help
The PeeringDB API

Workshop // Track 3

arnold@peeringdb.com
Agenda

• Please always use the tutorial DB at https://tutorial.peeringdb.com

• Introduction
• jq
• JSON
• HTML Operations
• Record Types
  • Basic Records
  • Derived Records
Introduction

- Why API (Application Programming Interface)?
  - The GUI is nice for human beings
  - Automation needs structured data
- Makes it easy to integrate PeeringDB in your environment
jq

- Light-weight and flexible command-line processor
- awk, sed and grep equivalent to JSON data
- A jq program is a filter
  - Needs an input and produces an output
  - Maybe piped
  - Looks weird sometimes, like "add/length" produces average of an array
  - Simplest filter is "." which is the Identity
    - Can be used to pretty print JSON output
- See https://stedolan.github.io/jq/manual for an introduction
JSON

- Open standard file format
- Short for JavaScript Object Notation
- Filenames use the extension .json
- Language independent data format
- Basic data types
  - Number
  - String
  - Boolean
  - Array
  - Object
  - null
In general https://peeringdb.com/api/OBJ
  - OBJ is case insensitive
  - So-called endpoint: /api/OBJ

Output always fits in one object
  - Meta is optional
  - Data always is an array
Authentication

- Authentication
  - basic HTTP authorization
  - API keys

- Guest access does not need any authentication

- Examples
  - curl -sG https://username:password@peeringdb.com/api/poc
  - curl -u username:password https://peeringdb.com/api/poc
  - Put credentials in ~/.netrc
    - machine peeringdb.com login username password password

- Recap: only access to contact information may be restricted
  - Endpoint /api/poc
  - You need to be authenticated to view/retrieve objects with visibility „Users“
Operations

• All HTML operations are supported
  • GET
    • Requests a representation of the specified resource
  • POST
    • Used to submit an entity to the specified resource
  • PUT
    • Replaces all current representations of the target resource with the request payload
  • DELETE
    • Deletes the specified resource
GET

- GET
  - Multiple objects
    - Endpoint /api/OBJ
  - Single object
    - Endpoint /api/OBJ/id
Optional URL parameters for GET

• limit
  • Integer value
  • Limits to n rows in the result set

• skip
  • Integer value
  • Skips n rows in the result set

• depth
  • Integer value
  • Nested sets will be loaded
  • See Nesting slide
Optional URL parameters for GET

• **fields**
  • String value
  • comma separated list of field names
  • only matching fields will be returned in the data

• **since**
  • Integer value
  • Retrieve all objects updated since specified time
  • Unix timestamp in seconds

• **fieldname**
  • Integer or string value
  • Queries for fields with matching value
Nested Data / Depth

- Of type OBJ_set
- Example: net_set will hold network objects
- Depth (for endpoint /api/OBJ)
  - 0: don't expand anything (default)
  - 1: expand all first level sets to ids
  - 2: expand all first level sets to objects
- Depth (for endpoint /api/OBJ/id)
  - 0: don't expand anything
  - 1-4: expand all sets and related objects according to level of depth specified
  - 2 is default
Nested Data / Depth

https://peeringdb.com/net/947?pretty

https://peeringdb.com/net/947?pretty&depth=0
Query modifiers

• numeric fields
  • __lt: less than
  • __lte: less than equal
  • __gt: greater than
  • __gte: greater than equal
  • __in: value inside set of values (comma separated)

• string fields
  • __contains: field value contains this value
  • __startswith: field value starts with this value
  • __in: value inside set of values (comma separated)
POST

• Used to create an object
• Endpoint /api/OBJ

• Required parameters
  • Depending on OBJ
  • For org you need the name
  • For fac, ix, net you need the org_id
  • for fac you need the name
  • For ix you need the name and prefix
  • For net you need the asn

• Example
  • curl -sn -X POST -H "Content-Type: application/json" -d @22106.json
  • https://tutorial.peeringdb.com/api/org

File 22106.json
PUT

- Used to edit object
- Endpoint /api/OBJ/id
- Updates data in OBJ/id
- You have to send all the data, not just the change

