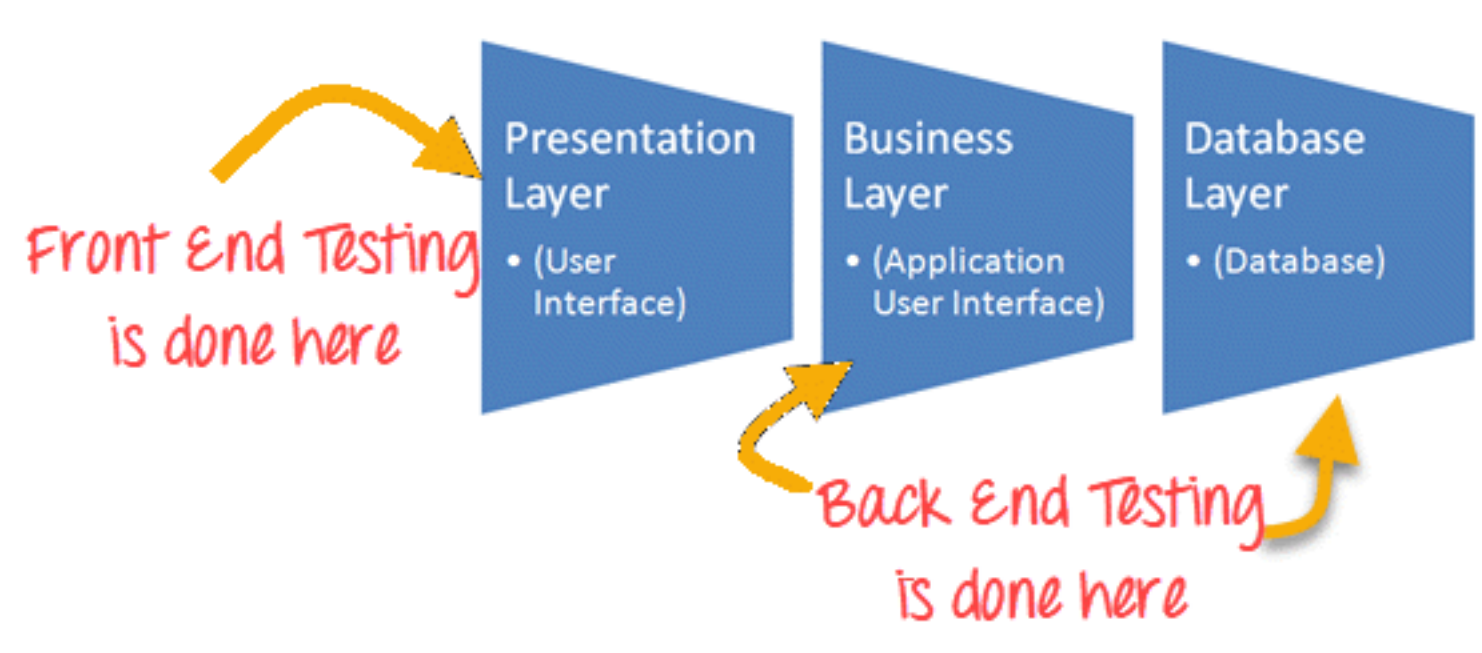
Frontend Testing Vs. Backend Testing: What's the Difference?

What is Frontend Testing?

Frontend Testing is a type of testing that checks the Presentation layer of a 3 Tier Architecture.

In layman's term, you are checking the GUI - anything that is visible on screen, client -side. For a web application, front-end testing would involve checking functionalities like forms, graphs, menus, reports, etc. as well as associated Javascript. Frontend testing is a term that covers a variety of testing strategies. A tester needs a good understanding of business requirements to perform this type of testing.

