



**CONCORSO PUBBLICO, PER ESAMI, PER LA COPERTURA DI N. 1 POSTO DI CATEGORIA C, POSIZIONE ECONOMICA C1, AREA TECNICA, TECNICO-SCIENTIFICA ED ELABORAZIONE DATI PER L'UFFICIO RETI E SISTEMI**

**ELENCO DOMANDE PROVA ORALE**

Prova Orale - Domande A

A1) Descrivere il comportamento dei singoli comandi e il risultato prodotto dalla sequenza:

**cat record.txt | grep 'Redis' | tee record2.txt | wc -l**

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A2) In una rete LAN che funzione svolge il protocollo **ARP** (*Address Resolution Protocol*). Che cosa si intende per *ARP spoofing*?

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A3) Si sente spesso parlare di attacchi *phishing*. Che cosa sono e come ci si può difendere? Cos'è la verifica in due passaggi (*2-step verification*)?

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**INGLESE:**

Da "[TCP/IP Tutorial and Technical Overview](#)" - IBM Redbook Eighth Edition (December 2006) - p. xix

“The TCP/IP protocol suite has become a staple of today's international society and global economy. Continually evolving standards provide a wide and flexible foundation on which an entire infrastructure of applications are built. Through these we can seek entertainment, conduct business, make financial transactions, deliver services, and much, much more.

However, because TCP/IP continues to develop and grow in order to meet the changing needs of our communities, it might sometimes be hard to keep track of new functionality or identify new possibilities. For this reason, the TCP/IP Tutorial and Technical Overview provides not only an introduction to the TCP/IP protocol suite, but also serves as a reference for advanced users seeking to keep their TCP/IP skills aligned with current standards. It is our hope that both the novice and the expert will find useful information in this publication.”

Leggere e tradurre.

Prova Orale - Domande B

B1) Descrivere il comportamento dei singoli comandi e il risultato prodotto dalla sequenza:

**find . -type f -name '\*.php' -exec grep -nH 'function' {} \;**



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**B2)** Descrivere brevemente gli attacchi di tipo *DOS* e *DDOS*? Come si può proteggere una rete o un servizio da questo tipo di attacchi?

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**B3)** Che funzioni svolge il protocollo *ICMP* (*Internet Control Message Protocol*)? Se si “filtra” completamente questo protocollo in una rete di computer la rete continua a funzionare? Citare almeno due comandi che sfruttano il protocollo *icmp* per il loro funzionamento.

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**INGLESE:**

Da “[TCP/IP Tutorial and Technical Overview](#)” - IBM Redbook Eighth Edition (December 2006) - p. 1

“The Transmission Control Protocol/Internet Protocol (TCP/IP) suite has become the industry-standard method of interconnecting hosts, networks, and the Internet. As such, it is seen as the engine behind the Internet and networks worldwide.

Although TCP/IP supports a host of applications, both standard and nonstandard, these applications could not exist without the foundation of a set of core protocols. Additionally, in order to understand the capability of TCP/IP applications, an understanding of these core protocols must be realized.”

Leggere e tradurre.

Prova Orale - Domande C

**C1)** Descrivere il comportamento dei singoli comandi e il risultato prodotto dalla sequenza:

**cat record.txt | head -10 | grep -v "NoSQL" | sort**

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**C2)** Cosa si intende per attacco MITM (*man in the middle*). A quali livelli dello stack di rete può essere realizzato?

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**C3)** Per quale tipo di attività viene utilizzato il comando *tcpdump*? Descrivere brevemente le seguenti invocazioni del comando *tcpdump*:

```
# tcpdump -i eth0 -v icmp
# tcpdump -i eth0 dst net 192.168.0.0/16 and udp
# tcpdump -i eth0 -w dump.pcap -c 9999 dst port 443
```

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**INGLESE:**

Da “[TCP/IP Tutorial and Technical Overview](#)” - IBM Redbook Eighth Edition (December 2006) - p. 3



Da "TCP/IP Tutorial and Technical Overview" - IBM Redbook Eighth Edition (December 2006) - p. 3

“Today, the Internet and World Wide Web (WWW) are familiar terms to millions of people all over the world. Many people depend on applications enabled by the Internet, such as electronic mail and Web access. In addition, the increase in popularity of business applications places additional emphasis on the Internet. The Transmission Control Protocol/Internet Protocol (TCP/IP) protocol suite is the engine for the Internet and networks worldwide. Its simplicity and power has led to its becoming the single network protocol of choice in the world today. In this chapter, we give an overview of the TCP/IP protocol suite. We discuss how the Internet was formed, how it developed, and how it is likely to develop in the future.”

Leggere e tradurre.

### Prova Orale - Domande D

D1) Descrivere il comportamento dei singoli comandi e il risultato prodotto dalla sequenza:

```
find . -type f -name '*.pdf' | xargs ls -lhS
```

D2) Qual è la principale differenza tra i protocolli TCP e UDP? Quale protocollo, tra i due, è più indicato per il trasporto della voce (VoIP)? Il *buffering* dei pacchetti che problema risolve e quale effetto collaterale produce?

D3) Quali sono le (tre) principali **tipologie di backup**? Descriverle brevemente. Che cosa prevede la **regola 3-2-1 per i backup**?

### INGLESE:

Da "TCP/IP Tutorial and Technical Overview" - IBM Redbook Eighth Edition (December 2006) - p. 4

“The main design goal of TCP/IP was to build an interconnection of networks, referred to as an internetwork, or internet, that provided universal communication services over heterogeneous physical networks. The clear benefit of such an internetwork is the enabling of communication between hosts on different networks, perhaps separated by a large geographical area.

The words internetwork and internet are simply a contraction of the phrase interconnected network. However, when written with a capital “I”, the Internet refers to the worldwide set of interconnected networks. Therefore, the Internet is an internet, but the reverse does not apply. The Internet is sometimes called the connected Internet.”

Leggere e tradurre.

IL PRESIDENTE DELLA COMMISSIONE