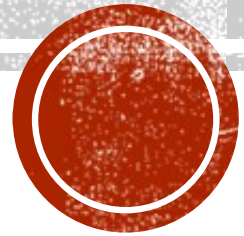
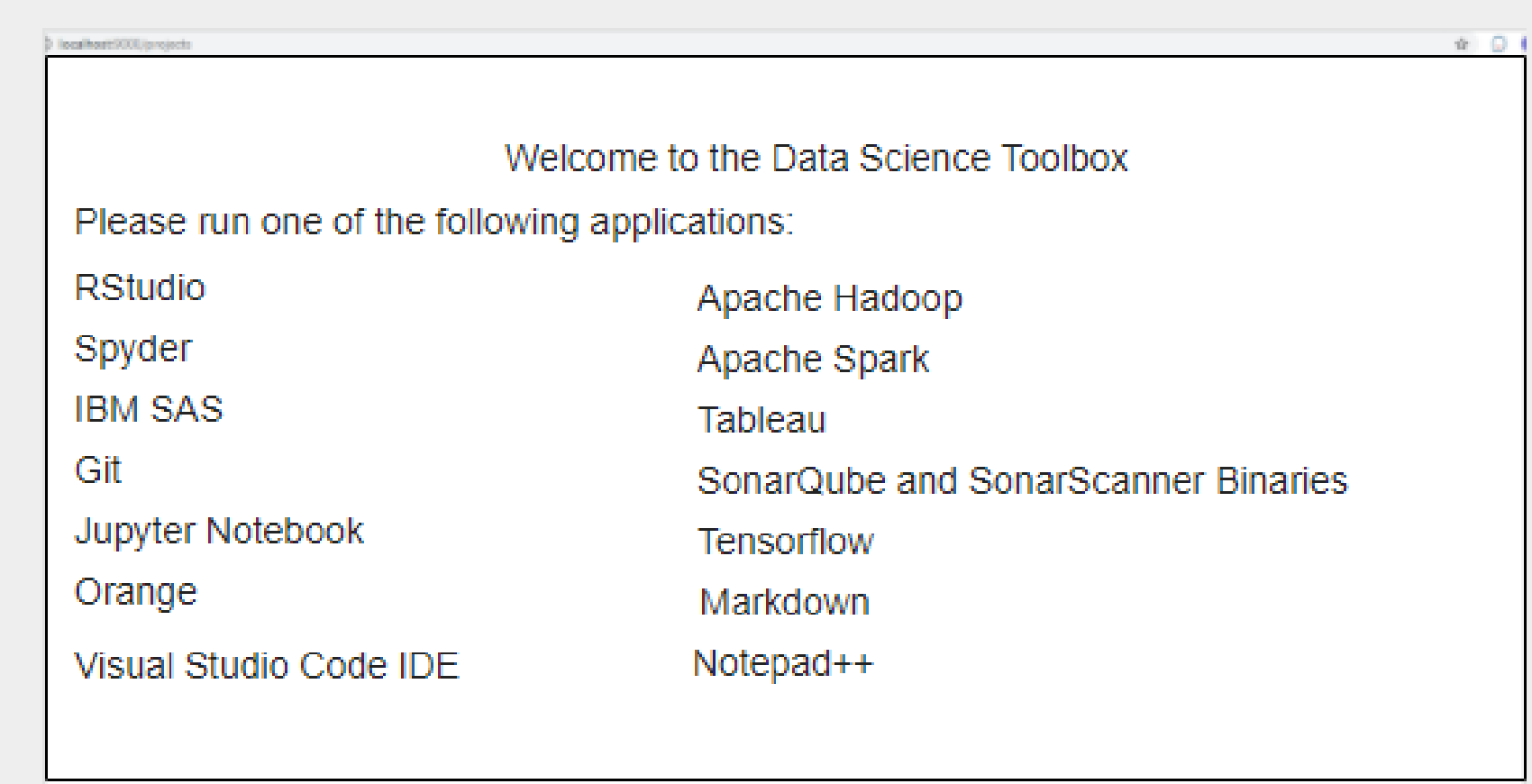
PROJECT-1 DESCRIPTION

