

# Plugin Architecture for The Massachusetts Open Cloud GUI (MOC)

## TEAM MEMBERS:

DANA ALJAWDER, LAMA ALSUWAYAN, EVERETT CARSON,  
IGIBEK KOISHYBAYEV, HUNG VONG

## PROJECT MENTOR:

JON BELL



# Project Overview

- ❑ Plugin for MOC-UI
  - ▣ Allow external web apps to be integrated into MOC-UI
- ❑ HaaS
  - ▣ Test case: implement a web app to manage projects using HaaS
- ❑ Integration of HaaS app into MOC-UI

# Previous Sprint

- Created HaaS APIs:
  - ▣ View All Nodes
  - ▣ View All Networks
- Integrated HaaS API calls into web app:
  - ▣ Show Node Details
  - ▣ Attach/Detach Nodes
  - ▣ View All Nodes/Networks
- Enhanced UI (Django templates, CSS & JavaScript)

# Current Sprint

## □ Integrate HaaS API Calls:

### ▣ Nodes:

- (4) Add NIC/ Delete NIC [2.5]
- (2) Power Cycle [1]
- (2) Delete Node [3]

### ▣ Headnode:

- (4) Add/Delete HNIC [2.5]
- Start/Stop Headnode
- Delete Headnode

### ▣ Networks:

- (3) Create Network [13]

# Current Sprint - Cont'd

## □ Refactor the app:

- ▣ (13) Redesign Use Cases [8]
- ▣ (13) File Structure and URLs [8]
- ▣ (8) Forms and Tables [5]
- ▣ (13) Redesign Node Details [30]

## □ (Stretch) Unit Testing for Previous Sprint Calls:

- ▣ List All Projects
- ▣ List All Networks
- ▣ All Node

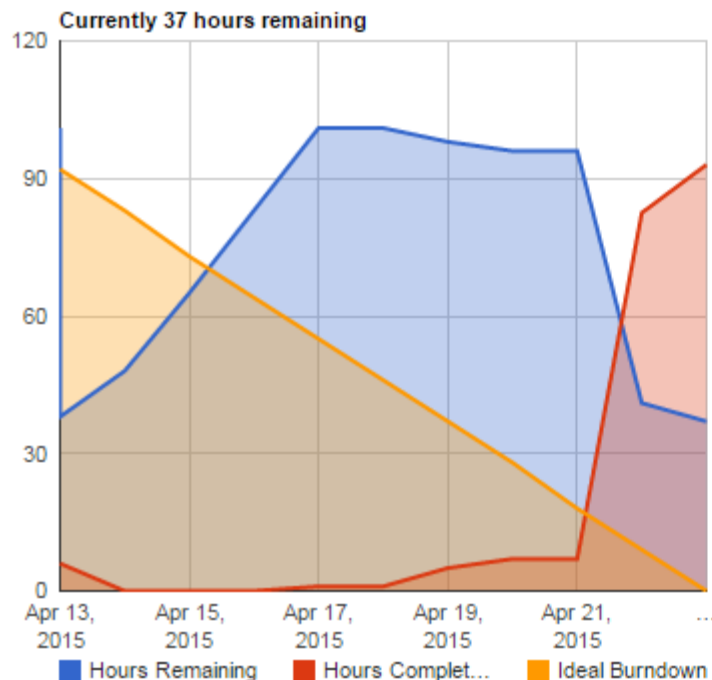
# Current Sprint – Not Done

---

- ❑ Manage VLANS
- ❑ Manage HNIC Networks

# Burndown

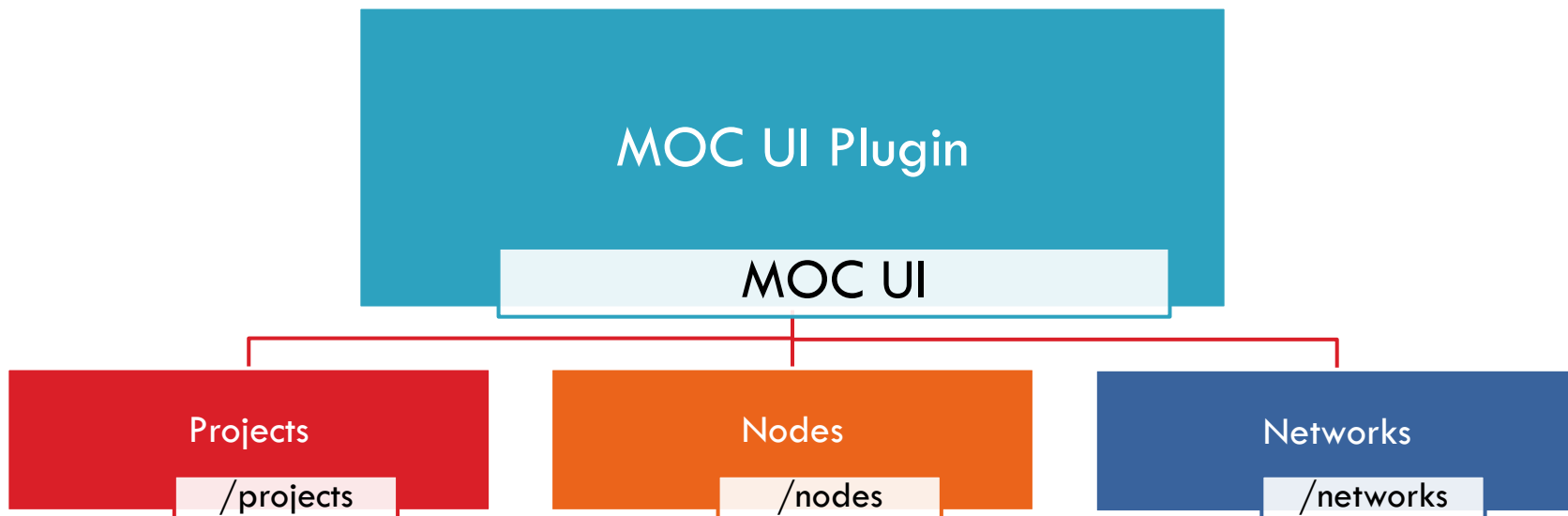
## Burndown Chart



## Summary stats

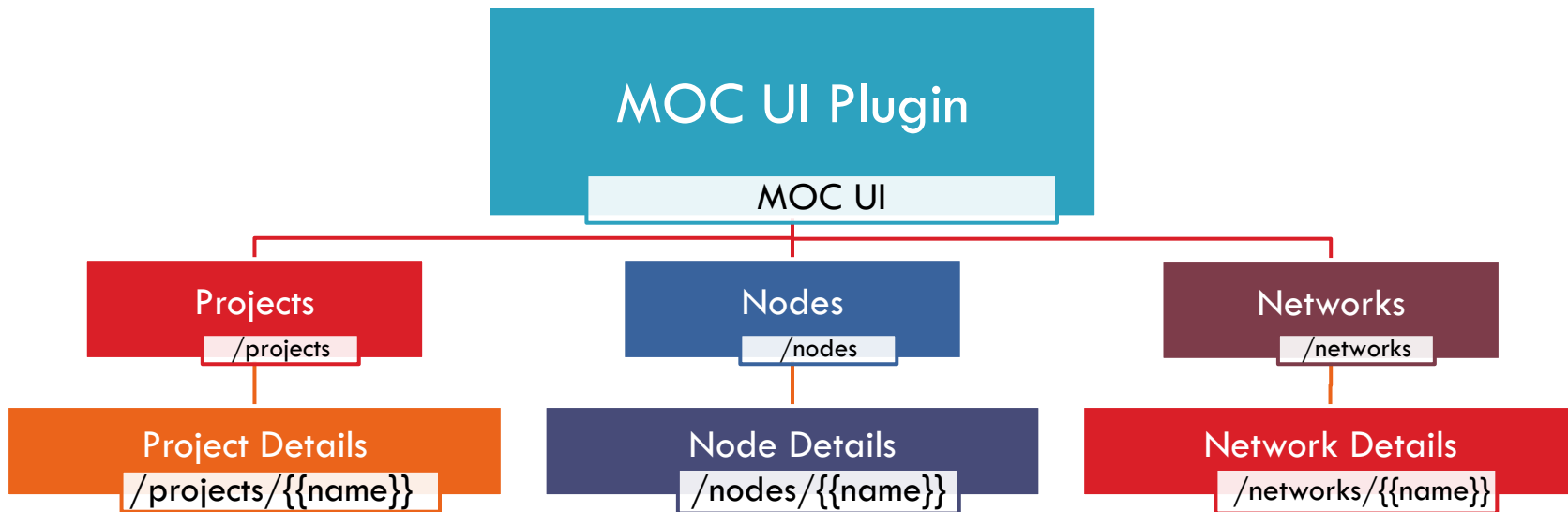
Total Cards:	25
Remaining Cards:	10
Done Cards:	15
Percent of cards done:	60%
Hours at start:	101 <a href="#">(edit)</a>
Hours est total:	105
Hours remaining:	37
Hours done:	93
Percent of hours done:	64%
----	----
Days Elapsed	10
Daily Burndown	9.3
Est. Days Left	4
Est. Completion Date	04/27/15

