**Adidas Challenge**

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# Adidas Introduction

Adidas is truly a global company, Everything Adidas do is rooted in sport. Sport plays an increasingly important role in more and more people’s lives, on and off the field of play. It is central to every culture and society and is core to our health and happiness. The purpose ‘**through sport, we have the power to change lives**’, guides the way for Adidas to run company, how they work with the partners, how adidas creates products, and how they engage with their consumers.

Adidas always strive to expand the limits of human possibilities, to include and unite people in sport, and to create a more sustainable world. Athletes do not settle for average. And neither Adidas. they have a clear mission: To be the best sports brand in the world. Every day, they create and sell the best sports products in the world, and to offer the best service and consumer experience – and to do it all in a sustainable way. Adidas are the best when we are the credible, inclusive, and sustainable leader in our industry.

At adidas, there are rebellious optimists driven by action, with a desire to shape a better future together. Adidas see the world of sport and culture with possibility where others only see the impossible. **‘Impossible is Nothing’** is not a tagline for Adidas. By being optimistic and knowing the power of sport, they see endless possibilities to apply this power and push all people forward with action.

# QA Technical challenge Overview

As part of this technical challenge requirement, an .apk file is provided from which app can be installed to Android device, and then perform testing on app which is one of the tasks of assignment.

The second task involves testing of APIs which are used in android app

These APIs are hosted somewhere, using git clone, cloned the project to local machine as mentioned in the requirement.

Using docker command, all the services are made up and running as mentioned

After successful completion of setup, swagger URL is accessed

Data to MongoDB is copied using JSON collections provided in the project

# Automation tools

**IntelliJ IDEA -** Installation

1.Go to Site <https://www.jetbrains.com/idea/> and download IDE

<https://www.jetbrains.com/idea/download/#section=windows>

2.Select Community version of IntelliJ IDEA, click on download

3.Once the .exe file is downloaded, run the file to install IntelliJ IDEA

4.once the IDEA is installed, Download Java8 from below path

<https://www.java.com/en/download/>

5. Set the Environmental variable for Java

Variable is “JAVA\_HOME” and it’s value “JDK folder path

6. Set the Environmental variable “%JAVA\_HOME%bin” in path variable

7. On successful setup, import project from GitHub and execute the automation suite, details are mentioned below

**Appium -** Installation

1. Go to site Appium <https://appium.io/> and click on Download Appium

A Git hub page will be displayed <https://github.com/appium/appium-desktop/releases/tag/v1.21.0> from where you can download Appium for windows/mac/Linux Operating system

2.After successful download, you’ll have **.exe application file** of Appium desktop application

3.Run **.exe** file, it’ll install Appium Desktop Client on the machine

4.once it is installed, download Appium-doctor to resolve dependencies of Appium installation

<https://github.com/appium/appium-doctor>

5.install Node Js from this <https://nodejs.org/en/>

6.Run command npm install appium-doctor -g to install

7. after successful install run command npm install appium-doctor - -android for windows to check for Appium installation dependencies

8.Download SDK tools from the site <https://developer.android.com/studio>

We can download entire android studio application which in turns downloads SDK’s automatically

Or

We can download only SDK tools package

9.Set ANDROID\_HOME environment variable to the path where SDKs are stored in local machine

10.Set path environment variable for platform-tools which are inside SDK

11.Platform tools is a component which includes tools that interface with Android platforms such as adb etc.

12.adb devices give us about the information about the list of tools connected to machine using USB

13. On successful setup, import project from GitHub and execute the automation suite, details are mentioned below

# Frameworks

**Mobile app Test Automation framework**

Here am using **IntelliJ IDEA** where in I created Maven project for building automation scripts for android app

I have added dependencies for Selenium-java and io-Appium in POM file to the project, so that we can import and use libraries for test automation suite

**Import the Project from GitHub**

[**https://github.com/SridharR15/AndriodAppAutomation**](https://github.com/SridharR15/AndriodAppAutomation)

**Instruction to Run**

Once the project is imported in local machine, open the project in IDE

If project shows dependencies, import all maven dependencies, so that all libraries are imported

Build run the project to resolve all dependencies

After clean build, connect an android device/Emulator to machine

Start Appium server

Android device details should be updated in the script so that script can make connection with USB device attached to machine

Android device details can be retrieved from command line

Open command line and run command **adb devices**

List of devices connected to machine will be displayed, device details should be updated in desired capabilities in the script

Once the android details are updated in AndroidAppAutomation >src>test>java>challenge

Right click on challenge.java and click on Run challenge.main()

**API Test Automation framework**

Introduction to Karate framework

Karate is an open-source general-purpose test-automation framework where script calls to HTTP end-points and assert that the JSON or XML responses are as expected, Karate framework follows the Cucumber style of writing the program which follows the BDD approach. The syntax is easy to understand by non-programmers

