

1) Data Engineer is useful for every organization which generates or work with huge amount of data everyday. One Such organization is Workday.

→ Workday is an American on-demand (cloud based) financial management, human capital management and student info system software vendor.

→ Data Engineer roles & responsibilities

① Design and Implementation:- Design and implements data models and schemas for data storage, both batch and stream data.

→ Identifies key entities (ex:- employees, departments, roles) defines relationship b/w entities, attributes, schema

② Data Storage and Management:- Workday collects and stores a wide range of data related to human capital management and other business processes.

→ DE implements data storage and retrieval mechanisms,

→ defines data retention & encryption methods to ensure data security for sensitive data (pay transactions, personal info, user login credentials, resumes, onboarding docs, Timesheets)

③ Data Quality and Governance:- ensures the accuracy, consistency, and reliability. Implements data validation rules, version control mechanisms.

④ Performance Optimization:- optimize the performance of data retrieval and processing operations.

→ Indexing and partitioning for efficient data retrieval

Implement caching mechanisms for frequently accessing data, optimizes database queries and indexing strategies, monitor and analyze performance.

⑤ Integrate with other business systems using APIs and establishes data ingestion pipelines, implement data synchronization mechanism (act of making things happen at the same time)

⑥ Collaborate with data scientists & analysts to derive insights and support data driven decision making.
→ supports the development and deployment of ML models

⑦ Create the technical documentation, documents integration protocols and APIs, maintain up-to-date documentation for future reference by meeting or interacting with data stakeholders

⑧ Troubleshooting and Problem Solving:- Fixes bugs, develops strategies for identifying and resolving issues, conducts regular audits and diagnostics

2) Workday - human capital management, financial management, and business planning applications Software. Workday human capital management (manages employee lifecycle), Workday financial management (includes tools for managing general ledger, accounts payable, accounts receivable and more), Workday Prism analytics (tool for integrating data from various resources, allows organizations to create reports & dashboards)

Workday adaptive planning (tool for financial planning budgeting and forecasting), Workday Learning (tool includes content creation, course management and employee skill training), Workday payroll (for managing payroll processes), Workday Extend (a platform that enables organizations to create custom applications and integrations).

→ At Workday,

1) Data Analyst collaborates with internal partners to identify, define, clarify business requirements, translating needs to efficient reports, creating and updating documentation.

2) Data Engineer builds data pipelines for data ingestion, transforming data, loading data into data warehouses, curating data as per data requirements/needs of data stakeholders and data scientists.

3) Data scientists use curated data, derive insights from curated data, using ML algorithms, develop useful predictions ^{used} for company growth. Improves model performance, by implementing statistical and ML model to improve productivity.

tries to