

## types of database

SQL and NoSQL are two types of databases with key differences. SQL uses a table-based relational model with a fixed schema and is ideal for complex transactions and data consistency, scaling vertically. NoSQL, on the other hand, first schema and is ideal for 'kompleks træn'zækfenz and 'deite kæn'sistænsi, 'skeilj 'værtikli. NoSQL, an ði 'lðer hænd,

employs various data models (documents, graphs, key-value pairs) without a fixed schema, is more flexible and scales horizontally, being suitable for large volumes of data and applications with low latency and data requirements.

unstructured. en'strækfærd.

Importance of the databases in testing

im'pɔrtæns av ðə 'deite,beisiz in 'testɪŋ

Data integrity verification

'deite in 'tegrəti, 'vərəfə 'keɪʃən

Ensure stored data is correct and consistent

en'ʃʊr stɔrd 'deite iz kə'rekt ænd kən'sistənt

Performance and load testing

pər'fɔrməns ænd lɔd 'testɪŋ

Measure how the database handles large volumes of data and traffic

'meʒə 'hau ðə 'deite,beis 'hændəlz lɑdʒ 'vɔljʊmz av 'deite ænd 'træfɪk

Security testing

sɪ'kjʊərəti 'testɪŋ

Identify vulnerabilities and ensure data is protected

aɪ'denteɪ'fai, 'vʌlnərə'bɪlɪtiz ænd en'ʃʊr 'deite iz prə'tektɪd

Migration and upgrade testing

maɪ'greɪʃən ænd əp'ɡreɪd 'testɪŋ

Ensure that database updates do not affect data integrity

en'ʃʊr ðæt 'deite,beis əp'deɪts du nɒt ə'fekt 'deite in 'tegrəti

## for example

Database Testing Strategies

'deite,beis 'testɪŋ 'strætədʒiz

unit test: Testing focuses on verifying that each individual unit of code works correctly.

'junət test: 'testɪŋ 'foukəsɪz an 'vərə'faɪɪŋ ðæt ɪf 'ɪndə'vɪdʒwəl 'junət av kɔd wɜrks kə'rektli.

- integration test: It focuses on verifying the correct interaction and communication between different modules or

- 'ɪntə'ɡreɪʃən test: ɪt 'foukəsɪz an 'vərə'faɪɪŋ ðə kə'rekt 'ɪntə'rækʃən ænd kəm'juːnə'keɪʃən bɪ'twɪn 'dɪfərənt 'mɒdʒʊlz ɔr

components of the system.

kəm'pəʊnənts av ðə 'sɪstəm.

- functional testing: focuses on verifying that an application meets specified functional requirements.

- 'fʌŋkʃənəl 'testɪŋ: 'foukəsɪz an 'vərə'faɪɪŋ ðæt ən 'æplə 'keɪʃən mɪts 'spesə'faɪd 'fʌŋkʃənəl rɪ'kwærɪmənts.

- regression tests: focuses on verifying that recent code changes have not introduced new bugs or negatively affected

- rə'ɡreɪʃən tests: 'foukəsɪz an 'vərə'faɪɪŋ ðæt 'rɪsənt kɔd 'ɪntrə'dʌst nu bʌgz ɔr 'neɡətɪvli ə'fektɪd

existing functionality.

ɪɡ'zɪstɪŋ 'fʌŋkʃə'nælɪti.

Tools for Database Testing

tʊlz fɔr 'deite,beis 'testɪŋ