### IP Subnetting: From Zero to Guru



Have you ever wondered how information flows across the internet? Or how multiple devices communicate with each other? The answer lies in IP subnetting. In this comprehensive guide, we will take you from being a novice to a subnetworking guru. So buckle up and get ready to dive deep into the world of IP subnetting!

#### **Chapter 1: Understanding IP Addresses**

Before diving into subnetting, it's essential to grasp the fundamentals of IP addresses. An IP address is a unique identifier assigned to each device that is connected to a network. It consists of a series of numbers, separated by periods, that allows devices to send and receive data. In this chapter, we will cover different types of IP addresses, such as IPv4 and IPv6, and how they function.



#### **IP Subnetting - From Zero to Guru**

by Paul Browning(Kindle Edition)

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#### **Chapter 2: Subnetting Basics**

Now that you understand IP addresses, it's time to explore the world of subnetting. Subnetting allows you to divide a network into smaller subnetworks, enabling efficient data transmission and management. In this chapter, we will introduce you to subnet masks, CIDR notation, and binary conversion techniques. We will also provide step-by-step examples to help solidify your understanding.

### **Chapter 3: Calculating Subnet Masks**

Subnet masks play a crucial role in IP subnetting. They determine the division of a network and help identify the network and host portions. In this chapter, we will discuss the different classes of IP addresses and their corresponding subnet masks. We will delve into how to calculate subnet masks manually and introduce you to subnetting tools that can make your life easier.

### **Chapter 4: VLSM and CIDR**

Variable Length Subnet Masking (VLSM) and Classless Inter-Domain Routing (CIDR) are advanced subnetting techniques used to optimize IP address allocation. This chapter will take you through the intricacies of VLSM and CIDR, showing you how to assign subnet masks to different networks efficiently. Additionally, we will explore the benefits and applications of these techniques in real-world scenarios.

### **Chapter 5: Advanced Subnetting Scenarios**

In this final chapter, we will tackle complex subnetting scenarios that go beyond the basics. We will explore cases where subnetting is required across multiple devices, consider network growth and scalability, and discuss how to troubleshoot common subnetting issues. By the end of this chapter, you will be equipped to tackle any subnetting challenge that comes your way.

Congratulations! You have successfully journeyed from being an IP subnetting beginner to a subnetting guru. A thorough understanding of subnetting opens doors to various network administration and engineering opportunities. By mastering the techniques covered in this guide, you can confidently design, manage, and troubleshoot complex networks. So go ahead and put your newfound knowledge to the test!

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\*\* This book is an update to Subnetting Secrets which was first written in 2006 \*

IP subnetting is a subject you need to master if you want to enjoy a successful career in IT. Unfortunately, it's also one of the hardest to learn: you must understand binary math, hexadecimal, address classes, private addressing, IPv6, and many other topics.

Subnetting questions are sure to feature in any IT networking exam you will take, and they can form up to 9% of your final marks. You will be asked to solve subnetting problems in any technical job interview, and of course you must be able to troubleshoot IP addressing issues on live networks.

Most IT books and training videos make subnetting difficult to understand, which is why so many avoid studying it. If you want to make it in your IT career, you need a deep understanding of how to subnet as well as a quick and easy method you can use in exams and job interviews.

IP Subnetting – From Zero to Guru will give you this and more. Paul Browning created this book after teaching subnetting to thousands of students from all over

the world both in classrooms and via online training. It has quickly become the go-to resource for people who want to learn how to subnet. By the end of this book, you will have a very high level of ability and confidence when it comes to subnetting.

In this guide you will learn:

- Binary math
- Hexadecimal
- IP address classes
- Wildcard masking
- IPv4 subnetting
- Easy subnetting (for exams)
- Route summarization
- Variable-Length Subnet Masking
- Classless Inter-Domain Routing
- Network design addressing
- IPv6 addressing
- Subnetting with IPv6

The video course to match this book is hosted at www.howtonetwork.com



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