# Refactoring – App Structure and URLs

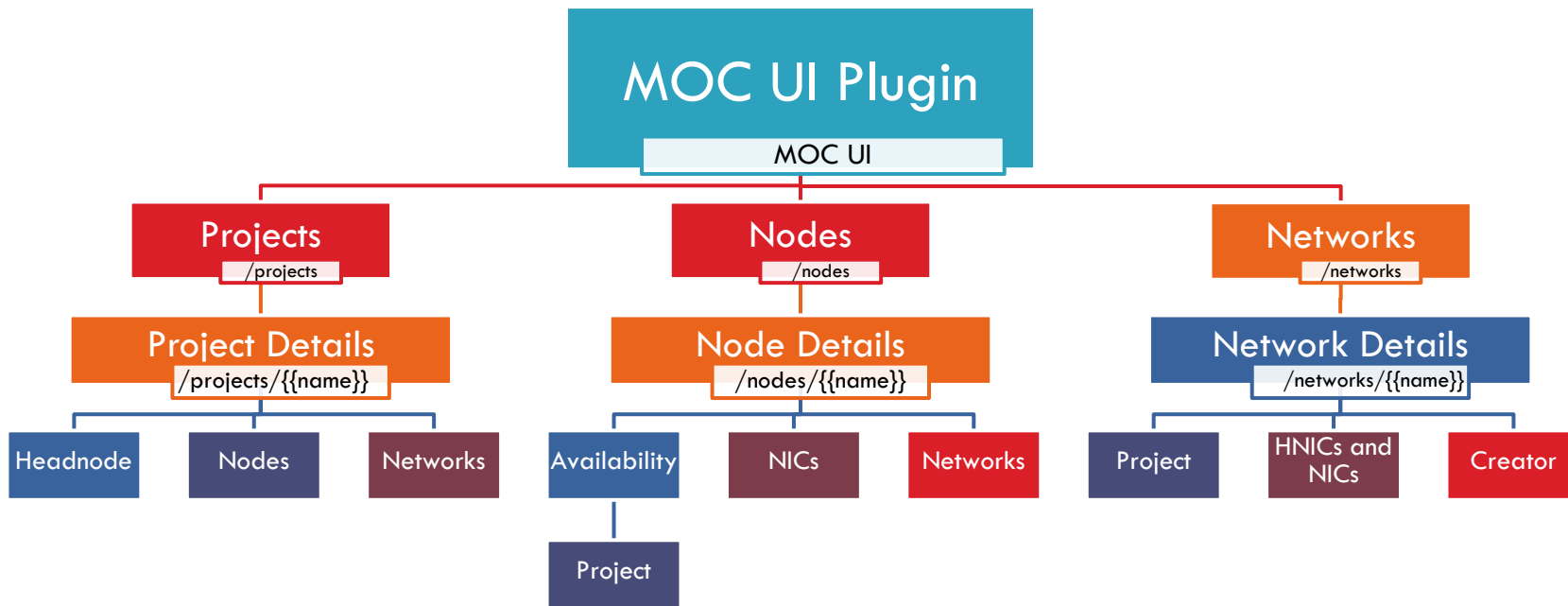




# Refactoring – App Structure and URLs



# Refactoring – App Structure and URLs



**DEMO**

# Challenges: HaaS Database Schema

Headnode
id
label
project_id
base_img
uuid

Hnic
id
label
creator_id
network_id

Network
id
label
access_id
allocated
network_id

Port
id
label

user_projects
user_id
project_id

networkingaction
id
nic_id
new_network_id

nic
id
label
owner_id
mac_addr
port_id
network_id

Node
id
label
project_id
impi_host
impi_user
impi_pass

project
id
label

user
id
label

vlan
id
label
vlan_no
available

# Challenges: HaaS Database Schema

Headnode
id label project_id base_img uuid

Hnic
id label creator_id network_id

Network
id label access_id allocated network_id

Port
id label

user_projects
user_id project_id

networkingaction
id nic_id new_network_id

nic
id label owner_id mac_addr port_id network_id

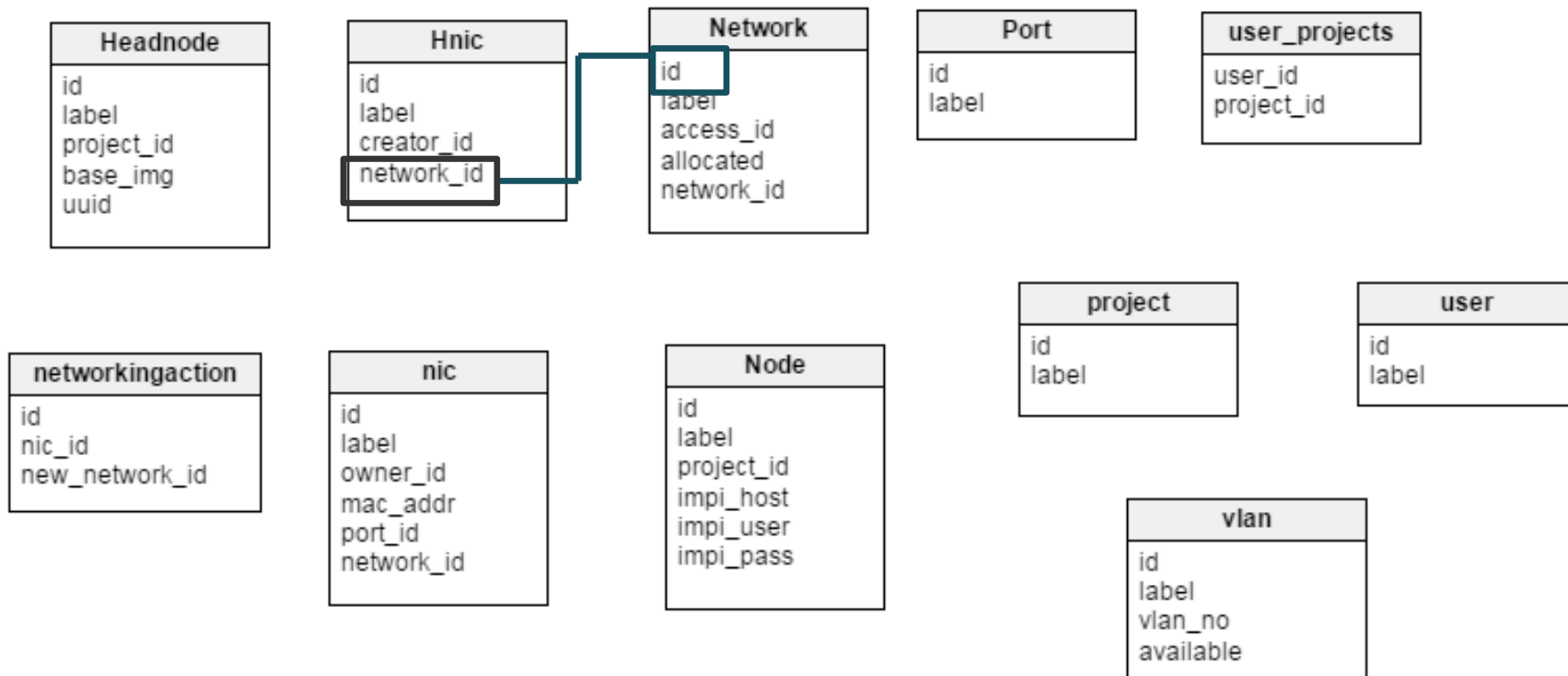
Node
id label project_id impi_host impi_user impi_pass

