计算机英语基础知识B篇 PDF转换可能丢失图片或格式，建议阅读原文

https://www.100test.com/kao_ti2020/136/2021_2022__E8_AE_A1_E7_AE_97_E6_9C_BA_E8_c98_136572.htm Subnet mask The second item, which is required for TCP/IP to work, is the subnet mask. The subnet mask is used by the TCP/IP protocol to determine whether a host is on the local subnet or on a remote network. In TCP/IP, the parts of the IP address that are used as the network and host addresses are not fixed, so the network and host addresses above cannot be determined unless you have more information. This information is supplied in another 32-bit number called a subnet mask. In this example, the subnet mask is 255.255.255.0. It is not obvious what this number means unless you know that 255 in binary notation equals 11111111. so, the subnet mask is: 11111111.11111111.11111111.0000000 Lining up the IP address and the subnet mask together, the network and host portions of the address can be separated: 11000000.10101000.01111011.10000100 -- IP address (192.168.123.132) 11111111.11111111.11111111.00000000 -- Subnet mask (255.255.255.0) The first 24 bits (the number of ones in the subnet mask) are identified as the network address, with the last 8 bits (the number of remaining zeros in the subnet mask) identified as the host address. This gives you the following: 11000000.10101000.01111011.00000000 -- Network address (192.168.123.0) 00000000.00000000.00000000.10000100 -- Host address (000.000.000.132) So now you know, for this example using

a 255.255.255.0 subnet mask, that the network ID is 192.168.123.0, and the host address is 0.0.0.132. When a packet arrives on the 192.168.123.0 subnet (from the local subnet or a remote network), and it has a destination address of 192.168.123.132, your computer will receive it from the network and process it. Almost all decimal subnet masks convert to binary numbers that are all ones on the left and all zeros on the right. Some other common subnet masks are: Decimal Binary 255.255.255.192 1111111.11111111.1111111.11000000 255.255.255.224 1111111.11111111.1111111.11100000 Internet RFC 1878 describes the valid subnets and subnet masks that can be used on TCP/IP networks. Network classes Internet addresses are allocated by the InterNIC , the organization that administers the Internet. These IP addresses are divided into classes. The most common of these are classes A, B, and C. Classes D and E exist, but are not generally used by end users. Each of the address classes has a different default subnet mask. You can identify the class of an IP address by looking at its first octet. Following are the ranges of Class A, B, and C Internet addresses, each with an example address: ? Class A networks use a default subnet mask of 255.0.0.0 and have 0-127 as their first octet. The address 10.52.36.11 is a class A address. Its first octet is 10, which is between 1 and 126, inclusive. ? Class B networks use a default subnet mask of 255.255.0.0 and have 128-191 as their first octet. The address 172.16.52.63 is a class B address. Its first octet is 172, which is between 128 and 191, inclusive. ? Class C networks use a default subnet mask of 255.255.255.0 and have 192-223 as their first octet.

The address 192.168.123.132 is a class C address. Its first octet is 192, which is between 192 and 223, inclusive. In some scenarios, the default subnet mask values do not fit the needs of the organization, because of the physical topology of the network, or because the numbers of networks (or hosts) do not fit within the default subnet mask restrictions. The next section explains how networks can be divided using subnet masks. 子网掩码 第二项是子网掩码，它是 TCP/IP 正常工作所必需的。TCP/IP 协议使用子网掩码确定主机是在本地子网中还是在远程网络中。 在 TCP/IP 中，将哪部分 IP 地址用作网络地址和主机地址并不固定，所以除非您掌握详细的信息，否则无法确定上述网络地址和主机地址。此信息在另一个 32 位数字中提供，称为子网掩码。在本例中，子网掩码为 255.255.255.0。如果您不知道二进制表示法中的 255 等于 11111111，可能并不清楚该数字表示的含义；照此分析，子网掩码为： 11111111.11111111.11111111.0000000 将 IP 地址和子网掩码排列在一起比较，就可以分清该地址的网络部分和主机部分： 11000000.10101000.01111011.10000100 -- IP 地址 (192.168.123.132) 11111111.11111111.11111111.00000000 -- 子网掩码 (255.255.255.0) 100Test 下载频道开通，各类考试题目直接下载。详细请访问 www.100test.com