

**ESCOLA
SUPERIOR
DE TECNOLOGIA
E GESTÃO**

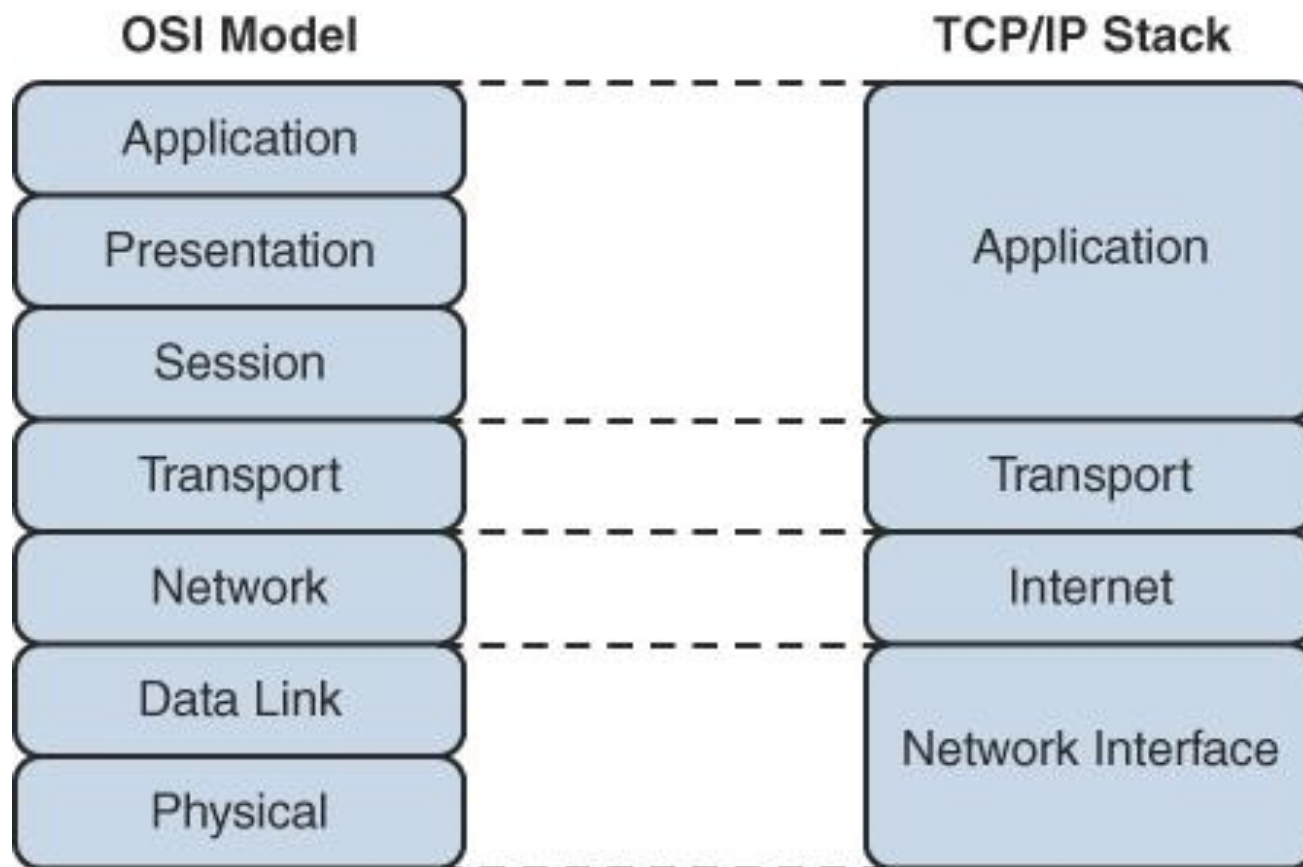
P.PORTO

REDES DE COMPUTADORES I – APRESENTAÇÃO DA UNIDADE
CURICULAR

Ports and Protocols

- *TCP/IP Stack*
 - Internet Protocols
 - Transmission Control Protocol (TCP)/User Datagram Protocol (UDP)
 - DHCP