Example
  - curl -sn -X PUT -H "Content-Type: application/json" -d @22106.json \ https://tutorial.peeringdb.com/api/org/22114

- Operation of PUT is idempotent
DELETE

• Used to delete objects
• Endpoint /api/OBJ/id
• Example
  • `curl -sn -X DELETE -H "Content-Type: application/json"\ https://tutorial.peeringdb.com/api/org/22114`
Object Types

• Basic Objects
  • org, fac, ix, net, poc, as_set

• Derived Objects
  • ixfac, ixlan, ixpfx, netixlan, netfac
Basic Objects

• org
  • Root object for fac, ix, net
  • Holds information about organisation

• fac
  • Describes a facility / colocation record
  • More useful information are in derived records ixfac and netfac

• ix
  • Describes an Internet Exchange
  • More useful information are in derived records ixlan, ixpfx and netixlan

• net
  • Describes a network / ASN
  • More useful information are in netfac and netixlan
  • Root object for poc

• poc
  • Describes various role accounts (point of contact)
  • Currently only for net objects

• as_set
  • Array of all AS-SETs corresponding to networks/ASNs
Derived Objects

- **ixfac**
  - Describes the availability of an IX in a facility

- **ixlan**
  - Describes the LAN of an IX
  - Will go away with PeeringDB 3.0. Hence, already tightly coupled to ix (i.e. same id)

- **ixpfx**
  - Describes the IP range (IPv4 and IPv6) for an ixlan
  - One ixlan may have multiple ixpfx, both for IPv4 and IPv6

- **netixlan**
  - Describes the presence of a network at an IX

- **netfac**
  - Describes the presence of a network at a facility
GUI to API // org

- https://peeringdb.com/org/1187
- Add pretty and depth for human friendly output
- https://peeringdb.com/api/org/1187
- https://peeringdb.com/api/fac?org_id=1187
- https://peeringdb.com/api/net?org_id=1187
- https://peeringdb.com/api/ix/org_id=1187
GUI to API // fac

- https://peeringdb.com/fac/752
- Add pretty and depth for human friendly output
- https://peeringdb.com/api/fac/752
- https://peeringdb.com/api/ixfac?fac_id=752
- https://peeringdb.com/api/netfac?fac_id=752
GUI to API // net

- https://peeringdb.com/net/13251
- Add pretty and depth for human friendly output
- https://peeringdb.com/api/net/13251
- https://peeringdb.com/api/netixlan?net_id=31
- OR https://peeringdb.com/api/netixlan?asn=196610
- OR
  https://peeringdb.com/api/netfac?local_asn=196610

