## Is the host localhost always available for the own system?

Asked 16 years, 3 months ago Modified 16 years, 2 months ago Viewed 6k times



Is it always possible to ping localhost and it resolves to 127.0.0.1?



I know Windows Vista, XP, Ubuntu and Debian do it but does everyone do it?



localhost ping



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## 10 Answers

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Any correct implementation of TCP/IP will reserve the address 127.0.0.1 to refer to the local machine. However, the mapping of the name "localhost" to that address is generally dependent on the system hosts file. If you were to remove the localhost entry from hosts, then the localhost name may no longer resolve properly at all.



17



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edited Sep 22, 2008 at 6:00





answered Sep 22, 2008 at 5:24



It is not dependent on the hosts files. It is part of the ip stack. Even under windows there is a separate interface for it (they call them network devices on windows.) – Chris Sep 22, 2008 at 5:32

2 Greg was referring to the 'localhost' name, not the loopback device. Two different things. – Serafina Brocious Sep 22, 2008 at 5:34

i'd like to have this edited to "any CORRECT TCP/IP implementation" I've come across a couple of bad ones, one of them didn't have a loopback IP. — Mez Sep 22, 2008 at 5:47

- I think it's safe to rely on the "localhost" alias existing, since it's set by default in any modern OS. Users would have to actually *remove* it from the host list, and there's no point worrying about ways users can break their computers.
  - John Millikin Sep 29, 2008 at 4:58



127.0.0.1 is reserved in any IP stack for the local host.



"localhost" as a host name is **not** guaranteed to be there. If the host/DNS settings are misconfigured, localhost will not resolve.



Example on a debian box:





topaz:/root# vi /etc/hosts
[comment out localhost entry]

topaz:/root# ping localhost
ping: unknown host localhost

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edited Sep 27, 2008 at 22:46

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answered Sep 22, 2008 at 5:30



Something defined in /etc/hosts is not a DNS name. Check the man page for nsswitch.conf and see the "hosts:" setting.

tzot Sep 22, 2008 at 23:53



5

No. For a start localhost is a convention rather than a rule. Mostly it's set by default, but there's nothing to mandate it.



Secondly, there's nothing to say that you can always ping 127.0.0.1. As an example (on a unix system) try the following:



sudo ifconfig lo down ping 127.0.0.1

As <u>cruizer</u> said, 127.0.0.1 (if it exists) is defined to be the local machine. But it doesn't have to exist.



answered Sep 22, 2008 at 6:03





The pedantic answer (sorry, Greg :), is to read RFC 3330:









127.0.0.0/8 - This block is assigned for use as the Internet host

loopback address. A datagram sent by a higher level protocol to an

address anywhere within this block should loop back inside the host.

This is ordinarily implemented using only 127.0.0.1/32 for loopback,

but no addresses within this block should ever appear on any network

anywhere [RFC1700, page 5].

(The "ordinarily" above should probably be read as "often" - most current operating systems support using all of 127.0.0.0/8 as loopback.)

With regards to whether "localhost" always resolves to 127.0.0.1 - he is correct, it's generally the same, but technically implementation specific:

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answered Sep 22, 2008 at 6:29





If the DNS servers your client is connected to is following rfc1912 then yes, localhost should resolve to 127.0.0.1.

1



1

RFC1912

4.1

. . .

Certain zones should \*\*always be present\*\* in nameserver configurations:

primary

localhost

localhost

primary

0.0.127.in-addr.arpa

127.0

. . .

The "localhost" address is a "special" address which always refers to

the local host. It should contain the following line:

localhost. IN A

127.0.0.1

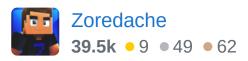
The "127.0" file should contain the line:

1 PTR localhost.

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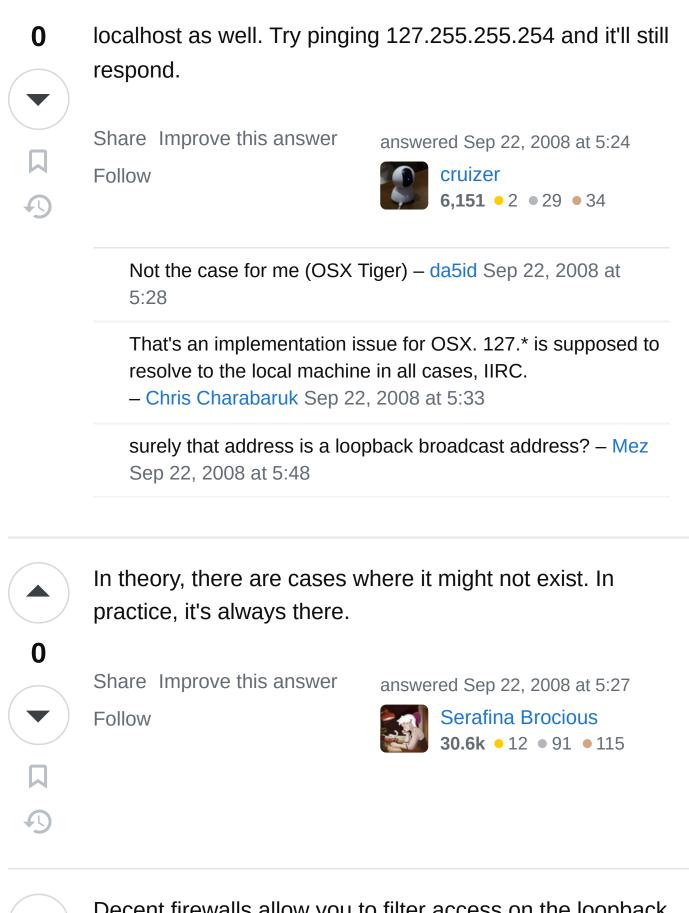
answered Sep 22, 2008 at 7:59

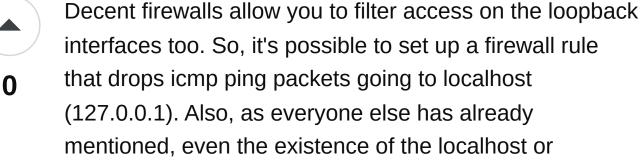


Most DNS servers don't obey RFC1912 to be honest. Its a sad thing about ISPs. – Sargun Dhillon Sep 22, 2008 at 8:06



I think localhost pretty much resolves to 127.0.0.1 for most platforms but all IPs that start with 127...\* resolve to







127.0.0.1 address and the loopback interface isn't guaranteed.



**(**)

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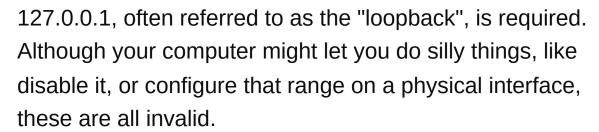
answered Sep 22, 2008 at 8:16





## The answer is:

0







"localhost" is just a hostname, which by convention, should be 127.0.0.1 As a system administrator or hostmaster, you should avoid configurations that allow localhost to point to other addresses.

You should not edit your hosts file to change the address of "localhost". You should configure your domains to have a localhost. and localhost.domain.com entry that points to 127.0.0.1.

You should not let your proxy servers respond to "localhost" or any FQDN that starts with localhost.

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answered Sep 29, 2008 at 4:43



benc

**2,011** • 5 • 35 • 42



Ok.



The reason why it resolves it is record in %WINDOWS\_DIR%\System32\drivers\etc\hosts file like this:



127.0.0.1 localhost



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answered Sep 22, 2008 at 5:28

