## Copilot

Certainly! To set up **data encryption on MongoDB securely** in accordance with the **CIS benchmarks**, follow these steps:

1. **Install MongoDB**:
   - First, update the package list:
     ```
     sudo apt update
     ```
   - Install MongoDB using the following command:
     ```
     sudo apt install mongodb
     ```
2. **Enable Authentication**:
   - By default, MongoDB does not enforce authentication. To enable it, follow these steps:
     - Open the MongoDB configuration file:
       ```
       sudo nano /etc/mongodb.conf
       ```
     - Uncomment the following line to enable authentication:
       ```
       #security:
       #  authorization: enabled
       ```
     - Save the file and restart MongoDB:
       ```
       sudo systemctl restart mongodb
       ```
3. **Enable Encryption at Rest**:
   - MongoDB supports encryption at rest using the WiredTiger storage engine.
   - Edit the MongoDB configuration file:
     ```
     sudo nano /etc/mongodb.conf
     ```
   - Add the following lines to enable encryption:
     ```
     storage:
       engine: wiredTiger
       encryption:
         engine: aes256
         keyFile: /path/to/your/keyfile
     ```
     Replace `/path/to/your/keyfile` with the actual path to your encryption key file.
   - Save the file and restart MongoDB:
     ```
     sudo systemctl restart mongodb
     ```
4. **Rotate Encryption Keys**:
   - Regularly rotate your encryption keys to enhance security.
5. **Audit Logging**:
   - Enable MongoDB audit logging to track user activity. Edit the MongoDB configuration file:
     ```
     sudo nano /etc/mongodb.conf
     ```
   - Add the following lines:
     ```
     auditLog:
       destination: file
       path: /var/log/mongodb/audit.log
       format: JSON
     ```

    - Save the file and restart MongoDB:

      ```
      sudo systemctl restart mongodb
      ```

6. **Regularly Update MongoDB**:
    - Keep your MongoDB installation up to date by applying security patches and updates.

Remember to adapt these steps to your specific environment and requirements. For more detailed information, refer to the **CIS MongoDB Benchmarks**. Happy MongoDB-ing! 🍃🌟.