2022-02-25

Apricot 2022, Virtual Meeting
GUI to API // ix

- https://peeringdb.com/ix/31
- Add pretty and depth for human friendly output
- https://peeringdb.com/api/ix/31
- https://peeringdb.com/api/ixlan?ix_id=31
- https://peeringdb.com/api/ixpfx?ixlan_id=31
- https://peeringdb.com/api/ixfac?ix_id=31
- https://peeringdb.com/api/netixlan?ix_id=31
Basic records in detail // ix and org

```json
"data": [
{
  "id": 31,
  "org_id": 1187,
  "name": "DE-CIX Frankfurt",
  "name_long": "Deutscher Commercial Internet Exchange",
  "city": "Frankfurt",
  "country": "DE",
  "region_continent": "Europe",
  "media": "Ethernet",
  "notes": "For peering with the DE-CIX Frankfurt route servers, please see:\n\n[DE-CIX route server documentation]

(proto_unicast): true,
(proto_multicast): false,
(proto_ipv6): true,

website": "https://fra.de-cix.net",
[url_stats]: "https://www.de-cix.net/en/locations/germany/frankfurt/statistics",
[tech_email]: "support@de-cix.net",
[tech_phone]: "+49 69 1730 902 11",
[policy_email]: "sales@de-cix.net",
[policy_phone]: "+49 69 1730 902 12",

"net_count": 805,
"created": "2010-07-29T00:00:00Z",
"updated": "2018-06-19T11:53:46Z",
"status": "ok"
}
]
```
Basic records in detail // fac

```
"data": [
{
  "id": 752,
  "org_id": 8540,
  "org_name": "euNetworks Group",
  "name": "euNetworks Colocation Hamburg",
  "website": "http://www.euNetworks.com",
  "clli": "",
  "rncode": "",
  "npnxx": "",
  "notes": "",
  "net_count": 5,
  "latitude": null,
  "longitude": null,
  "created": "2010-07-29T00:00:00Z",
  "updated": "2019-09-25T22:00:34Z",
  "status": "ok",
  "address1": "Wendenstra\u00dfe 408",
  "address2": "",
  "city": "Hamburg",
  "country": "DE",
  "state": "",
  "zipcode": "20537"
}
]
```
Basic records in detail // net and poc

```
"data": [
  {
    "id": 13251,
    "org_id": 1187,
    "name": "DE-CIX Academy Educational Network",
    "aka": "DE-CIX",
    "website": "http://www.de-cix.net/academy",
    "asn": 196610,
    "looking_glass": "",
    "route_server": "",
    "irr_as_set": "AS196610:AS-DECIX-ACADEMY",
    "info_type": "Educational/Research",
    "info_prefixes": 1,
    "info_prefixes": 5,
    "info_traffic": "0-20 Mbps",
    "info_ratio": "Balanced",
    "info_scope": "Regional",
    "info_unicast": true,
    "info_multicast": false,
    "info_ipv6": true,
    "notes": "We only peer with the route servers. *Any peering request you send will be used for educational purposes",
    "policy_url": "",
    "policy_general": "Open",
    "policy_locations": "Not Required",
    "policy_ratio": false,
    "policy_contracts": "Not Required",
    "created": "2017-04-20T19:44:59Z",
    "updated": "2019-02-15T12:19:05Z",
    "status": "ok"
  },
  {
    "id": 25826,
    "net_id": 13251,
    "role": "Policy",
    "visible": "Users",
    "name": "Wolfgang Tremmel",
    "phone": "",
    "email": "academy@de-cix.net",
    "url": "",
    "created": "2018-07-24T09:26:21Z",
    "updated": "2018-07-24T09:26:21Z",
    "status": "ok"
  }
]
```
Basic records in detail // as_set

