

Software Testing Syllabus

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Software Testing

Introduction to Software Testing

- ▶ Software testing
- ▶ BRS/SRS
- ▶ SDLC
 - Waterfall
 - Agile
 - V model etc..

Unit Testing(White Box Testing)

- ▶ Execution testing
- ▶ Operational testing
- ▶ Mutation testing

Software Testing

Black Box Testing (Functional and Non Functional)

- ▶ GUI Testing
- ▶ Behavioural testing
- ▶ Error handling message testing
- ▶ Backend testing
- ▶ Language Compatibility Testing
- ▶ Cross browser testing
- ▶ Sanitization testing
- ▶ Installation testing

Integration Testing

- ▶ Top Down Approach
- ▶ Bottom Up Approach
- ▶ Hybrid

Software Testing

- ▶ Performance Testing
- ▶ System integration testing
- ▶ Sanity Testing
- ▶ Smoke Testing
- ▶ Regression Testing
- ▶ Retesting
- ▶ User acceptance testing
 - Alpha testing
 - Beta testing



Software Testing

Testing Terminology

- ▶ Monkey testing
- ▶ Exploratory testing
- ▶ Ad hoc testing
- ▶ Big Bang approach

Test Documents Concepts

- ▶ Test policy
- ▶ Test methodology
- ▶ Test strategy
- ▶ Test deliverables
- ▶ Test plan
- ▶ Test scenarios
- ▶ Test case preparation
- ▶ Software testing life cycle

HPALM

Project Management tool(HPALM)

- ▶ How to Write test cases in ALM?
- ▶ Release/Cycle
- ▶ How to execute test case?
- ▶ How to raise the defect?
- ▶ What is severity?
- ▶ What is priority?
- ▶ Traceability matrix
- ▶ Defects



Database Testing

- What is Data?
- What is Database?
- DBMS VS RDBMS?
- Roles/Responsibilities
- Types of DB Testing
- Sql statements

I. DDL

II. DML

III. DCL

IV. TCL

Sql Operators

- Arithmetic
- Comparison
- Logical
- Set
- Like
- Concatenation

SQL functions

- Aggregate
- Character
- Date
- Conversion

Database Testing

Sql joins

- Inner join
- Left outer
- Right outer
- Full outer
- Equi join
- Non equi join
- Cross join
- Self join
- Multiple table joins

Sql constraints

- Primary key
- Unique
- Check
- Not null
- Default
- Foreign key
- Composite key

Sql clauses

- Where
- Group by
- Having
- Order by

Database Testing

Pseudo columns

- Rank()
- Dense_rank()
- Rownum
- Rowid

PLSql

- Store procedures
- Triggers
- Views

- ▶ Interview Question discussion



Data Warehousing – ETL + BI Testing

Data Warehouse Concepts:

- Introduction of Analytical system , Data Warehouse and ETL Process
- Architecture/technical Flow/Data Flow/High level Design of data warehouse
- Differences between OLTP and OLAP.
- Normalization and De-Normalization.
- Difference between relational and dimensional modelling.
- Introduction of Fact table, Dimension table and It's Types
- Surrogate Key
- Data Mapping Document

Data Warehousing – ETL + BI Testing

Data Warehouse Concepts:

- Data Models:
 - a) Conceptual Model
 - b) Logical Model
 - c) Physical Model
- Star Schema, Snowflake Schema, Galaxy Schema
- Types of facts :a) Additive Facts b) Semi Additive Facts c) Non Additive Facts
- Types of Dimensions: a) SCDs 0,1,2,3,4,6

Data Warehousing – ETL + BI Testing

Data Warehouse Concepts:

- Types of Dimensions: b) Degenerated dimensions c) Conformed Dimension d) rapidly Changing dimension e) Junk Dimension
- What is Surrogate Key ?
- Types of Fact Table
- Story of SP_ETL Project for SCD 1 and 2.
- Data Mapping Documents

Data Warehousing – ETL + BI Testing

ETL Tool and Sql Server/Oracle IDE:

- SQL Server Integration Services Tool (SSIS) or Informatica or Talend or Query surge
- What is Job/Scheduler ?
- Sql Server Management Studio Tool (SSMS)/Dbeaver

Data Warehousing – ETL + BI Testing

ETL Testing and Report Testing :

- What is ETL Testing and importance of ETL testing
- Difference between ETL Testing and Database Testing
- Types of ETL Testing : i) Meta Data Testing ii) Data Completeness Testing iii) Data transformation Testing iv) Data Quality Testing v) Retesting
vi) Regression Testing
- Story of TRG_ETL Project.
- What is Test Scenarios ?