Here am using **IntelliJ IDEA** where in I created Maven project for building automation scripts for API’s

I have added Gherkin and cucumber plugins to the project to support BDD scenarios

I have added dependencies of karate-apache, cucumber-reporting, karate-junit4 for executing and reporting purpose

**Import the Project from GitHub**

<https://github.com/SridharR15/Adidas-Challenge>

**Instruction to Run**

Once the project is imported in local machine, open the project in IDE

If project shows dependencies, import all maven dependencies, so that all libraries are imported

Build run the project to resolve all dependencies

Once resolved, click on src>test>java>features>Cucumber Runner

right click on cucumber runner and select option run Cucumber Runner

Test cases will compile and run; test results can be found at Adidas-Challenge>Target>Js>cucumber-html reports> overview-features.html

Open this html using Google chrome, results of tests passed and failed will be displayed here

# Use cases

**Mobile App:**

Created a Script, where it checks for internet connection on the device, once the connection is verified, it will open the app, select product by product and add reviews and ratings to each product available in Challenge app.

If the mobile device does not have internet connection, script will verify no internet connection, opens the app and verifies the blank page and provides the output blank screen displayed.

**API Test:**

Created scripts using Karate framework, where in I followed BDD cucumber approach to design BDD scenarios.

Positive and negative cases are covered in feature files for Products and Reviews API.

There are 21 BDD scenarios defined in the feature file which covers API functionalities.

# Bug Reporting

**Mobile App Bugs**

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| **Type-Bug 1** |
| **Short description**: Mobile App: Challenge App does not show Search bar for filtering the products based on query string where we can pass product name or description according to technical challenge requirement |
| **Detailed Description**: Technical challenge requirement provides information about the search bar in the challenge app where we can search products by giving product name or description of list of products  Steps to replicate:  Open challenge App  Search Bar should be visible |
| **Phase of Origin:** Development |
| **Priority: Critical** |
| **Expected Result:** Search bar should be visible in Challenge app |
| **Actual Result:** Search bar is not displayed |
| **Test Data:** Challenge App |
| **Root Cause: ‘’Update require by dev team’’** |
| **Resolution: ’Update require by dev team’’** |
| **References**    **Requirement Mockup Actual App** |
| **Comments**  **App is under test**  **If search functionality is not available, as a customer I have to go into complete list by browsing rather than searching for particular product** |

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| **Type-Bug 2** |
| **Short description**: Mobile App: Challenge App show an option **setting** which is not in scope of technical requirement |
| **Detailed Description**: When I open Challenge App, I see an Option which shows Settings button, but once I click on Settings no action is happening in the App  Steps to Replicate:  Open challenge App click on three dots on the right-side corner  On clicking it’ll show Settings button  After clicking on Settings, no action is performed |
| **Phase of Origin:**  Development |
| **Priority: Medium** |
| **Expected Result:** Settings Option should not be displayed as per requirement |
| **Actual Result:** Settings option id displayed, which is not expected |
| **Test data:** Challenge App |
| **References**  A picture containing text, athletic game, sport, basketball  Description automatically generated |
| **Root Cause: ‘’Update require by dev team’’** |
| **Resolution: ’Update require by dev team’’** |
| **Comments**  **App Under Test**  **Settings option does not perform anything, this will lead to a confusion why this is there in first place if nothing is popping up after click**  **App Still show extra functionality which is not in scope of requirement** |

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| **Type-Bug 3** |
| **Short description**: Mobile App: Challenge App does not show any dialogue box after clicking on Add review button |
| **Detailed Description**: When I open Challenge App and navigate on a product, I see an Option Add Review, Once I click on add review, page is navigating to a new page, but there is no dialogue box shown to add a review as mentioned in requirement  Steps to Replicate:  Open challenge App  Select on a product  Click on Add review  Page will navigate to new page, but as mentioned in requirement I won’t show any dialogue box to choose between dialogue/new page |
| **Phase of Origin:**  Development |
| **Priority: Medium** |
| **Expected Result:** A dialogue box should be displayed as per requirement when clicked on add review button |
| **Actual Result:** As soon as we click on add review button, page navigates to new page for review the product |
| **Test data:** Challenge App |
| **References** |
| **Root Cause: ‘’Update require by dev team’’** |
| **Resolution: ’Update require by dev team’’** |
| **Comments**  **App Under Test**  **App redirects to new page for adding review, but don’t show dialogue box to add the same** |