https://peeringdb.com/api/as-set

https://peeringdb.com/api/as-set/42
Derived records in detail // ixfac, ixlan and ixpfx

```
"data": [
  {
    "id": 41,
    "ix_id": 26,
    "fac_id": 63,
    "created": "2010-07-29T00:00:00Z",
    "updated": "2016-03-14T20:33:57Z",
    "status": "ok"
  }
]
```

```
{
  "id": 312,
  "ixlan_id": 31,
  "protocol": "IPv6",
  "prefix": "2001:7f8::/64",
  "created": "2011-06-22T00:00:00Z",
  "updated": "2016-03-14T21:57:28Z",
  "status": "ok"
}
```

```
{
  "id": 31,
  "ix_id": 31,
  "name": "DE-CIX Frankfurt Peering LAN",
  "descr": "",
  "mtu": 1500,
  "dot1q_support": false,
  "rs_asn": 0,
  "arp_sponge": null,
  "created": "2010-07-29T00:00:00Z",
  "updated": "2018-07-08T10:22:35Z",
  "status": "ok"
}
```
Derived records // netfac and netixlan

```json
{
    "id": 30451,
    "name": "Interxion Frankfurt (FRA1-13)",
    "city": "Frankfurt",
    "country": "DE",
    "net_id": 13251,
    "fac_id": 58,
    "local_asn": 196610,
    "created": "2018-07-24T09:25:24Z",
    "updated": "2018-07-24T09:25:24Z",
    "status": "ok"
}
```

```json
{
    "id": 163,
    "net_id": 5
    "ix_id": 31

    "name": "DE-CIX Frankfurt: DE-CIX Frankfurt Peering LAN",
    "ixlan_id": 31

    "notes": "",
    "speed": 20000,
    "asn": 3303,
    "ipaddr4": "80.81.193.183",
    "ipaddr6": "2001:7f8::ce7:0:2",
    "is_rs_peer": true,
    "created": "2010-07-29T00:00:00Z",
    "updated": "2019-01-18T11:19:59Z",
    "status": "ok"
}
```
Example: peer information at an IXP
Example: peer information at an IXP

```
(server0:global_5032 ) curl -sG https://www.peeringdb.com/api/netixlan \
| 2 --data-urlencode ix_id=31 | jq -r '.data[] | .asn, .ipaddr4, .ipaddr6' | \n| paste -- -- | sort -n
42 80.81.194.42 2001:7f0::2a:0:1
112 80.81.195.77 2001:7f0::70:0:1
553 80.81.192.175 2001:7f0::229:0:1
553 80.81.194.106 2001:7f0::229:0:2
559 80.81.196.147 2001:7f0::22f:0:1
680 80.81.192.222 2001:7f0::2a8:0:1
680 80.81.193.222 2001:7f0::2a8:0:2
702 80.81.193.1 2001:7f0::2be:0:2
714 80.81.193.202 2001:7f0::2ca:0:1
714 80.81.193.223 2001:7f0::2ca:0:2
714 80.81.194.161 2001:7f0::2ca:0:3
714 80.81.194.171 2001:7f0::2ca:0:4
1239 80.81.192.121 2001:7f0::4d7:0:1
1241 80.81.192.90 2001:7f0::4d9:0:4
1241 80.81.193.231 2001:7f0::4d9:0:2
1241 80.81.194.129 2001:7f0::4d9:0:1
1241 80.81.195.130 2001:7f0::4d9:0:3
1248 80.81.194.17 2001:7f0::4e0:0:1
1257 80.81.196.81 2001:7f0::4e9:0:1
1267 80.81.192.215 2001:7f0::4f3:0:1
1267 80.81.193.215 2001:7f0::4f3:0:2
1273 80.81.192.33 2001:7f0::4f9:0:1
```

Example: peer information at an IXP

```
nipper@server0:~$ NETIDS=$(curl -sG https://www.peeringdb.com/api/netixlan \
--data-urlencode ix_id=31 --data-urlencode fields=net_id | jq -r '[.data[] | .net_id] | unique | @csv')
nipper@server0:~$ curl -sG https://www.peeringdb.com/api/net --data-urlencode id__in=$NETIDS --data-urlencode fields=asn,iirr_as_set | jq -r '.data[] | .asn, .iirr_as_set' | paste - - | sort -n
42   RADB::AS-PCH
112  AS112
553  AS-BELWUE
559  RIPE::AS-SWITCH
680  AS-DFNTOWINISP
702
714  AS-APPLE
1239 AS1239:AS-CUSTOMERS
1241 AS-FORTHNET AS-FORTHNET-V6
1248 AS-HERE
1257 AS-TELE2
1267 AS-WINDTRE
1273 RIPE::AS1273:AS-CWW RIPE::AS1273:AS-CWW-V6
```
Example: peer information at an IXP

```
nipper@server0:~$ NETIDS=$(curl -sG https://www.peeringdb.com/api/netixlan
    --data-urlencode ix_id=31 --data-urlencode fields=net_id | jq -r '.data[] | .net_id' | unique | @csv')
nipper@server0:~$ curl -sG https://www.peeringdb.com/api/poc
    --data-urlencode net_id_in=${NETIDS}
    --data-urlencode role="Policy"
    --data-urlencode fields=email/net_id
    --data-urlencode visible="Public"
    | jq -r '.data[] | .net_id, .email' | paste - - | sort -n
14   peering@gtt.net
115  peering.de@telefonica.com
118  robert.wurzer@bt.com
179  peering@is.co.za
186  engineering@quickline.net
217  peering@bsonetwork.com
236  peeringTM@tm.com.my
341  peering@verizon.com
475  ip@oteglobe.gr
620  esther.fernandez@telxius.com
620  noelia.silva@telxius.com
678  peering@network.leaseweb.com
694  peering@microsoft.com
708  peering@globalconnect.net
```
ACME Alternative Hosting is an Austrian hosting provider with a presence in Vienna, Linz and Klagenfurt. Your traffic profile is mainly outgoing, usually about 200Mbps. You announce via BGP in IPv4 one /24, one /22 and one /18. On IPv6 you announce a /32 and two /48s. As a hosting provider, you have an open peering policy; you are very eager to handle your traffic via peering instead of your three upstream providers.

