KNETSOLUTIONS

SDN Beginners Training with RYU SDN Controller (Online Training)

About Instructor:
16+ years of IT Industry experience in Teleco/Network/ SDN/ Cloud Projects
Developed and maintains KNET SDN Test bed

KNet Solutions

SDN Trainings
SDN Projects
assistance

SDN Beginners Training (with RYU SDN Controller)

Course objective:

This course specifically built for beginners(students, professionals), who wants to learn SDN ,Openflow, Openvswitch and get hands on SDN Lab with Mininet,Knet.

This course covers the basic **SDN concepts, Openflow and RYU SDN Controller** in detail with hands on **programming(SDN Application developement) exercises**. Also advanced concepts such as **Network overlay, OpenStack Intergreation with RYU SDN Controlller, OVS architecture** will be discussed.

This course covers only RYU SDN Controller.
This course does NOT cover Opendaylight(ODL), ONOS, FLOODLIGHT, and POX controllers.

Prerequisties :
1. Basic Python knowledge, Networking skills
2. Good Internet connection, Ubuntu 16.04 Linux Laptop/VM

Course Level :
Beginners to intermediate

Class details :
1. Course will be conducted on Online Video Conferncing site (https://meet.jit.si/)
2. All the classes will be video recorded, and shared privately.
Sample Recording:
https://youtu.be/ZWheDJ7encY
3. Whatsapp, Skype, email support will be provided.

Web: http://knetsolutions.in/
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Course Schedule(Batch3):

Total Training Hours : 20 hours
Duration: 4 weeks
Session duration/Per day : 1 hour 30 mins
Course Time : 18:30 to 20:00 (India time)
Course starts on : 12/Dec/2018

Training Topics on each session:

1. SDN Usecase and Setting up the SDN Test bed

2. SDN Theory(Arch, Components) and Mininet Lab exercise

3.
Traditional Networking Overview, L2 Theory
Neighbor discovery(ARP concepts)
Neighbor discovery lab on traditional switch

4.
Openflow Theory(Part1)
Openflow protocols capture and analysis in wireshark
Simple switch demo

5.
Openflow Theory(Part2)
RYU Intro and Framework
RYU – switch exercises

6.
Pipeline examples
Mininet (Traffic Generation)
Writing Custom Topology in Mininet

7. Statistics Collection (Flow, Port) Theory and Examples

8. Group Table concepts
   - Load balancer, Sniffer

9. REST API

10. QoS, Queuing Concepts
    Datacenter Topology

11. OVS Concepts /Architecture
    OVSDB North bound Interface,
    RYU exercies on OVSDB

12. Overlay concepts, VxLAN, and GRE
    Extending Topology with GRE and VxLAN

13. RYU BGP Speaker Demo

14. RYU OpenStack Integreation and Demo

Ryu Controller exercises (Sample SDN applications) Covered:

Switch Applications

- Hub,
- Proactive, Reactive,
- L2Switch, L3Match, L4Match,
- Flow priority, timeout,
- Flow Delete, Flow Modify
- Multitable with Pipeline processing.

Group Table:
Loadbalancing, Packet Sniffing

Statistics:
Port statistics, Flow Statistics

REST API:
RYU Rest API

Multicontroller:
Multicontroller with Master /Slave exercies.

Topology Discovery:
Topology discovery building

OVSDB:
Ovsdb exercises

BGP Speaker