**Product API Bugs**

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| **Type-Bug 4** |
| **Short description**: Product API: New product creation is giving 200 success response when mandatory input is not passed in the input body |
| **Detailed Description**:  Trying to create a new product through product API endpoint  Method is POST  Json request body contains elements which are mandatory as mentioned in swagger definition  When trying to send a request with **any one of the fields as empty string/ completely removing the attribute from Json Body**  API is giving success 200 Response instead of 400 |
| **Phase of Origin:**  Development |
| **Priority: High** |
| **Expected Result:** API should through 400 Bad Request |
| **Actual Result:** API is displaying 200 Success Response |
| **Test data:**  **Endpoint URL:**  **product\**  **Expected Json Requests**  **{**  **"id": "string",**  **"name": "string",**  **"description": "string",**  **"imgUrl": "string"**  **Actual Json Requests**    **{**  **"name": "string",**  **"description": "string",**  **"imgUrl": "string"**  **}** |
| **References**        When Empty Json body sent -response |
| **Root Cause: ‘’Update require by dev team’’** |
| **Resolution: ’Update require by dev team’’** |
| **Comments**  **API gives 200 success response even Json body sent as empty/any one of the mandatory attributes removed**  **Mandatory elements in JSON body should be handled in API layer**  **This way if it is not handled then database can have invalid entries** |

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| **Type-Bug 5** |
| **Short description**: Product API: Existing **product image details** are not updated by update product API, but API still gives 200 success response |
| **Detailed Description**:  Trying to update product details through product API endpoint  Method is PUT  Json request body contains elements which are mandatory as mentioned in swagger definition  When trying to send a request with new image url details  API is giving success 200  But get products/get product by ID are displaying previous product image url which is not expected  **It is only updating Name and description**  But not Image URL when product via get ID is called |
| **Phase of Origin:**  Development |
| **Priority: Major** |
| **Expected Result:** API is giving 200 success response **with updated new Image Url, image should be updated in Database** |
| **Actual Result:** API is displaying 200 Success Response **but new Image Url is not updated in database** |
| **Test data:** Json Body with existing product and different URL  Example  {  "id": "HI888",  "name": "Rugbyball",  "description": "Rugby",  "imgUrl": "https://assets.adidas.com/images/w\_276,h\_276,f\_auto,q\_auto:sensitive,fl\_lossy/da278c9c5e244068b32cac4d0125fedd\_9366/FY2002\_00\_plp\_standard.jpg"  } |
| **References**  **Existing Product**    **Update API**    Image URL Updated Response    **Get Product by ID**    **Image URL is not updated and displaying the previous URL** |
| **Root Cause: ‘’Update require by dev team’’** |
| **Resolution: ’Update require by dev team’’** |
| **Comments**  **Once URL is updated by showing 200 success response through Update API, then the data should be updated in database too**  **This way when we call Get products updated/ correct URL will be displayed for all products, else the description would be different and Image URL will be different when hosted** |

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| **Type-Bug 6** |
| **Short description**: Description for DELETE API in swagger is incorrect |
| **Detailed Description**:  Description for DELETE API in Swagger shows “Creates a product in database” |
| **Phase of Origin:**  Development |
| **Priority: Trivial** |
| **Expected Result:**  **Deletes a product in database** should be description |
| **Actual Result:**  **Creates a product in database** is displayed |
| **Test data:**  Swagger Description  /product/{id}  Method: DELETE |
| **References** |
| **Root Cause: ‘’Update require by dev team’’** |
| **Resolution: ’Update require by dev team’’** |
| **Comments**  Swagger definition should be updated else API would be rejected for approval to higher environment  Description should be changed |

**Review API Bugs**

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| **Type-Bug 7** |
| **Short description**: Review API: New Review creation is giving 201 success response when mandatory input is not passed in the input body |
| **Detailed Description**:  Trying to create a new review through review API endpoint  Method is POST  Json request body contains elements which are mandatory as mentioned in swagger definition  When trying to send a request with any one of the fields as empty string/ completely removing the attribute from Json Body  API is giving success 201 |
| **Phase of Origin:**  Development |
| **Priority: High** |
| **Expected Result:** API should through 400 Bad Request |
| **Actual Result:** API is displaying 200 Success Response |
| **Test data:**  **Endpoint URL: /reviews/{id}**  **Expected request**  **{**  **"productId": "XXXX",**  **"locale": "string",**  **"rating": 0,**  **"text": "Best Product"**  **}**  **Actual request**    **{**  **"productId": "string",**  **"rating": 0,**  **"text": "string"**  **}**  **{**  **"productId": "string",**  **"locale": "string",**  **}**  **{**  **"productId": "string",**  **}** |
| **References** |
| **Root Cause: ‘’Update require by dev team’’** |
| **Resolution: ’Update require by dev team’’** |
| **Comments**  **This type of technical issues should be handled at API**  **Else there would be invalid entries in Database when we call for get all reviews**  **If nothing is passed there would be a blank entry of review in the data base, when hosted in app, product will show blank reviews as empty spaces without any rating** |