You take abuse handling seriously; your abuse department is reachable 24/7 at abuse@acme.example for everybody. Your NOC is only reachable for peers and customers at noc@acme.example and via phone at +43 1 2341668.

You are connected with 1G to the Vienna Internet Exchange at Interxion Vienna with IPv4 192.203.0.222 and IPv6 2001:7f8:30:0:1:1:6:fbf5. You are at the only data centre in Linz; in Klagenfurt, you are at Stadtwerke.

Please put the above Information into PeeringDB.
Belgian Box is a Belgian DSL provider with a presence in Brussels. Your traffic profile is mainly incoming, usually about 500Mbps. You announce via BGP in IPv4 one /19 and one /21. On IPv6, you announce a /32.

You have an open peering policy; you are very eager to handle your traffic via peering instead of your two upstream providers.

You have a contact for abuse at abuse@box.example for everybody. Your NOC is only reachable for peers and customers at noc@box.example (you do not have a phone contact for your NOC), and you also have an address for press enquiries at publicrelations@box.example.

You are connected with 2G to BNIX at Interxion Brussels with IPv4 194.53.172.254 and IPv6 2001:7f8:26::a500:fbf6:1.

Please put the above Information into PeeringDB.
64503

Peering DB Training Sheet

Your AS number: 64503
Your company name: Charles Townsend Consultants

CTC is a Czech consulting agency with a presence in Prague and Brno. Your traffic profile is balanced in and out, usually about 100Mbps, mainly shop systems for your customers. You announce via BGP in IPv4 one /24 and one /23. On IPv6, you announce three /48s. You have a selective peering policy; you want to peer with eyeball networks but not with content providers.

You have a contact for abuse at abuse@ctc.example for your peers. Your NOC is only reachable for peers and customers at noc@ctc.example (you do not have a phone contact for your NOC). You also have a sales contact at info@ctc.example.

You are connected with 1G to NIX.CZ at GTS Telehouse with IPv4 91.210.16.254 and IPv6 2001:7f8:14::fbf7:1. In Brno you are present at DC Kounicova.

Please put the above Information into PeeringDB.
Your AS number: 64504
Your company name: Data Shifters

Data Shifters is a Danish backbone operator in Copenhagen and Aarhus. Your traffic profile is balanced in and out, usually about 100Gbps. You announce via BGP in IPv4 three /16s and 20 /24s. On IPv6, you announce one /32 and ten /48s. You also provide transit to 8 other ASes, and your AS Macro is AS64504:AS-DS.
As a backbone provider, you have a restrictive peering policy, require a traffic level of at least 1Gbps balanced traffic for peering.

You have a contact for abuse at abuse@ds.example for your peers.
Your NOC is only reachable for peers and customers at noc@ds.example (you do not have a phone contact for your NOC).
You also have a sales contact at info@ds.example.

You are connected to DIX with 100G at Interxion with IPv4 192.38.7.253 and IPv6 2001:7f8:1f::fbf8:0:2. In Aarhus, you are present at Global Connect.

Please put the above Information into PeeringDB.
Electric Dreams is an Estonian web agency with a presence in Tallinn. Your traffic profile is mainly out, usually about 10Gbps. You announce via BGP in IPv4 one /24 and one /18. On IPv6, you announce three /48s.
You have an open peering policy; you are very eager to handle your traffic via peering instead of your two upstream providers.

You have a public contact for abuse at abuse@ed.example and sales at sales@ed.example. Your NOC is only reachable for peers and customers at noc@ed.example (you do not have a phone contact for your NOC).