Data Warehousing – ETL + BI Testing

ETL Testing and Report Testing :

- What is Test cases ?
- Test case Writing
- Test Case Execution
- Roles and Responsibilities of ETL tester
- Software Testing Life Cycle
- Challenges in ETL testing
- Introduction of Tableau
- Report testing



Tools

1. SQL Developer
2. Sql server management studio
3. Visual studio +SSIS
4. Tableau
5. HPALM
6. Putty



Web Service Testing/File Processing

Web service testing

- Soap UI/Postman

File processing

- EDI
- CSV



Unix

- Software
- Types of OS
- Introduction of Unix
- Architecture of Unix
- File Architecture of Unix

Basic Unix Commands

- Date
- Cal
- History
- Man
- Who
- Passwd
- Hostname
- Pwd

Unix

Interview Questions on Unix Commands

- Cat
- Less
- More
- Touch
- Wc
- Cp
- Mv
- Rm
- Mkdir
- Rmdir
- Cd
- Ls
- Head & Tail
- Grep
- Sed
- Find
- Locate
- Chmod
- Ftp
- SSH

Automation Testing

1: Introduction to Python

- Installation and Working with Python
- Understanding Python variables
- Python basic Operators
- Understanding python blocks
- Type casting, Unicode etc.

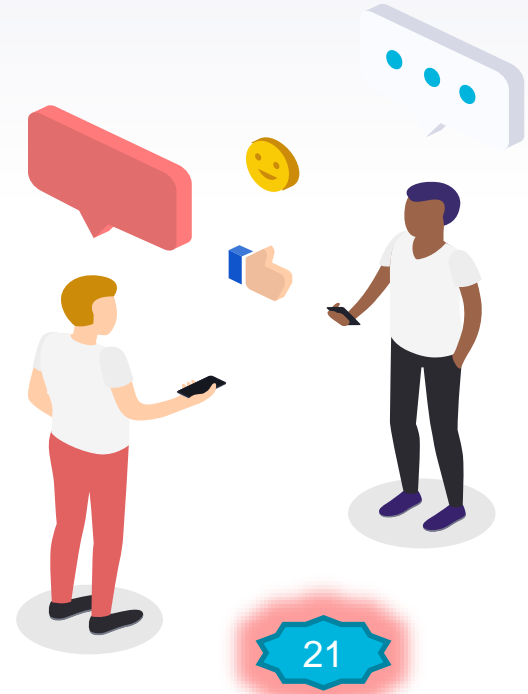
2: Python Data Types

- Declaring and using Numeric data types: int, float, complex, bool
- Using string data type and string operations
- Defining list and list slicing
- Use of Tuple data type

Automation Testing

3: Python Program Flow Control

- Conditional blocks using if, else and elif
- Simple for loops in python
- For loop using ranges, string, list and dictionaries
- Use of while loops in python
- Loop manipulation using: pass, continue, break
- Programming using Python conditional and loops block



Automation Testing

4: Python String, List, set, Dictionary Manipulations

- Building blocks of python programs
- Understanding string in build methods
- List manipulation using in build methods
- Tuple operation
- Set manipulation
- Dictionary manipulation

Automation Testing

5: Fundamentals of Object orientation:

- Class, Object
- Constructor
- Types of Variables
- Methods and its types
- Importing Class
- OOP's Concepts: Inheritance, Encapsulation, Abstraction, Polymorphism
- File handling: text, binary, csv

Automation Testing

6: Selenium Web driver:

- Introduction to Automation Testing
- Scope of Selenium Training
- Introduction to Selenium components
- Why Web Driver? Installation and setting up the environment
- Installation of Python and PIP
- Downloading and setting up Selenium Installing Python IDE (PyCharm)
- Configuring the environment

Real Time Projects Training

We will cover different type of domains with real time project training such as :

- Telecom Billing/CRM/OSS/Mediation
- Capital Market/Investment Banking
- Healthcare Domain
- Card Payment
- As per Market demand, we will add some other important domains if required.

Thanks !