TCP/IP Stack



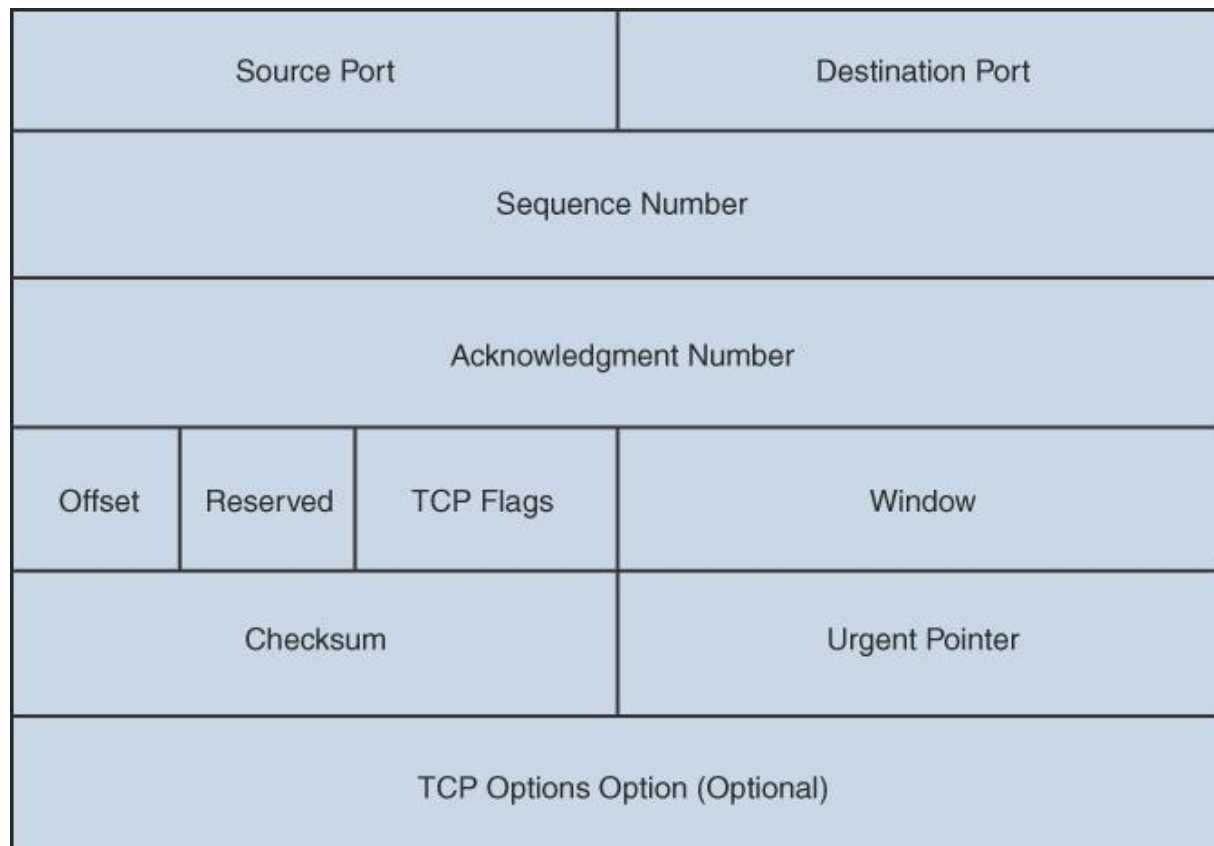
Internet

- **Internet layer:**
 - IPv4 Packet

Version	Header Length	Type of Service	Total Length	
Identification			IP Flags	Fragment Offset
TTL		Protocol	Header Checksum	
Source Address				
Destination Address				
IP Option (Variable Length)				

Transport: Transport Layer

TCP segment



Transport: Transport Layer

UDP segment

Source Port	Destination Port
UDP Length	UDP Checksum

Common Ports and Protocols

- File Transfer Protocol (FTP): Ports 20/21
- Secure Shell (SSH): Port 22
- Secure File Transfer Protocol (SFTP): Port 22
- Telnet: Port 23
- Simple Mail Transfer Protocol (SMTP): Port 25
- Domain Name System (DNS): Port 53
- Dynamic Host Configuration Protocol (DHCP): Ports 67/68
- Trivial File Transfer Protocol (TFTP): Port 69
- Hypertext Transfer Protocol (HTTP): Port 80
- Post Office Protocol v3 (POP3): Port 110
- Network Time Protocol (NTP): Port 123
- Internet Message Access Protocol (IMAP): Port 143
- Simple Network Management Protocol (SNMP): Ports 161/162