project
id label

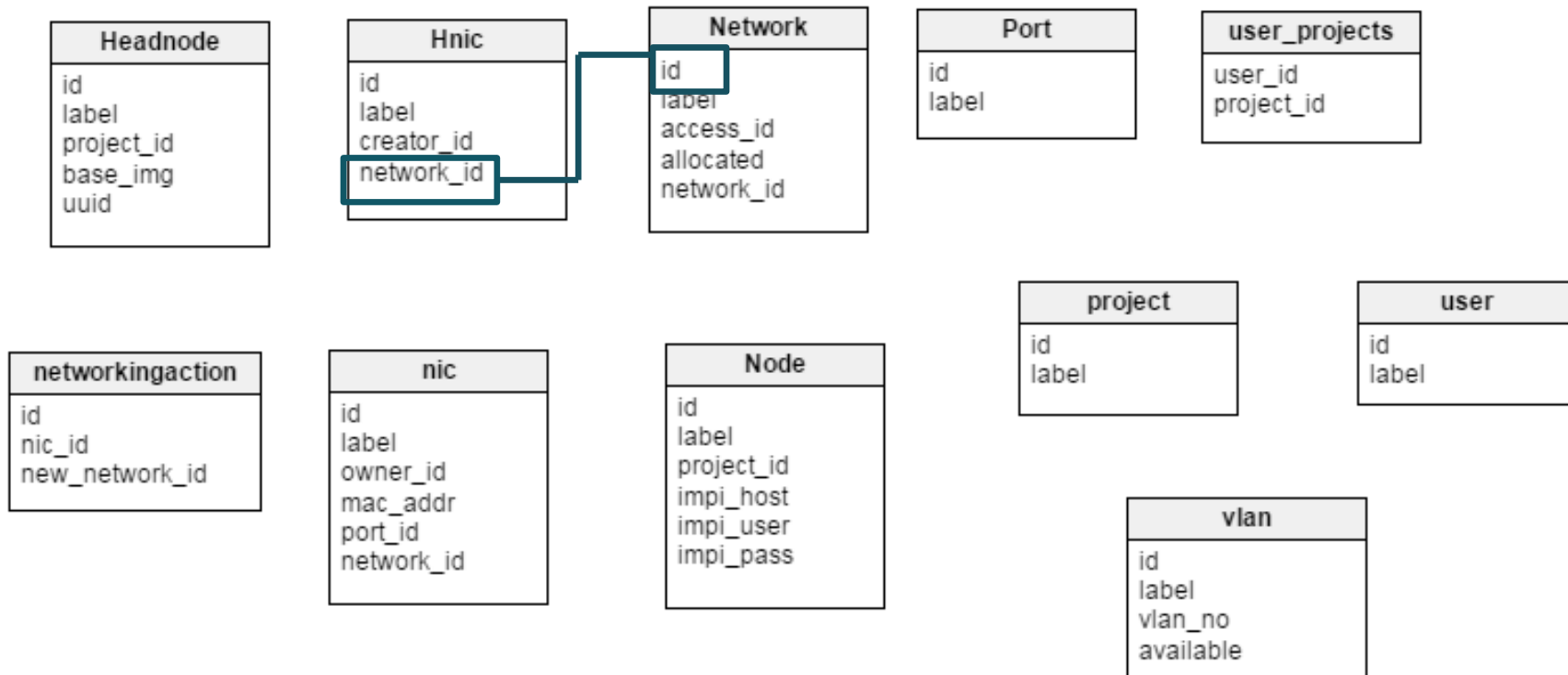
user
id label

vlan
id label vlan_no available

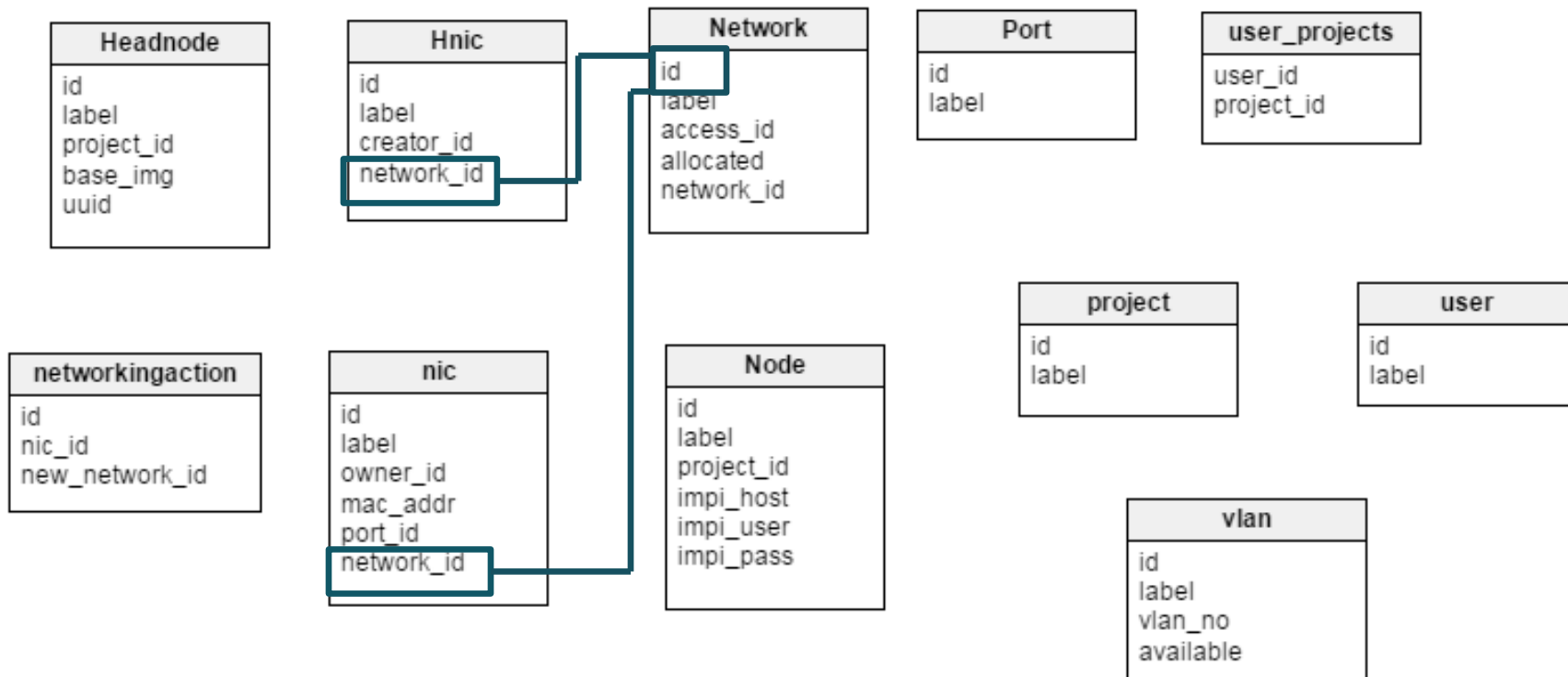
# Challenges: HaaS Database Schema



# Challenges: HaaS Database Schema

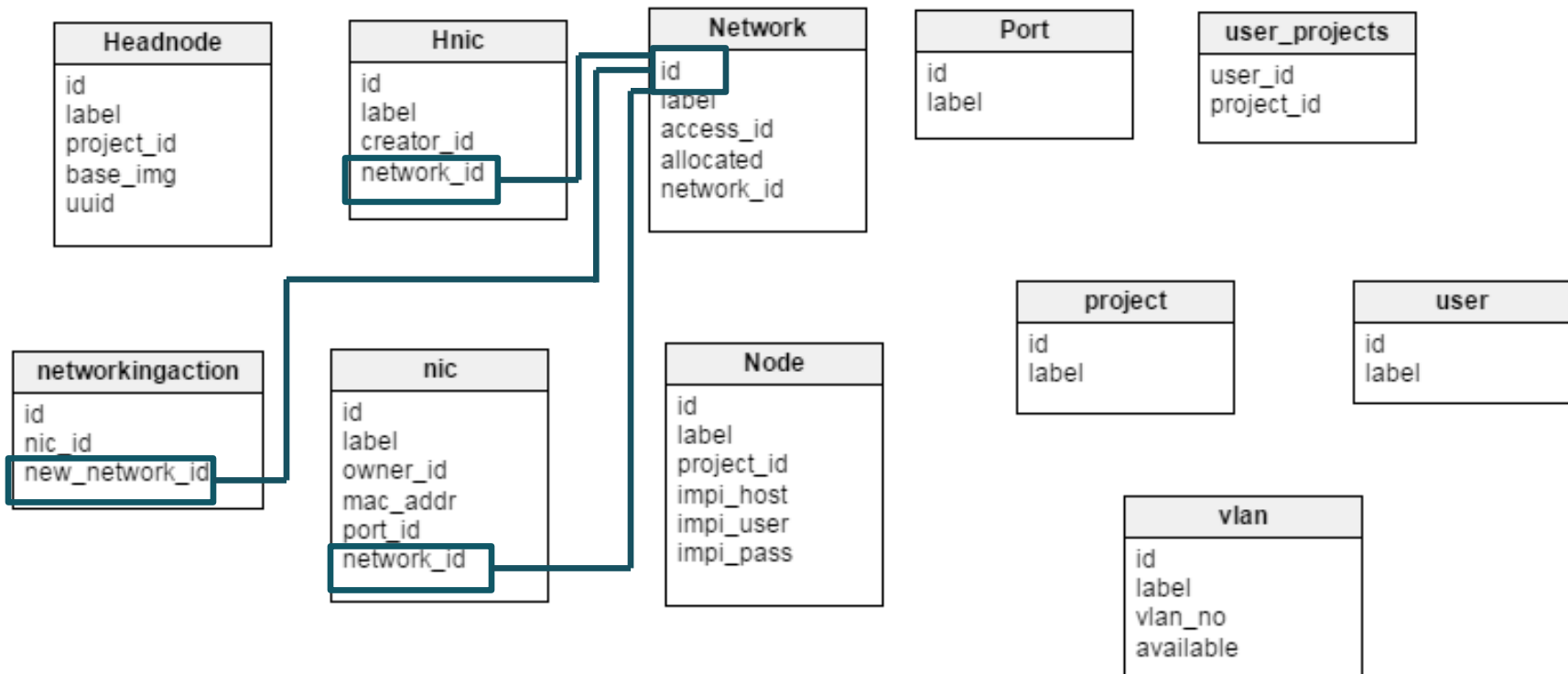


# Challenges: HaaS Database Schema





# Challenges: HaaS Database Schema



# Challenges: HaaS Database Schema

Headnode
id label project_id base_img uuid

Hnic
id label creator_id network_id

Network
id label access_id allocated network_id

Port
id label

user_projects
user_id project_id

networkingaction
id nic_id new_network_id

nic
id label owner_id mac_addr port_id network_id

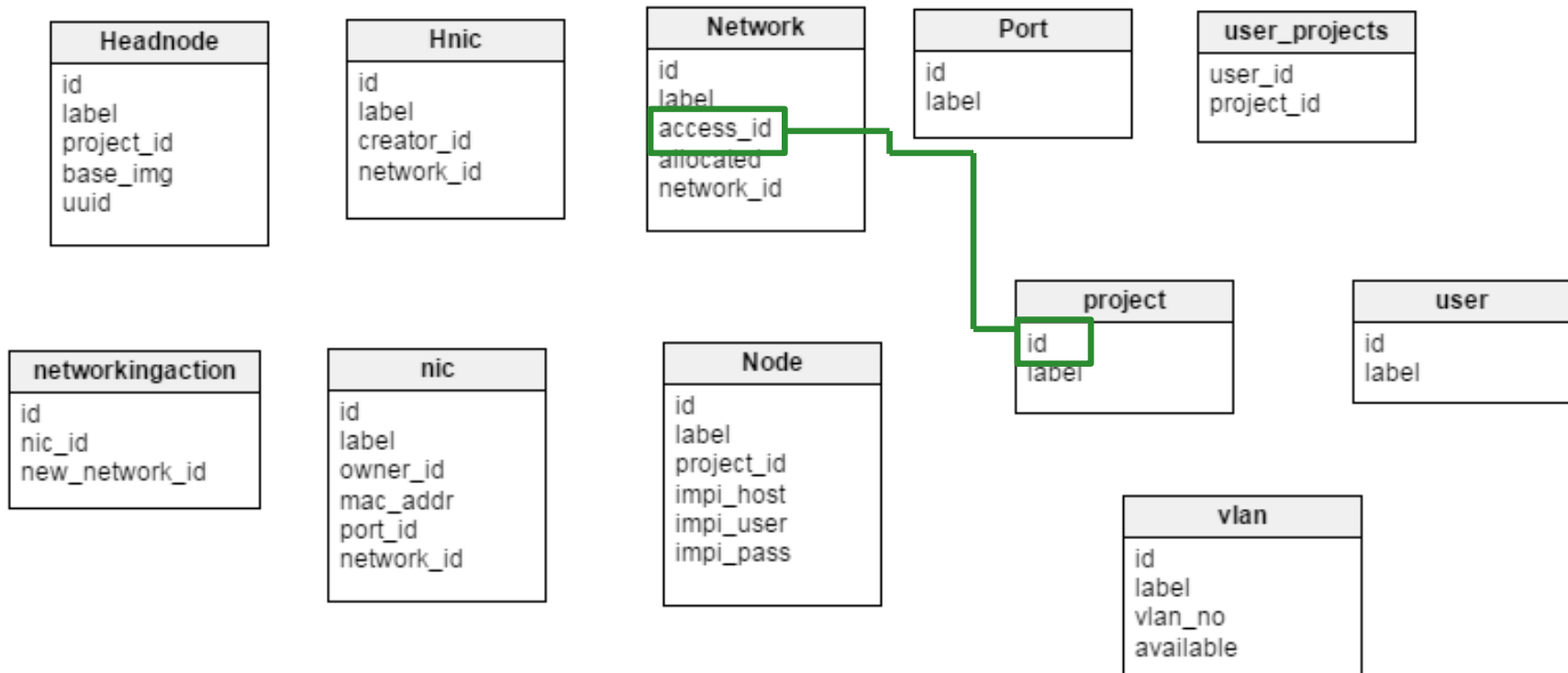
Node
id label project_id impi_host impi_user impi_pass

