**SolutionArchitecture:**shopez

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**Project Name: shopez-one-stop-shop-for-online-purchases**

# SolutionArchitecture

Solutionarchitectureisastructuredprocessthatconnectsbusinessneedswithtechnologysolutions. In the shopez-one-stop-shop-for-online-purchases, the goal is to build a seamless online grocery shopping platform with secure user authentication, product filtering, order management, and a modern, user-friendly interface.

# GoalsoftheSolutionArchitecture

* Build a full-stack application using **MERN stack** (MongoDB, Express, React, Node.js).
* Enable secure **userauthentication** using JWTtokens.
* Provide **category-wise filtering**, search, and product sorting.
* Allow users to **add items to cart** and place orders.
* Track and display **orderhistory and orderstatus**.
*  BuildavisuallyrichUIwith**productimages,prices,brandnames**,andsmoothCSS styling.

# ShopezProjectArchitectureandDataFlow

AtypicalarchitectureanddataflowfortheShopSmartplatformincludes:

## Frontend(React.js):

* + Userregistration&login
  + Productlistingandfiltering
  + Cartandcheckoutfunctionality
  + Orderhistoryanduserprofile

## Backend(Node.js+ Express):

* + RESTfulAPIendpointsforproducts,users,cart,orders
  + Authenticationandauthorization(JWT)
  + Businesslogicandroute handling

## Database(MongoDB):

* + Collections:Users,Products,Orders,CartItems
  + Schema-basedmodelingwith Mongoose

## Authentication(JWT):

* + Securetoken-basedloginandprotectedroutes
  + Role-basedaccessforadminandusers

## DataFlow Overview:

* + Useractions(e.g.,addtocart)triggerfrontendrequests
  + FrontendsendsdatatobackendAPI
  + Backendprocesseslogicandupdatesthe database
  + ResponsesaresentbackandrenderedintheUI