Tasks:

```
- Check database dashboards for activity alerts and resolve issues
- Check overniight batch jobs
- Review support tickets
- Optimize queries
- Clarify requests and schema changes
- Work with developers, data engineers and data architects
- Stress test scenarios
- Determine appropriate server resources
- Automate repeating tasks
- Monitor database activities
```

- Checking state of db
- resolving issues
- responding to support tickets
- meeting with developers and other stakeholders
- monitoring db activities
- Capacity planning
- Storage (freq. used => SSD)

Database life cycle

4 stages:

- Requirement analysis
- Design and plan
- Implementation
- Monitoring and maintenance

Requirement analysis

- Understand purpose and scope of the database
    - Analyze need for databse
    - Clarify goals for database
    - Identify users
- Work with stakeholders: developers, data engineers, adminstrators, end users, technology managers, other DBAs

Design and plan

- Work with database objects
    - Instances, databases, tables and indexes
- Database model represents the design of the database: ER diagram is used

Implementation

- Create and configure database objects

- Grant access for database users, groups
- Automate repeating tasks (backup)
- Deploy data movement (migrate, load...)

Monitor and maintain

- Monitor for performance issues
- Review reports
- Apply upgrades and patches to RDBMSes
- Automate deployements and routine tasks
- Troubleshoot issues
- Security and compliancec
    - authorization, failure management(from logs), maintain permission

Summary:

- The db life cycle stages are requirements analysis, design and plan, implementation, and monitor and maintain
- In the requrirements analysis stage, DBSa determine the purpose and scope of the database
- In the design and plan stage, DBAs work on logical and physical design
- In the implementation stage, DBAs deploy the database
- In the monitor and maintain stage, DBAs manage the daily operations of the database

Data Security, Ethical and Compliance Considerations

Fundamental Ethics:

- Transparency: When you collect information, let the owners of information know along with usage
- Consent: You should get clear consent
- Integrity: Be clear about procedures and policies and always follow them consistency

Secure System design:

- Protection from malicious access
- Secure storage
- Accurate access: i.e. Previleg
- Secure movement
- Secure archiving

Compliance Issues

- National/International Regulations
- Industry standards
- Organization best

IBM Feature code

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