You are connected to DIX with 100G at Interxion with IPv4 192.38.7.254 and IPv6 2001:7f8:1f::fbf8:0:1. In Aarhus, you are present at Global Connect.

Please put the above Information into PeeringDB.
Peering DB Training Sheet

Your AS number: 64506
Your company name: Forever Young

Forever Young is a French DSL provider in Paris and Marseille. Your traffic profile is mainly incoming, usually about 5Gbps. You announce via BGP in IPv4 one /16 and one /17. On IPv6, you announce one /32. You have a restrictive peering policy; you peer with content providers and CDNs but not with other eyeball providers.

You have a contact for abuse at abuse@forever.example for your peers only and press enquiries at press@forever.example. Your NOC is only reachable for peers and customers at noc@forever.example (you do not have a phone contact for your NOC).

You are connected to DE-CIX Marseille with 10G at Interxion with IPv4 185.1.47.254 and IPv6 2001:7f8:36::fbfa:0:1. In Paris, you are present at Interxion Paris 6.

Please put the above Information into PeeringDB.
Golf Partners is a German nationwide DSL provider in Frankfurt and Hamburg. Your traffic profile is mainly incoming, usually about 25Gbps. You announce via BGP in IPv4 one /12 and one /17. On IPv6, you announce one /32 and three /48s.

As a DSL provider, you have a very restrictive peering policy, and you peer only with content providers and CDNs.

You have a contact for abuse at abuse@golf.example for your peers only. Your NOC is only reachable for peers and customers at noc@golf.example and via phone at +49 1631737743.

You are connected to DE-CIX Frankfurt with 40G at Interxion FRA1-15 with IPv4 80.81.197.253 and IPv6 2001:7f8::fbfb:0:2. In Hamburg, you are present at Global Connect HAM1.

Please put the above Information into PeeringDB.
Hosting Inc. is a Hungarian hosting provider with a presence in Budapest. Your traffic profile is mainly outgoing, usually about 400Mbps. You announce via BGP in IPv4 one /21 and one /22. On IPv6, you announce two /48s.

As a hosting provider, you have an open peering policy. You are very eager to handle your traffic via peering instead of your two upstream providers.

You have a contact for abuse at abuse@golf.example for your peers only. Your NOC is only reachable for peers and customers at noc@golf.example and via phone at +49 1631737743.

You are connected to DE-CIX Frankfurt with 40G at Interxion FRA4 with IPv4 80.81.197.254 and IPv6 2001:7f8::fbfb:0:1. In Hamburg, you are present at Global Connect HAM1.

Please put the above information into PeeringDB.
Your AS number: 64509
Your company name: Island Computing

Island Computing is an Italian nationwide backbone provider in Milan and Rome. Your traffic profile is balanced, usually about 4Gbps. You announce via BGP in IPv4 one /14 and eight /24s. On IPv6, you announce two /48s and one /32.
As a nationwide backbone provider, you peer with anyone not from Italy.

You have a contact for abuse at abuse@island.example for your peers only. Your NOC is only reachable for peers and customers at noc@island.example, and your sales team is happy to sell paid peering for Italian providers at sales@island.example.


Please put the above Information into PeeringDB.
Your AS number: 64510
Your company name: LuxRoute Inc.

LuxRoute Inc. is a Luxembourg web hosting provider with a presence in Luxembourg and Frankfurt. Your traffic profile is heavily outgoing, usually about 500Mbps. You announce via BGP in IPv4 one /21 and two /24s. On IPv6, you announce two /48s. You have an open peering policy and are eager to win new peers.

You have a public contact for abuse at abuse@luxroute.example. Your NOC is only reachable for peers and customers at noc@luxroute.example.

You are connected to LU-CIX with 1G at Luxconnect DC2 with IPv4 188.93.171.254 and IPv6 2001:7f8:4c::fbfe:1. In Frankfurt, you are at Interxion FRA1-15.