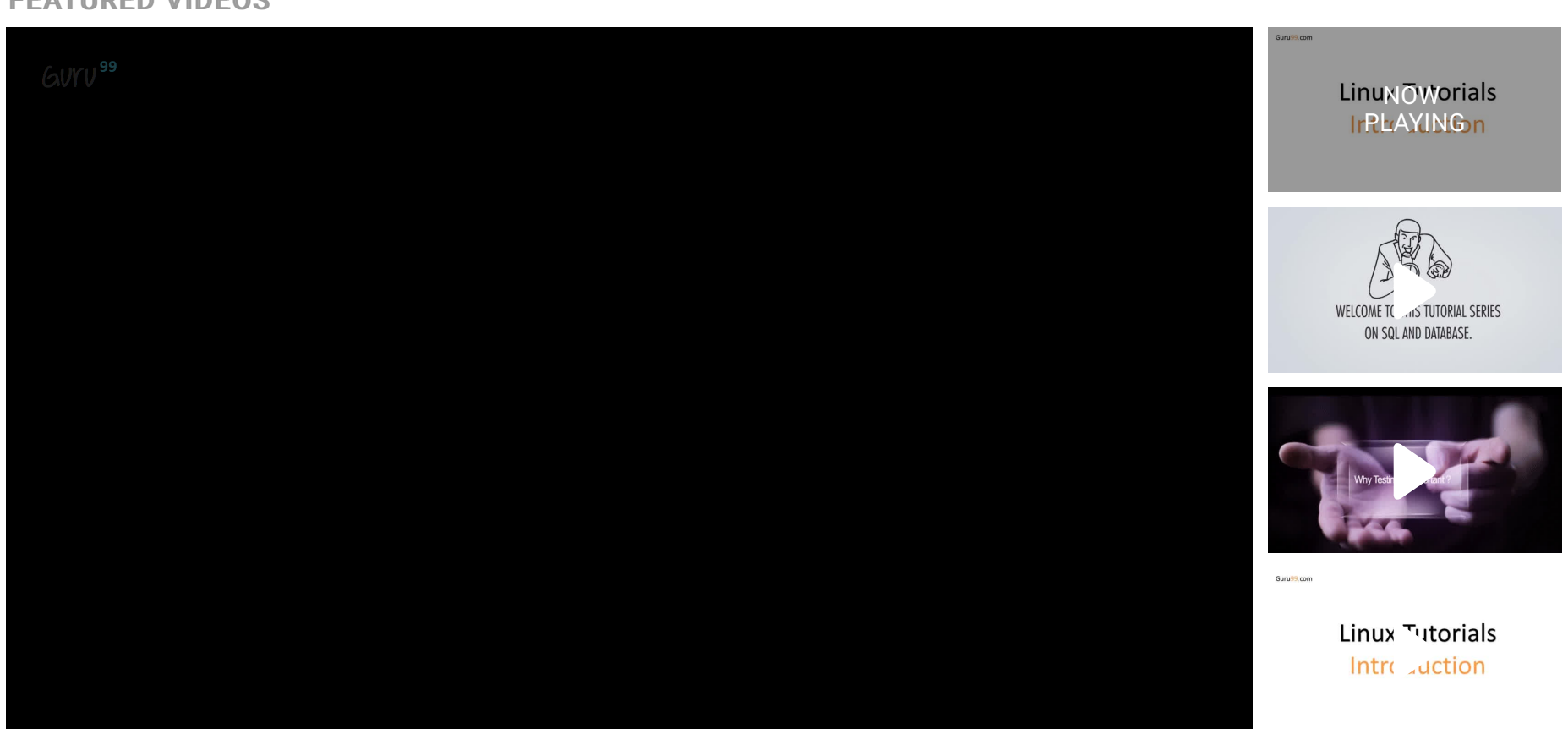


In this tutorial, we will learn-

- What is Front-end testing?
- What is Back-end testing?
- Frontend Testing Vs Backend Testing
- Important Front end testing tools:
- Important Back end testing tools:

What is Back-end Testing?

Backend testing is a type of testing that checks the Application and Database layer of a 3 Tier Architecture.



In a complex software application like ERP, back-end testing would entail checking the business logic in the Application Layer. For simpler applications, backend testing checks the server-side or Database. It means that data entered in the front end will be checked in the back-end database. The database format can be SQL Server, MySQL, Oracle, DB2, etc. The data will be organized in the tables as a record.

Databases are checked for ACID properties, CRUD operations, their Schema, Business rule conformance. Databases is also checked for Security and Performance.

