

Copilot

To establish secure network security for **MySQL** on **Ubuntu**, following the **CIS (Center for Internet Security)** benchmarks is essential. These guidelines provide prescriptive recommendations for securing your MySQL installation. Here's how to set up network security:

1. Download the CIS Benchmark:

- Obtain the **CIS Oracle MySQL Enterprise Edition 8.0 Benchmark**.
- This document offers guidance for establishing a secure configuration posture for MySQL on Ubuntu Linux (but it applies to other Linux distributions as well).

2. Review the Benchmark:



- Familiarize yourself with the recommendations related to **network security**.
- Understand the best practices for securing MySQL communication channels.

3. Implement Network Security Measures:

- **Bind Address:**
 - Configure MySQL to listen only on specific IP addresses or interfaces.
 - Avoid binding to all available interfaces (0.0.0.0) unless necessary.
- **Firewall Rules:**
 - Set up firewall rules to allow MySQL traffic only from trusted sources.
 - Use tools like **ufw** (Uncomplicated Firewall) to manage firewall rules.
- **SSL/TLS Encryption:**
 - Enable SSL/TLS for secure communication between clients and the MySQL server.
 - Generate and configure SSL certificates for MySQL.
- **Authentication Plugins:**
 - Use strong authentication mechanisms (e.g., **caching_sha2_password**, **mysql_native_password**).
 - Avoid using the deprecated **mysql_old_password** plugin.
- **User Privileges:**
 - Limit user privileges to specific databases and tables.
 - Avoid granting global privileges unless necessary.
- **Network Monitoring:**
 - Monitor network traffic to detect anomalies or unauthorized access.
 - Set up intrusion detection systems (IDS) if possible.

4. Regularly Review and Update:

- Security is an ongoing process. Regularly review the CIS Benchmark and update your network security configurations as needed.

Remember that securing MySQL's network communication is critical to prevent unauthorized access and protect sensitive data. By adhering to the CIS guidelines, you'll enhance the security of your MySQL deployment on Ubuntu.  

For detailed configuration specifics, refer to the **CIS Oracle MySQL Enterprise Edition 8.0 Benchmark**. It provides comprehensive guidance tailored to MySQL security.