

Important Port numbers for the Linux system administrator

May 19, 2011

Linux Port numbers

This is bit important post on understanding the ports, their details and numbers.

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Some FAQ related PORTS

Q. What is a port?

A port is piece of software which is used as docking point in your machine, where remote application can communicate. This is analogy to the physical ports for entering in to a country from different sea ports.

Q. What is hardware port?

This is a physical peripheral connecting point to a machine from a physical device.

Q. What is a socket?

Socket is combination of software Port and IP address.

Q. What is the range of ports or how many ports are there?

Port numbers can vary from 0 to 65535, so total we can get 65536 ports

Q. Why port numbers are just 65536?

This is because limitation in TCP/IP stack where the port number field is just 16bit size. So we get only 2^{16} (2 to the power of 16) ports which are equal to 65536 available ports

Q. What are the well-known ports or assigned ports or default ports?

Well known ports are from 0 to 1023 (total $2^{10}=1024$ ports)

Q. What do you mean by default port?

Default port is a designated port for particular well-known service such as web server, mail server, ftp server etc. By default FTP uses 21 port, DNS uses 53 and Apache uses 80 port.

Q. Can we change default port for a service (example Apache, squid)?

Yes, we can change. In Apache and DNS we can change this using listen configuration entry in httpd.conf and named.conf. Squid have port entry in its squid.conf file to mention port number.

Q. What are the protocol numbers for TCP and UDP?

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Do not confuse this one with port numbers. TCP and UDP have their own numbers in TCP/IP stack.

TCP protocol number:6

UDP protocol number:17

Q. Is there any way I can see all the port information in Linux?

Yes, you can get that from /etc/services files.

Q. How can I see open ports in Linux?

Use [nmap command](#).

Well known ports

20 – FTP Data (For transferring FTP data)

21 – FTP Control (For starting FTP connection)

22 – SSH(For secure remote administration which uses SSL to encrypt the transmission)

23 – Telnet (For insecure remote administration)

25 – SMTP(Mail Transfer Agent for e-mail server such as SEND mail)

53 – DNS(Special service which uses both TCP and UDP)

67 – Bootp

68 – DHCP

69 – TFTP(Trivial file transfer protocol uses udp protocol for connection less transmission of data)



My name is Surendra Kumar Anne. I hail from Vijayawada which is cultural capital of south Indian state of Andhra Pradesh. I am a Linux evangelist who believes in Hard work, A down to earth person, Likes to share knowledge with others, Loves dogs, Likes photography. At present I work at Bank of America as Sr. Analyst Systems and Administration. You can contact me at surendra (@) linuxnix dot com.

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80 – HTTP/WWW(apache)

88 – Kerberos

110 – POP3(Mail delivery Agent)

123 – NTP(Network time protocol used for time syncing uses UDP protocol)

137 – NetBIOS(nmbd)

139 – SMB-Samba(smbd)

143 – IMAP

161 – SNMP(For network monitoring)

389 – LDAP(For centralized administration)

443 – HTTPS(HTTP+SSL for secure web access)

514 – Syslogd(udp port)

636 – Idaps(both tcp and udp)

873 – rsync

989 – FTPS-data

990 – FTPS

993 – IMAPS

1194 – openVPN

1812 – RADIUS

995 – POP3s

2049 – NFS(nfsd, rpc.nfsd, rpc, portmap)

2401 – CVS server

3306 – MySQL

3690 – SVN

6000-6063-X11

Note1:If protocol(TCP or UDP) is not mention then the above port are solely for TCP. Some service use UDP as mention in above list.

Note2:X11 use 6000 to 6063.. ports for connecting X11 from remote server.

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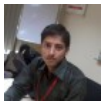
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19 Comments

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KULDEEP SHARMA

MAY 19, 2011 @ 06:37

Very Nice...

:))



SURENDRA

MAY 19, 2011 @ 06:54

Thanks buddy..!

[REPLY](#)



HIMAKUMAR2008

MAY 19, 2011 @ 11:17

Thank you for detailed explanation ,

[REPLY](#)



CHITTA23M

MAY 19, 2011 @ 11:58

This is a Very useful Topic.Thank you so much Buddy.

[REPLY](#)



ANAND

MAY 20, 2011 @ 03:42

Hi,

There is small typo mistake ...Please check once..Total No of ports should be 65536 but it mentioned as 35536.....

Q. Why port numbers are just 65536?

This is because limitation in TCP/IP stack where the port field is just 16bit size. So we get only 2^16 port which is equal to 35536 ports

Regards,
Anand

[REPLY](#)

SURENDRA

MAY 20, 2011 @ 06:31

thanks for the hands-up.. updated the post..

[REPLY](#)



CHANDRASEKHAR

DEC 31, 2011 @ 11:27

[REPLY](#)



Hi

please update with protocols which they are using.....

**SURENDRA**

DEC 31, 2011 @ 13:11

Hi Chandra,

all the above protocols uses TCP, the protocols which uses UDP is mention in note1 in this post..

[REPLY](#)**VENKATADRY MULLAPUDI**

JAN 10, 2012 @ 15:56

HI

i am facing some problem many times in my environment some times the application team is not able to open the port and they say that it is the problem of the server my question is if application is started then only the port will open right? actually what can we check from server side to tell them that there is no problem with the server

Thanks in Advance

[REPLY](#)**SURENDRA**

FEB 01, 2012 @ 07:42

Thats true.. when ever an application start which require network connection opens port. Trouble shooting the problem is bit combersum. Here are some points to check.

- 1)use nmap to check what ports are open in your system
- 2)Use tcpdump command to check how packets are going on?

[REPLY](#)**HOW TO CHANGE APACHE PORT IN LINUX/UNIX | THE LINUX JUGGERNAUT**

OCT 18, 2012 @ 08:13

[...] When ever a network service is started it starts listening on particular port. For example DNS server listen on 53 UDP and TCP port and Telnet server listen on 23 port. For more service and port mapping for different Linux service please click here [...]

[REPLY](#)**Vijay**

FEB 07, 2013 @ 11:28

Nice blog...It's really helpful..thank you ...:-)

[REPLY](#)**SURENDRA ANNE**

FEB 07, 2013 @ 13:35

Thanks vijay.. keep visiting it and inform to your friends about linuxnix.com. Please register your self for e-mail updates from us here <https://feedburner.google.com/fb/a/mailverify?uri=TheLinuxJuggernaut>

[REPLY](#)**REVATHI**

FEB 20, 2013 @ 05:36

Good one. Very useful

[REPLY](#)**DHANRAJ**

MAY 02, 2013 @ 11:32

U can update the common issue and troubleshooting steps which is helpful for beginners

[REPLY](#)



SURENDRA ANNE

REPLY

MAY 02, 2013 @ 12:01

Do you mean issues with port?



DFD

REPLY

JUL 21, 2013 @ 06:57

good



ISAURABHJHA

REPLY

AUG 06, 2013 @ 12:46

Great stuff and great job.



ADO

REPLY

OCT 11, 2013 @ 05:14

really useful, many thanks

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Thanks to My Buddy Surya Telaprolu for customizing this blog



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