Common Ports and Protocols

- Lightweight Directory Access Protocol (LDAP): Port 389
- Hypertext Transfer Protocol Secure (HTTPS) [Secure Socket Layer (SSL)]: Port 443
- HTTPS [Transport Layer Security (TLS)]: Port 443
- Server Message Block (SMB): Port 445
- Syslog: Port 514
- SMTP TLS: Port 587
- Lightweight Directory Access Protocol (over SSL) (LDAPS): Port 636
- IMAP over SSL: Port 993
- POP3 over SSL: Port 995
- Structured Query Language (SQL) Server: Port 1433
- SQLnet: Port 1521
- MySQL: Port 3306
- Remote Desktop Protocol (RDP): Port 3389
- Session Initiation Protocol (SIP): Ports 5060/5061

Common Ports and Protocols

Protocol	Description	Port Assignment
DHCP (Dynamic Host Configuration Protocol)	Dynamically assigns IP address information (for example, IP address, subnet mask, DNS server IP address, and default gateway IP address) to a network device	UDP 67, 68
DNS (Domain Name System)	Resolves domain names to corresponding IP addresses	TCP/UDP 53
FTP (File Transfer Protocol)	Used to transfer files with a remote host (typically requires authentication of user credentials)	TCP 20, 21
H.323	A signaling protocol that provides multimedia communications over a network	TCP 1720
HTTP (Hypertext Transfer Protocol)	Used to retrieve content from a web server	TCP 80
HTTPS (Hypertext Transfer Protocol Secure)	Used to securely retrieve content from a web server	TCP 443
IMAP (Internet Message Access Protocol)	Retrieves email from an email server	TCP 143
IMAP over SSL	The secure version of IMAP	TCP 993

Table 5-1 Port Assignments for Commonly Used Protocols

SEQUEIRA, Anthony. *CompTIA Network+ N10-008 Cert Guide*. Pearson IT Certification, 2021.

Common Ports and Protocols

LDAP (Lightweight Directory Access Protocol)	Provides directory services (for example, a user directory that includes username, password, email, and phone number information) to network clients	TCP 389
LDAPS (Lightweight Directory Access Protocol over SSL)	The secure version of LDAP	TCP 636
MGCP (Media Gateway Control Protocol)	Used as a call control and communication protocol for voice over IP networks	TCP/UDP 2427
MySQL	An open-source relational database management system (RDBMS) with a client/server model	3306
NTP (Network Time Protocol)	Used by a network device to synchronize its clock with a time server (NTP server)	UDP 123
POP3 (Post Office Protocol Version 3)	Retrieves email from an email server	TCP 110

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Common Ports and Protocols

POP3 over SSL	The secure version of POP3, used to retrieve email from an email server	TCP 995
RDP (Remote Desktop Protocol)	A Microsoft protocol that allows a user to view and control the desktop of a remote computer	TCP/UDP 3389
SFTP (Secure FTP)	Provides FTP file transfer service over an SSH connection	TCP 22
SIP (Session Initiation Protocol)	Used to create and end sessions for one or more media connections, including voice over IP calls	TCP/UDP 5060, 5061
SMB (Server Message Block)	Used to share files, printers, and other network resources	TCP/UDP 3020, TCP 445
SMTP (Simple Mail Transfer Protocol)	Used for sending email throughout the network	TCP 25
SMTP over TLS	Secure version of SMTP	TCP 587

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Common Ports and Protocols

SNMP (Simple Network Management Protocol)	Used to monitor and manage network devices	UDP 161, 162
SQL (Structured Query Language) Server	SQL used to run powerful queries against data that is stored in databases	TCP/UDP 1433
SQLnet	Oracle's networking software that allows remote data access between programs and an Oracle database or among multiple Oracle databases	TCP 1521
SSH (Secure Shell)	Used to securely connect to a remote host (typically via a terminal emulator)	TCP 22
Syslog	The standard used by network devices (and other computer systems) to report on status information and events	UDP 514
Telnet	Used to connect to a remote host (typically via a terminal emulator)	TCP 23
TFTP (Trivial File Transfer Protocol)	Used to transfer files with a remote host (does not require authentication of user credentials)	UDP 69

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SEQUIRA, Anthony. *CompTIA Network+ N10-008 Cert Guide*. Pearson IT Certification, 2021.

Bibliografia

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