PyNet Programming

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What are four ways to access Google Maps API?

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1) 3rd Party Library

2) urllib

3) httplib

4) socket (lowest level accessible by Python)

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Name three layers below the socket layer?

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1) Transmission Control Protocol (TCP)

2) Internet Protocol (IP)

3) link layer

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What does IP send?

What does IP provide?

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IP sends packets – binary strings of data with an address

IP provides a uniform system of addresses.

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What are human readable IP addresses called?

How are they found?

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Hostnames

Domain Name Service (DNS)

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What are the special IP ranges?

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Local: 127.\*.\*.\*

(usually 127.0.0.1 or ‘localhost’)

Private Subnets: 10.\*.\*.\*, 172.16-31.\*.\*, 192.168.\*.\*

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What do you call the decision of where to send each packet?

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Routing

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What do you call a machine that connects a local subnet to the rest of the internet?

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A Gateway

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How would you describe a sixteen bit subnet for 192.168?

How would you write a subnet mask?

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192.168.0.0

/16 or 255.255.0.0

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What are special addresses on a subnet?

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.0 for the subnet name

.1 for the gateway

.255 for broadcast

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What are the three options for building atop IP?

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User Datagram Protocol (UDP)

Transmission Control Protocol (TCP)

Specialized protocols

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What should you probably use instead of UDP?

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A message queue system like 0MQ

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What is multiplexing?

What enables multiplexing over IP?

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The need for a single channel to be shared unambiguously by several different conversations.

Ports

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What are the three ways clients learn IP addresses and port numbers?

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1) Convention

2) Automatic configuration

3) Manual configuration

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What are the three port ranges?

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Well Known: 0-1023

Registered: 1024-49151

Free: 49152-65535

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How do you get an IP Address in python?

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import socket

socket.getservbyname(‘hostname’)