project
id label

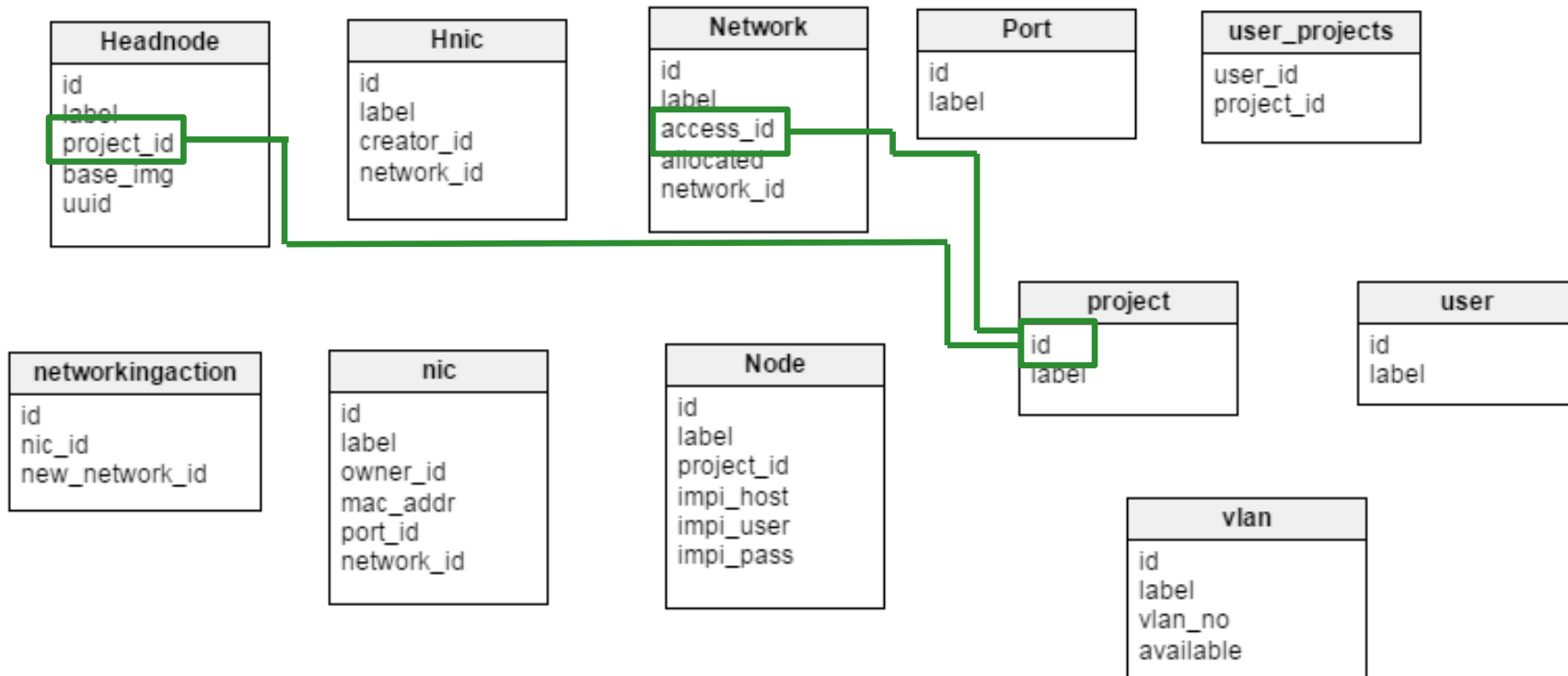
user
id label

vlan
id label vlan_no available

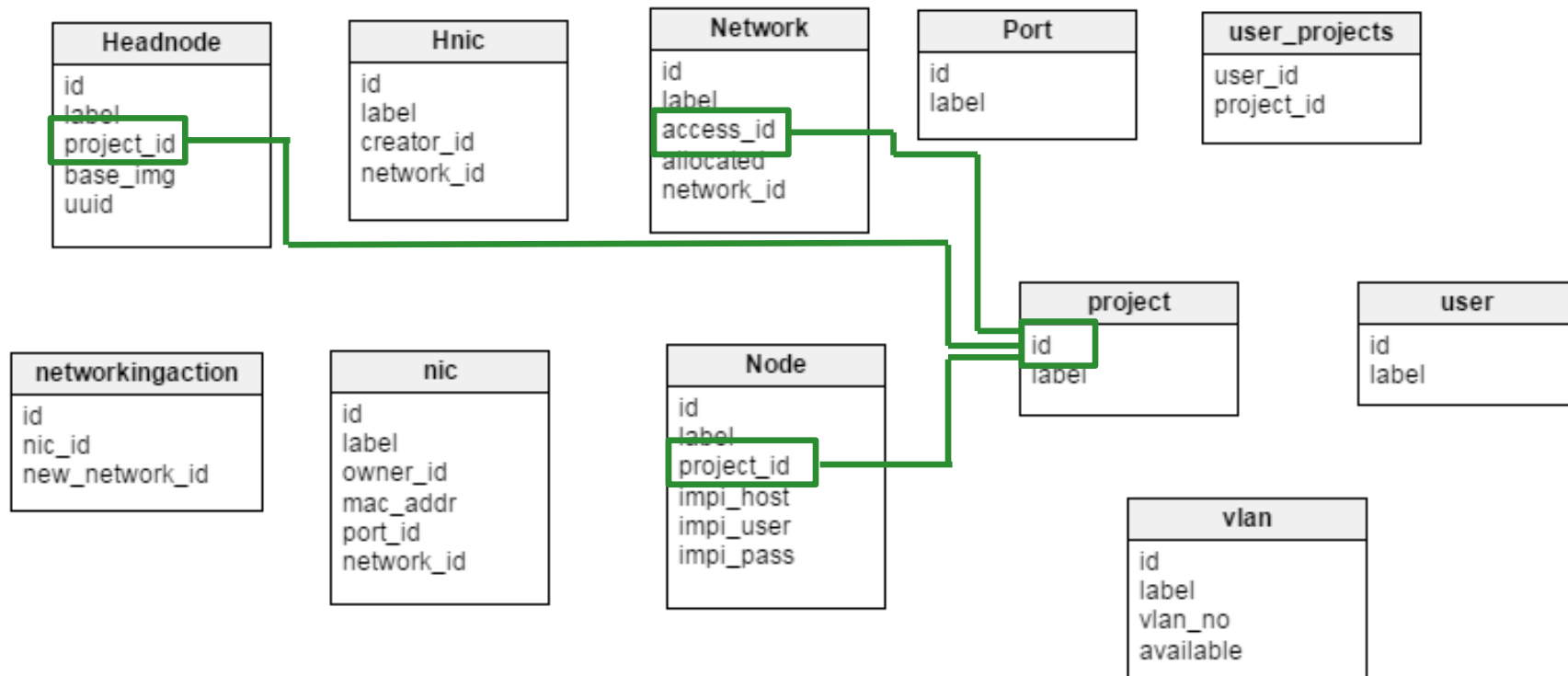
# Challenges: HaaS Database Schema



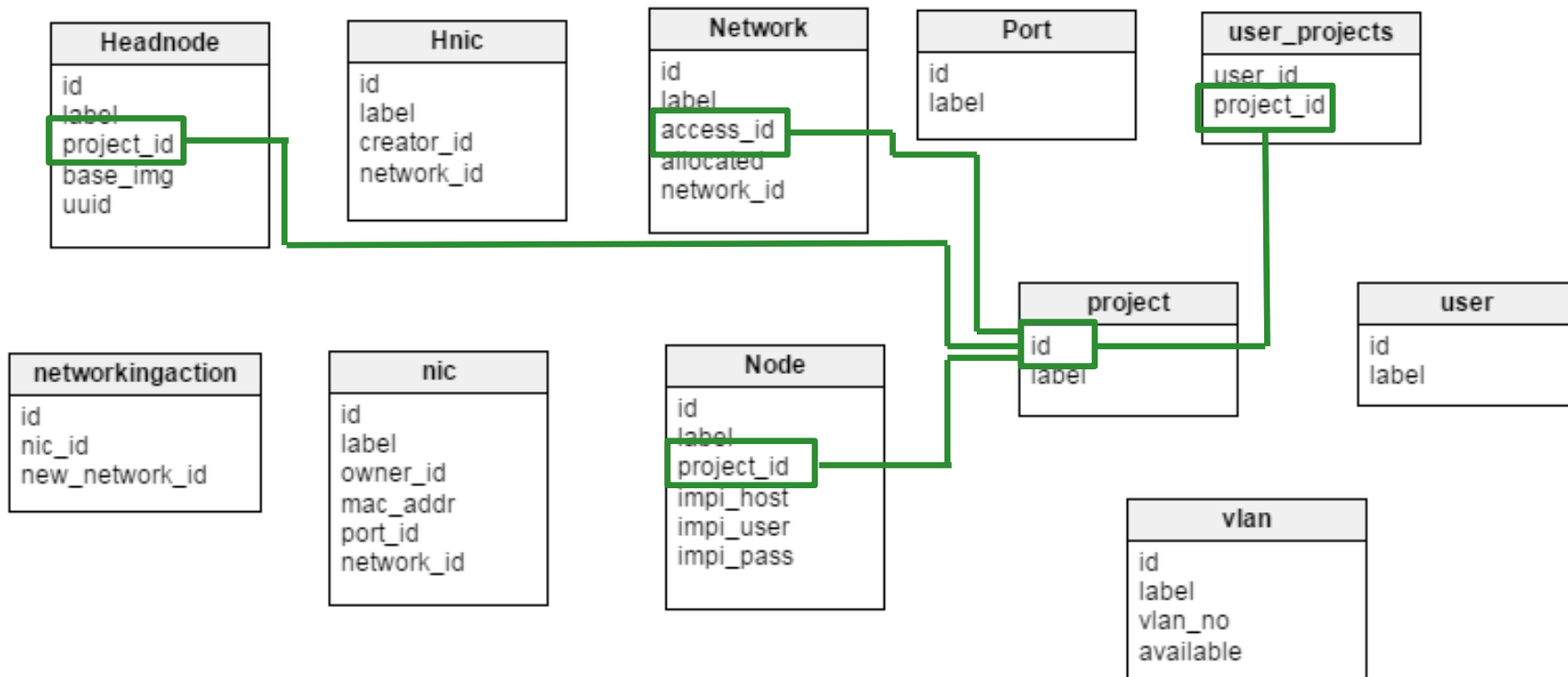
# Challenges: HaaS Database Schema



# Challenges: HaaS Database Schema



# Challenges: HaaS Database Schema



# Challenges: HaaS Database Schema

Headnode