Please put the above Information into PeeringDB.
Netherlands Best is a Dutch business provider with a presence in Amsterdam and The Hague. Your traffic profile is balanced, usually about 1Gbps. You announce via BGP in IPv4 5 /24s and one /21. On IPv6, you announce one /32 and two /48s. You have an open peering policy but require your peers to have 24h abuse and NOC reachability.

You have a public 24h contact for abuse at abuse@thebest.example. Your NOC is also reachable 24/7 for peers and customers at noc@thebest.example.

You are connected to AMS-IX with 1G at Global Switch Amsterdam with IPv4 80.249.208.249 and IPv6 2001:7f8:1::fbff:1. In The Hague, you are at Data Facilities.

Please put the above Information into PeeringDB.
Your AS number: 64512
Your company name: Porto Hosting

Porto Hosting is a Portuguese hosting provider in Lisbon and Porto. Your traffic profile is mainly outgoing, usually about 3Gbps. You announce via BGP in IPv4 one /24 and one /22. On IPv6, you announce one /32. You have an open peering policy but require your peers to have 24h abuse and NOC reachability.

You have a public contact for abuse at abuse@portohosting.example. Your NOC is reachable during business hours for peers and customers at noc@portohosting.example.

You are connected to GigaPIX with 1G at FCCN Lisbon SE03 with IPv4 193.136.250.254 and IPv6 2001:7f8:a::254. In Porto, you are at FCCN Oporto.

Please put the above Information into PeeringDB.
Russia Web Presences is a Russian web hoser in Moscow and St. Petersburg. Your traffic profile is outgoing, usually about 2.5Gbps. You announce via BGP in IPv4 five /24s and one /21. On IPv6, you announce one /32. You have an open peering policy but do not peer with other Russian providers.

You have a public contact for abuse at abuse@russiaweb.example. Your NOC is reachable during business hours for peers and customers at noc@russiaweb.example.

You are connected to MSK-IX Moscow with 10G at Moscow M10 with IPv4 195.208.209.254 and IPv6 2001:7f8:20:101::209:254. In St. Petersburg, you are at Borovaya 57.

Please put the above Information into PeeringDB.
Sevilla Select ISP is a Spanish residential DSL provider in Sevilla and Madrid. Your traffic profile is mainly incoming, usually about 12Gbps. You announce via BGP in IPv4 one /19 and two /24s. On IPv6, you announce one /32 and two /48s. You have an open peering policy but do not peer other eyeball networks.

You have a public contact for abuse at abuse@select.example and sales at sales@select.example. Your NOC is only reachable for peers and customers at noc@select.example (you do not have a phone contact for your NOC).

You are connected to DE-CIX Madrid with 10G at Interxion MAD1 with IPv4 185.1.68.254 and IPv6 2001:7f8:a0::fc02:0:1. In Sevilla you are at Equinix SA1.

Please put the above Information into PeeringDB.
Peering DB Training Sheet

Your AS number: 64515
Your company name: Istanbul Business Connect

Istanbul Business Connect is a Turkish business provider with a presence in Istanbul. Your traffic profile is more or less balanced, usually about 3Gbps. You announce via BGP in IPv4 one /24 and two /22s. On IPv6, you announce one /32 and one /48s. You have an open peering policy but require that your peers have a 24/7 abuse desk and NOC.

You have a public contact for abuse at abuse@ibc.example and sales at sales@ibc.example. Your NOC is only reachable for peers and customers at noc@ibc.example (you do not have a phone contact for your NOC).

You are connected to DE-CIX Istanbul with 10G at MedNautilus with IPv4 185.1.48.254 and IPv6 2001:7f8:3f::fc03:0:1

Please put the above Information into PeeringDB.
Dubai BizConnect is a United Arab Emirates business provider with a presence in Dubai. Your traffic profile is more or less balanced, usually about 2.5Gbps. You announce via BGP in IPv4 one /16 and two /24s. On IPv6, you announce one /32 and three /48s. You only peer with providers who are not from your region.

You have a public contact for abuse at abuse@dbc.example. Your NOC is reachable for everybody at noc@dbc.example (you do not have a phone contact for your NOC).