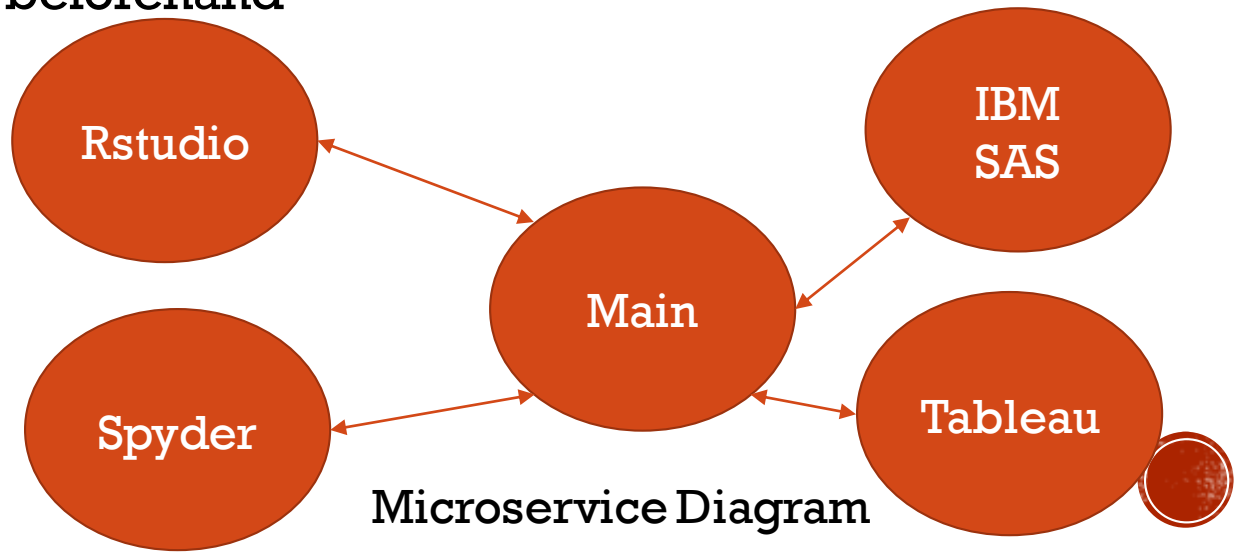


DATA SCIENCE TOOLBOX



PROJECT DESCRIPTION

- Build Microservices-based application where there is one main microservice that acts as the main application showing the User Interface in the previous slide.
- Each option that is displayed represent a microservice application that is hosted on Docker.
- The user will click on one of the options and the selected application will be run.
- All applications should be **INSTALLED** beforehand



Microservice Diagram

PROJECT GRADING DISTRIBUTION

- Main Application deployed on Docker: 15%
- RStudio: 5%
- Spyder: 5%
- IBM SAS: 5%
- Git: 5%
- Jupyter Notebook: 5%
- Orange: 5%
- Visual Studio Code IDE: 5%
- Apache Hadoop: 10%
- Apache Spark: 10%
- Tableau: 10%
- SonarQube & SonarScanner: 10%
- Tensorflow: 5%
- Markdown: 5%

Important Notes:

- Each application should be its own microservice.
- Each microservice should be deployed on docker container.
- Make sure that your microservice application gets installed through Docker – if needed-.
- No installations outside of Dockerfile are expected to happen.
- I should be able to run the entire application from your Dockerfile without any custom steps outside of Docker.
- If the user selects an application that requires installation, student won't get the grade for this application (i.e. your Dockerfile should install the applications before the application runs).
- You **SHOULD NOT** have any environment variable or configuration that is implemented outside of your Dockerfile.

PROJECT SUBMISSION GUIDELINES

- You should submit URL for your GitHub Repository containing the project code by November 22nd, 11:59 PM EST.
- Your GitHub repository should be **public**. Private repositories won't be graded.
- Your GitHub repository should have a ReadMe.md file that lists the "exact" steps on how to get this application working on a new machine. I will follow the steps and if I can't get it running on my machine, I will deduct considerable number of points from your project grade.
- You should record a video demonstrating two elements:
  1. Code Walkthrough while you are explaining your code changes.
  2. Demoing the running application while you are navigating through EVERY application that is working in your application. I will use this video to help assessing your grade. You may lose points for the applications that are not demonstrated in the demo.
- Your video size may be large to be uploaded to GitHub. You may use OneDrive to upload the video and add the URL to your ReadMe.md file in your GitHub repository.
  - Make sure that your video is publicly shared. Private videos won't be visible by the instructor and therefore, your project grade will be **impacted**
- You can work on this project in team of 2 students. However, if a student submits **ALL** the required functionality **"individually"**, the student will be exempt from final exam.

USEFUL LINKS

- Docker Compose: https://docs.docker.com/compose/gettingstarted/
- Filmora Wondershare Screen Recorder: https://filmora.wondershare.com/
- How to record video using Filmora: https://www.youtube.com/watch?v=yjlyvvCOaMc
- IBM SAS: https://github.com/sassoftware/sas-container-recipes