id label project_id base_img uuid

Hnic
id label creator_id network_id

Network
id label access_id allocated network_id

Port
id label

user_projects
user_id project_id

networkingaction
id nic_id new_network_id

nic
id label owner_id mac_addr port_id network_id

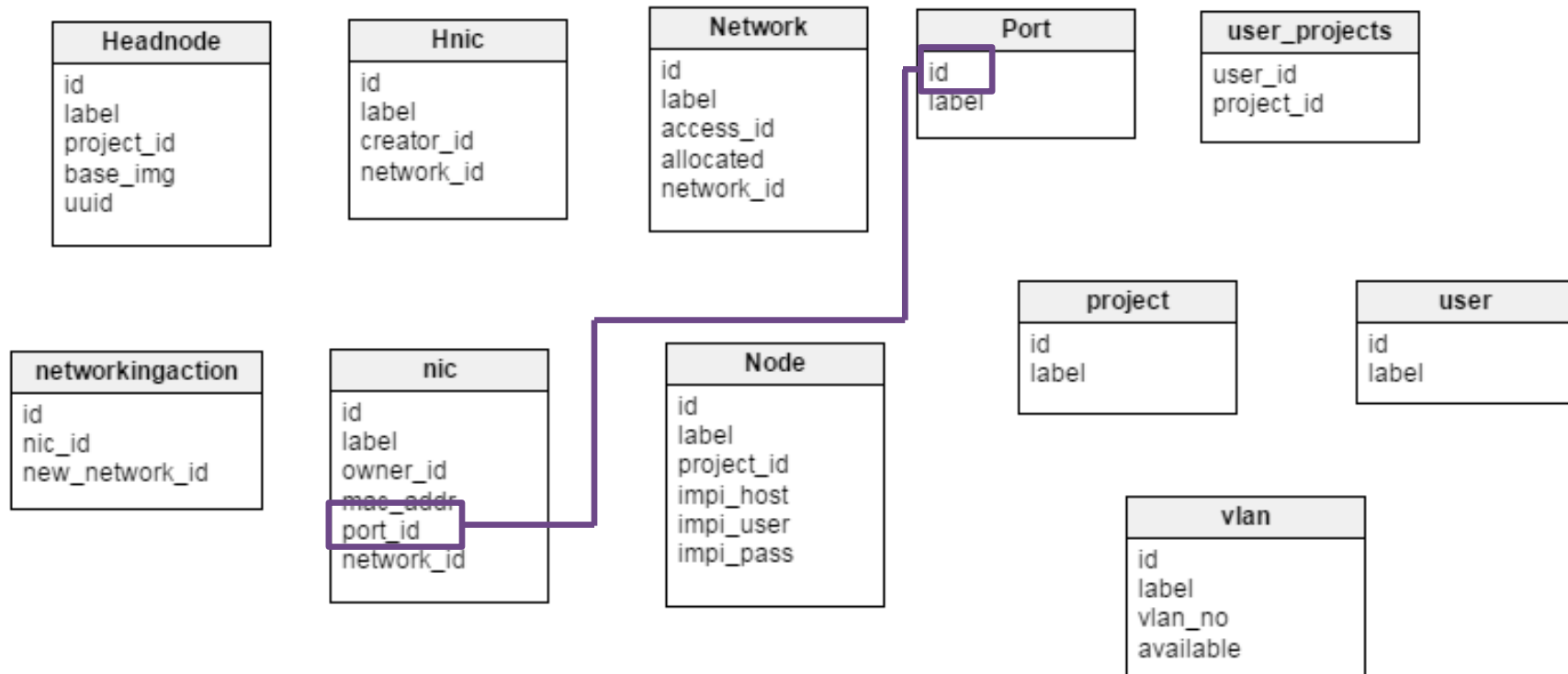
Node
id label project_id impi_host impi_user impi_pass