You are connected to UAE-IX with 10G at Datamena with IPv4 185.1.8.254 and IPv6 2001:7f8:73::fc04:0:1. You also have a presence at Equinix Dubai DX1.

Please put the above Information into PeeringDB.
64517

Peering DB Training Sheet

Your AS number: 64517
Your company name: Sofia Web

Sofia Web is a Bulgarian web hoster with a presence in Sofia. Your traffic profile is heavy outgoing, usually about 15Gbps. You announce via BGP in IPv4 two /16s and four /24s. On IPv6, you announce one /32 and eight /48s. You have an open peering policy.

You have a public contact for abuse at abuse@sofiaweb.example. Your NOC is only reachable for customers at noc@sofiaweb.example (you do not have a phone contact for your NOC).

You are connected to BIX with 20G at Evolink SO1 with IPv4 193.169.199.252 and IPv6 2001:7f8:58::fc05:0:252. You also have a presence at Equinix SO1.

Please put the above Information into PeeringDB.
Pint Size Hosting is a British colocation provider in London and Manchester. Your traffic profile is mainly outgoing, usually about 25Gbps. You announce via BGP in IPv4 one /21 and six /24s. On IPv6, you announce one /32 and three /48s. You have an open peering policy.

You have a public contact for abuse at abuse@pint.example. Your NOC is reachable for customers and peers at noc@pint.example (you do not have a phone contact for your NOC).

You are connected to Lonap with 20G at Telehouse East with IPv4 5.57.80.251 and IPv6 2001:7f8:17::fc06:1. You also have a presence in Manchester at M247 Ball Green.

Please put the above Information into PeeringDB.
Stockholm Online is a Swedish DSL provider in Stockholm and Gothenburg. Your traffic profile is mainly incoming, usually about 12Gbps. You announce via BGP in IPv4 one /16 and two /24s. On IPv6, you announce one /32 and two /48s.

You have an open peering policy.

You have a public contact for abuse at abuse@s-online.example. Your NOC is reachable for customers only at noc@s-online.example (you do not have a phone contact for your NOC).

You are connected to Netnod Stockholm with 10G at Interxion STO2 with IPv4 194.68.123.253 and IPv6 2001:7f8:d:ff::249. You also have a presence in Gothenburg at SHG5.

Please put the above Information into PeeringDB.
Gruezi Data Hosting is a Swiss Webhosting provider in Zurich and Geneva. Your traffic profile is heavily outgoing, usually about 45Gbps. You announce via BGP in IPv4 two /16s and one /24. On IPv6, you announce one /32 and one /48s. You have an open peering policy.

You have a public contact for abuse at abuse@gruezi.example. Your NOC is reachable for everybody only at noc@gruezi.example (you do not have a phone contact for your NOC).

You are connected to SwissIX Zurich with 100G at Intexion Zurich with IPv4 91.206.52.239 and IPv6 2001:7f8:24:ff::fe. You also have a presence in Geneva at CERN.

Please put the above Information into PeeringDB.
API Exercises


Heads up:
- always provide `-H "accept: application/json" -H "Content-Type: application/json"` to curl when POSTing or PUTing!
- create your directory first and cd
- Webshells are only available during Tutorials and are shut down after

Create an object and re-read
- use data from Track 2 Training Sheets, or use ASN > 64520
- What is the output from the create (POST) call?
- What is the output from the get (GET) call?

Modify an object and reread
- What is the output from the modify (PUT) call?

Delete an object
- What is the output from the delete (DELETE) call?

Specific exercises
- How many org objects are in PeeringDB?
- How many networks (net) does Google LLC (org_id=574) have?
- How many Internet exchanges (hint: use netixlan) does ASN 15169 peer?
- What is the total peering capacity (hint: use speed of netixlan object) of ASN 15169?
- How many European Internet exchanges does ASN 15169 peer?
- Compile a list (asn, ipv4, ipv6) (hint: use netixlan object) of participants at IX.br (PTT.br) São Paulo
- Propose actions to be done