"Essential Ports for Managing Cloud Infrastructure"

As a Cloud Engineer, you're at the heart of modern infrastructure—designing, deploying, and managing scalable systems across cloud platforms like AWS, Azure, and GCP. A key part of this role is understanding the network layer, especially the common port numbers that enable communication between services. Whether you're configuring security groups, setting up load balancers, or integrating monitoring tools, knowing which ports to open and protect is essential for building secure and reliable cloud environments.

Here's your go-to list of the most important ports:

🔧 Common Service Ports

Service	Port	Protocol	Description
SSH	22	TCP	Secure shell for remote login
HTTP	80	TCP	Unsecured web traffic
HTTPS	443	TCP	Secure web traffic via SSL/TLS
FTP	21	TCP	File transfer (unsecured)
SFTP	22	TCP	Secure file transfer over SSH
FTPS	990	TCP	FTP over SSL/TLS
SMTP	25	TCP	Sending emails
POP3	110	TCP	Receiving email (basic retrieval)
IMAP	143	TCP	Receiving email (advanced management)

🎟️ Database Ports

Database	Port	Description
MySQL	3306	MySQL database connections
PostgreSQL	5432	PostgreSQL database connections
MongoDB	27017	NoSQL database service
Redis	6379	In-memory data store

🖥️ Remote Access Ports

Protocol	Port	Description
RDP	3389	Remote Desktop Protocol (Windows GUI access)
VNC	5900	Remote desktop access (cross-platform)

🌐 Network Services

Service	Port(s)	Description
DNS	53 (TCP/UDP)	Resolves domain names
DHCP	67/68	Assigns IP addresses (Server/Client)
SNMP	161/162	Network monitoring and management
NTP	123	Time synchronization across servers

🔍 Monitoring & Logging

Tool	Port	Description
Prometheus	9090	Metrics collection and monitoring
Grafana	3000	Dashboarding and visualization
Nagios	5666	Host/server monitoring agent
Syslog	514	Logs to syslog server (UDP)

📦 DevOps Tools & Platforms

Tool	Port(s)	Description
Jenkins	8080	CI/CD web interface
Docker API	2375/2376	Container management (HTTP/HTTPS)
Kubernetes	6443	API server port
Kafka	9092	Distributed messaging system

Elasticsearch	9200	Search engine API
RabbitMQ	5672	AMQP protocol for messaging
Consul	8500	Service discovery and config store

☁ Cloud Management Essentials

Purpose	Port(s)	Description
Remote EC2/VM access	22	SSH access to Linux/Unix-based instances
Web application/API access	80 / 443	HTTP for unsecured, HTTPS for secure web communication

Conclusion

In cloud environments, where scalability and security are key, knowing which port numbers are essential can make all the difference. From accessing virtual machines and deploying applications to managing databases and monitoring systems, each service relies on specific ports to operate smoothly. A clear understanding of these ports helps you configure cloud resources efficiently, troubleshoot issues faster, and build secure, well-architected solutions. Mastering this fundamental aspect of cloud networking equips you to manage modern infrastructure with confidence and precision.