project
id label

user
id label

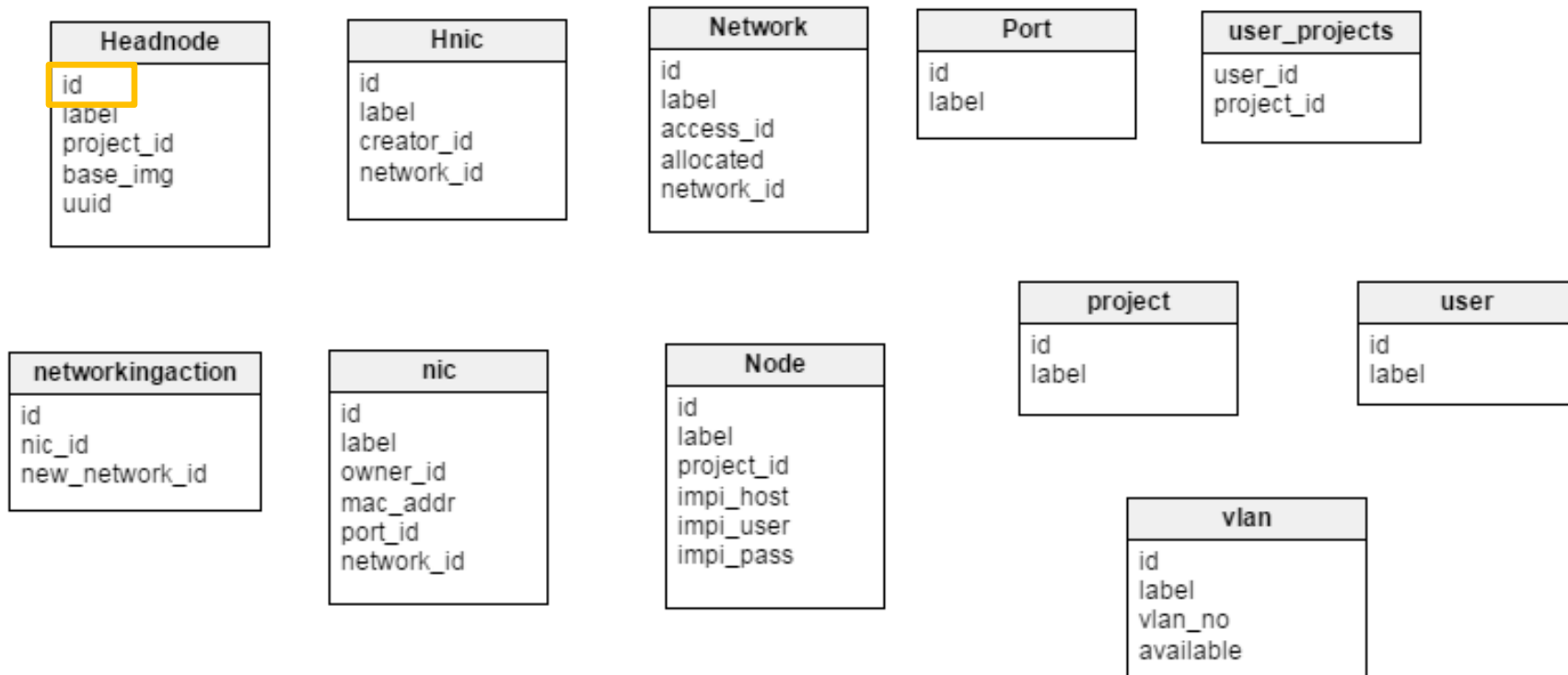
vlan
id label vlan_no available

# Challenges: HaaS Database Schema

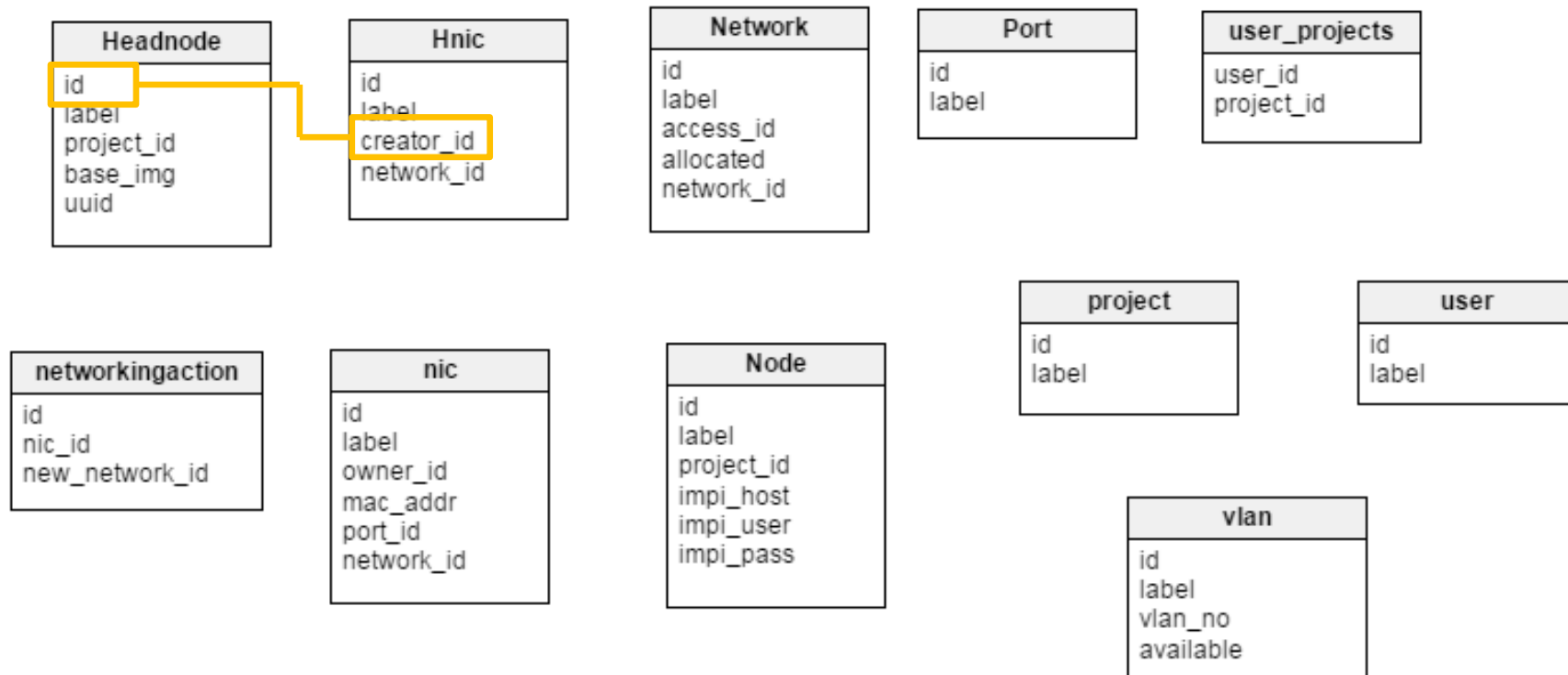




# Challenges: HaaS Database Schema



# Challenges: HaaS Database Schema



# Challenges: HaaS Database Schema

Headnode
id label project_id base_img uuid

Hnic
id label creator_id network_id

Network
id label access_id allocated network_id

Port
id label

user_projects
user_id project_id

networkingaction
id nic_id new_network_id

nic
id label owner_id mac_addr port_id network_id

