

---

# PHASE 4 - REPORT

---

**Joe's Pizza Portal -- Using Selenium, NUnit, and SpecFlow to Develop and Test. Deploy it into Azure VM Using Jenkins**

**Submitted by**  
Ramya K T  
Software Engineer  
Dover India Private Limited

# 1. Abstract

The project explains completely about automation, testing, azure deployment, and usage of Jenkins. Pizza portal website was initially designed in Visual Studio using MVC. The project automation done using selenium, unit testing done using NUnit. Project is deployed to Azure using Jenkins.

# 2. Problem Statement

Create a Prototype for Joe's Pizza Portal Using Selenium, NUnit, and SpecFlow to Develop and Test. Deploy it into Azure VM Using Jenkins

# 3. Software Requirement

- a. Visual Studio
- b. Jenkins
- c. Azure active Account

# 4. Project Description

## A. Pizza Portal Project

- Create a asp.net core mvc project to design pizza portal web application under one solution.
- The project consists of PizzaModel which consists of each pizza's structure and PizzaBO consists of static pizza details and operations that need to be performed.
- The project consists of pizza controller that consists of all the operations and views which will be helpful to display all pizzas, to make order and checkouts.
- Index view will display all the pizzas and allows the user to buy the pizza
- Order view will display the checkout form that consists of pizza bill and billing details.
- Status view will display the status of order and redirects to either pizza shop page or home page.

- In this project, the customers can purchase the pizza and get the checkout form.

## **B. Project automation using Selenium**

- Create a console application under the same solution which will be used for selenium automated testing.
- Install selenium webdriver and download chrome driver according to chrome versions
- Add pizzaportal project reference to automation project and import the packages of selenium and chrome driver.
- Utilize the chromedriver and create a url to navigate
- Write the instructions or code for the automation testing.
- Write code to select a pizza to order. Write code to fill all the checkout details and to go to status page.
- Run the pizzaportal project in the background. Run the automation testing project.
- Console will open and redirects to mentioned URL, to perform the automated testing actions.

## **C. Project unit testing using NUnit**

- Create a NUnit test project. Add pizzaportal project reference to the test project
- Create test for different units in the project. Create some test for pass case and some for fail cases.
- In this project, created test for counting number of pizzas, getting pizzas by ID, by Name, getting pizza price and crust size.
- Test cases are written for both pass and fail condition
- Run the test cases using test explorer and view the result.

## **D. Build the project in Jenkins**

- Create a VM in azure as Jenkins require more memory.
- Install git, Java JDK 8 and .net SDK 3.1 version and install Jenkins .war file

- Provide the command in CLI as “java -jar Jenkins.war” to start Jenkins. Go to localhost:8080 to see the Jenkins.
- Complete the further procedures and create a user
- Create a new job, add name, description, GitHub URL and build commands and save changes
- Build the job and see in the console output for the success result.
- This process will build a project through Jenkins job.

## **E. Deploy website in Azure**

- Right click on VS project and select publish button.
- Select as azure app service and create a new app service if it does not exist.
- Click on publish button and you get a URL of which published website.
- Go to Azure account and verify the published app service.
- Always use the provided URL to run the website and check for correctness.

## **5. Conclusion**

The project mainly focuses on testing and deployment areas. From the project I was able to learn about automation testing using selenium and Unit testing using NUnit. I also learnt about Azure cloud and learnt to deploy website to azure using Jenkins. It was really a useful and knowledgeable phase which made me to learn so many concepts.