In back-end testing, there is no need to use the GUI. You can directly pass the data using a browser with the parameters required for the function to get the response in some default format. For Example, XML or JSON. You also connect to the database directly and verify the data using SQL queries.

KEY DIFFERENCE

- Frontend Testing checks the presentation layer of a 3 Tier Architecture whereas backend testing checks the application and database layer of a 3 Tier Architecture.
- Frontend testing is always performed on the GUI whereas backend Testing involves databases and business logic testing.
- Frontend testing does not need any information to be stored in a database, but backend testing needs information stored in the database.
- Frontend testing is essential to check the overall functionality of the application while backend testing is important to check for deadlock, data corruption, data loss, etc.
- Frontend tester must be knowledgeable about the business requirements and automation frameworks tools while Backend tester must have a strong background in the database and Structured Query Language (SQL) concepts.
- Frontend testing examples are Unit Tests, Acceptance Testing, Accessibility Testing, Regression Testing whereas backend testing examples are SQL Testing, API Testing, etc.

Frontend Testing Vs Backend Testing

Frontend testing	Backend testing
Frontend testing is always performed on the GUI.	Back End Testing involves databases and business logic testing.
The tester must be knowledgeable about the business requirements as well as the usage of the automation frameworks tools.	The tester to be able to perform back-end testing must have a strong background in the database and Structured Query Language (SQL) concepts.
GUI is used to perform the Testing	GUI may or may not be used to perform Testing
It does not need any information to be stored in a database.	It does need information stored in the database.
It is essential to check the overall functionality of the application.	Backend testing is important to check for deadlock, data corruption, data loss, etc
Types of Testing done are – Unit Tests, Acceptance Testing, Accessibility Testing, Regression Testing, etc.	Three widely used types of database testing are SQL Testing, API Testing, etc.

Important Front-end testing tools:

There are many tools available for front-end testing. Here, given are three popular front-end testing tools.

1. Grunt:

Grunt is one of the preferred tools when it comes to task automation. It is a JavaScript task runner, offering plenty of bundled plugins for common tasks.

2. LiveReload:

LiveReload is a simple Web protocol. It triggers events to the clients whenever files are modified. Clients can handle this event in their way, even if the most common use case is when a file is modified.

3. Karma:

Karma is a JavaScript test runner tool. It allows you to execute tests from workstation to the production CI.

Important Backend testing tools:

Database testing also refers to Back-end testing is very important. Here, are some important back-end testing tools which help to find issues like deadlocking, data corruption, and poor performance.

1. Data Factory:

Data factory is database testing tool. It works as data generator and data manager for database testing. It has very easy to use interface and capable of managing complicated data relationship.

2. Data Generator:

DTM Data Generator is another backend testing tool. It is used for generating data rows and schema objects for database testing. The tool supports Load Usability and performance testing on the database.

3. TurboData

Turbodata software tool can be used to generate test data with foreign keys. It allows to use Select, Updates, and Delete SQL commands. It also supports multiple sequential files and relational databases.

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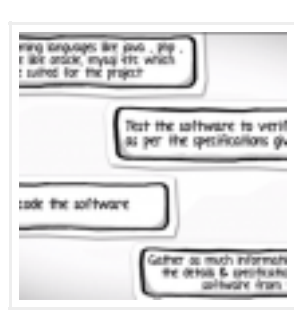

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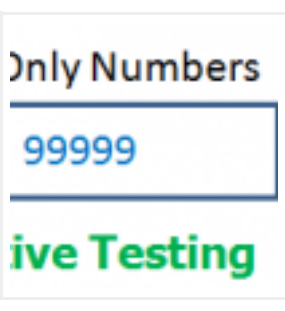

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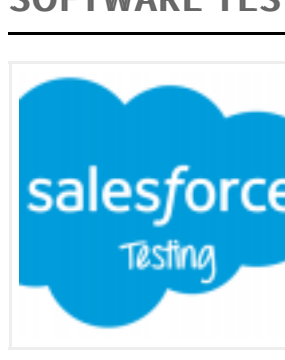

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