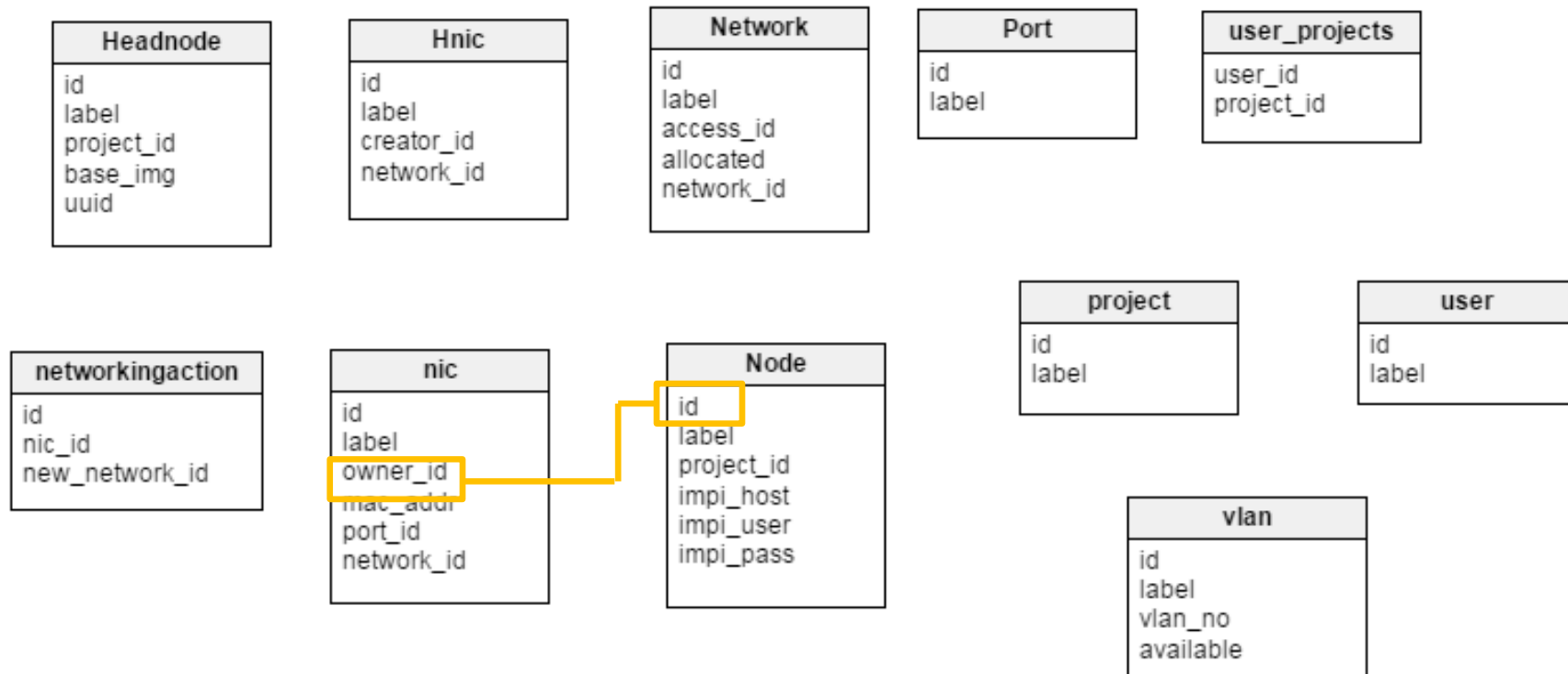
Node
id label project_id impi_host impi_user impi_pass

project
id label

user
id label

vlan
id label vlan_no available

# Challenges: HaaS Database Schema



# Challenges: HaaS Database Schema

Headnode
id label project_id base_img uuid

Hnic
id label creator_id network_id

Network
id label access_id allocated network_id

Port
id label

user_projects
user_id project_id

networkingaction
id nic_id new_network_id

nic
id label owner_id mac_addr port_id network_id

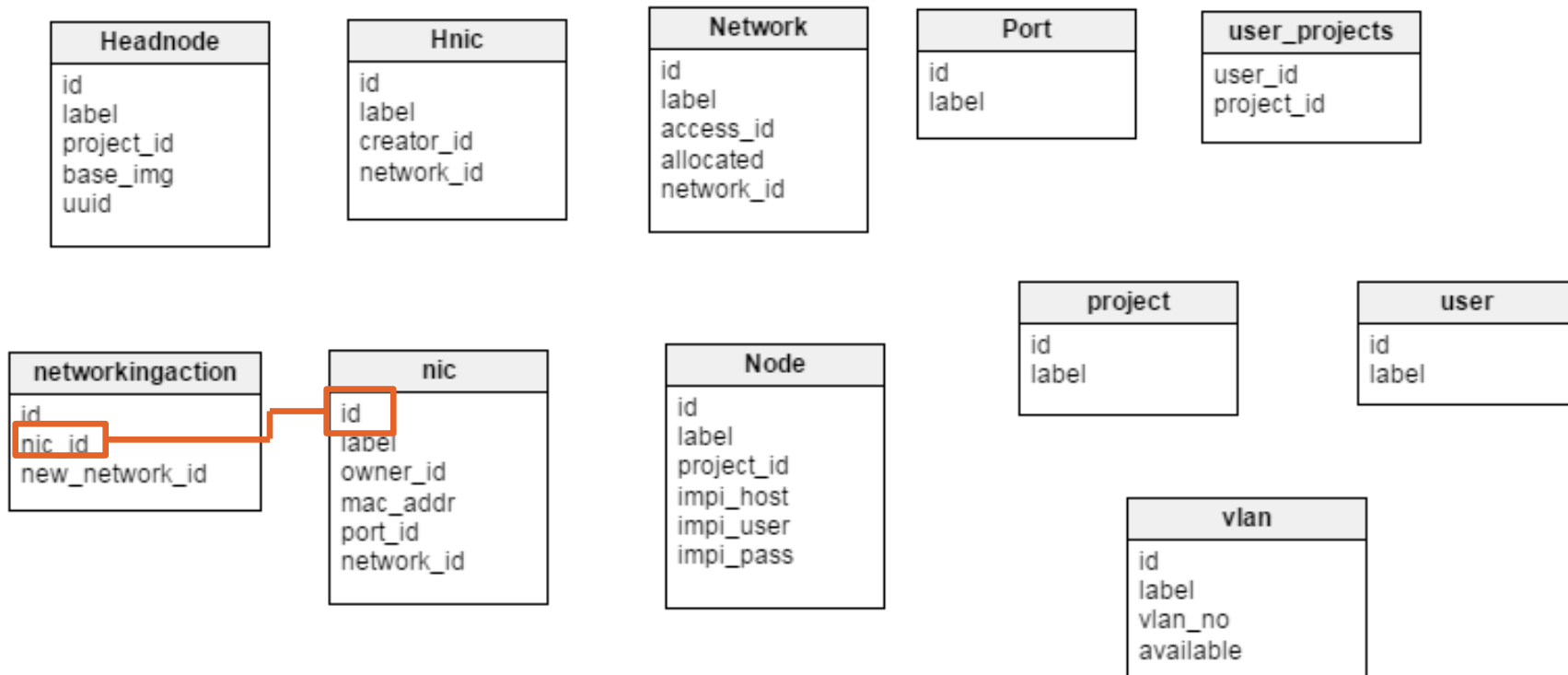
Node
id label project_id impi_host impi_user impi_pass

project
id label

user
id label

vlan
id label vlan_no available

# Challenges: HaaS Database Schema



# Challenges: HaaS Database Schema

Headnode
id label project_id base_img uuid

Hnic
id label creator_id network_id

Network
id label access_id allocated network_id

Port
id label

user_projects
user_id project_id

networkingaction
id nic_id new_network_id

nic
id label owner_id mac_addr port_id network_id

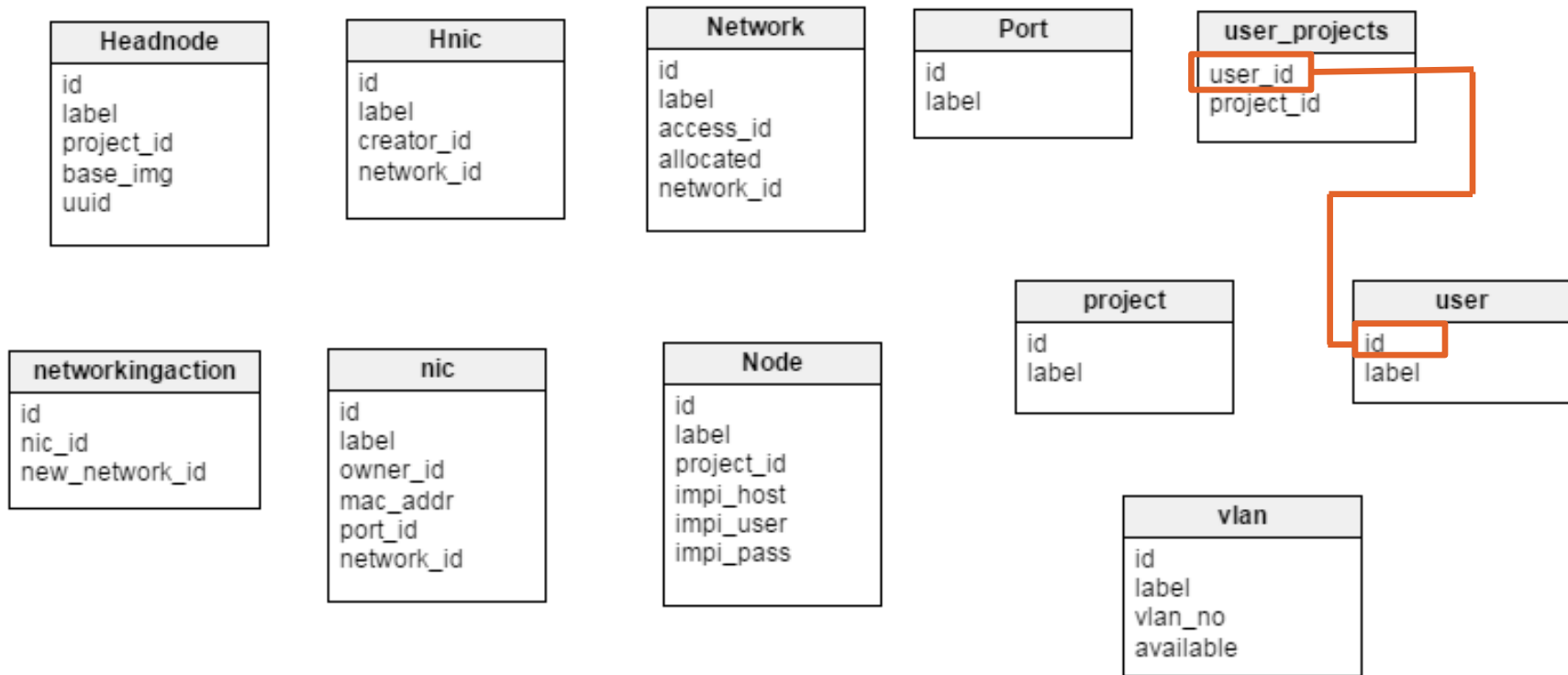
Node
id label project_id impi_host impi_user impi_pass

project
id label

user
id label

vlan
id label vlan_no available

# Challenges: HaaS Database Schema





# Challenges: HaaS Database Schema

Headnode
id label project_id base_img uuid

Hnic
id label creator_id network_id

Network
id label access_id <b>allocated</b> network_id

Port
id label

user_projects
user_id project_id

networkingaction
id nic_id new_network_id

nic
id label owner_id mac_addr port_id network_id

Node
id label project_id impi_host impi_user impi_pass

project
id label

user
id label

vlan
id label vlan_no available

# Challenges: HaaS Database Schema

Headnode
id label project_id base_img uuid

Hnic
id label creator_id network_id

Network
id label access_id allocated network_id

Port
id label

user_projects
user_id project_id

networkingaction
id nic_id new_network_id

nic
id label owner_id mac_addr port_id network_id

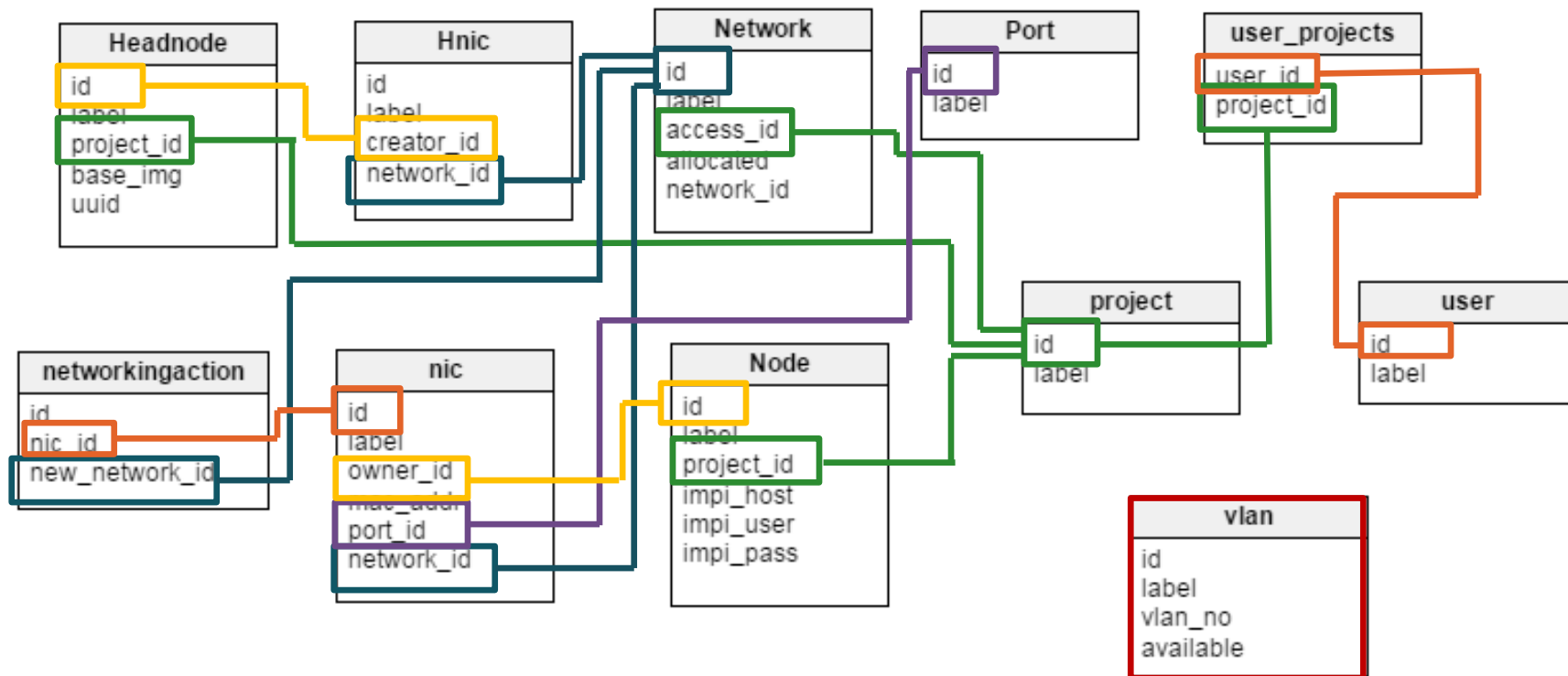
Node
id label project_id impi_host impi_user impi_pass

project
id label

user
id label

vlan
id label vlan_no available

# Challenges: HaaS Database Schema



# Overall Status

---

- ❑ Initial Project Requirements Stretched
  - ▣ Initial: Integration of Existing Calls
  - ▣ Stretch: Writing new API calls
- ❑ Main Goal of Integration of iFrame Pushed Back as a Result

Q & A!