Summer '19 Experience Credit Internship Report

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INTRODUCTION

This Summer I got to intern at Strategic Value Partners, a hedge fund in Greenwich, Connecticut. I was primarily an application development intern working with the accounting ,operations and trading departments of the company. During my time I got to learn about the functioning of financial institutions through daily interactions with people right from the front office to the accounting department. I signed off, contributing to a couple dashboard applications and to the CI/CD pipelines using Azure DevOps.

TECHNOLOGIES

The technology/tools used for the successful completion of the projects are listed as below:

1. C#.NET
2. MySQL
3. Entity Framework
4. RabbitMQ
5. Azure DevOps
6. Git
7. Powershell
8. WPF, WCF

Dashboard

- Dashboard applications followed a MVVM(model-view-viewmodel) architecture for developing multiple interchangeable views for the same application using the singleton design pattern.
- The model holds the data to be processed and displayed in the view and is sourced from the database using Entity Framework.
- The View is the front end of the application that interacts with the user made using WPF
- The View-Model is where business logic of the application lies and connects the model and view.
- The Dashboard was used by a number of teams and catered to all their tasks, like booking deals for the operations team, generating reports for the accounting team and a live view of all the values of the portfolios which included the daily P/L, monthly P/L, etc.

Views in the Dashboard
1. Accounting Views
    - Accounting Positions
    - Geneva Transfer View
    - Portfolio Transfer View
    - Reports View
2. Geneva Views
    - Addendum Reports
3. Operations Views
    - Trade Entry View
    - Operations Process Control
4. Positions
    - CDS Positions Views
    - Daily Summary
    - Portfolio Detail Views
5. Risk
    - Quantifi Process Control
   - Quantifi Process Dashboard

Applications

Portfolio transfer and Wire Transfer Applications

- Created applications to select positions and transfer funds between them showing real time positions.
- Developed application to generate wire transfer instructions that automated the money transfer process.
- Applications received real-time updates using RabbitMQ messaging and REST API calls
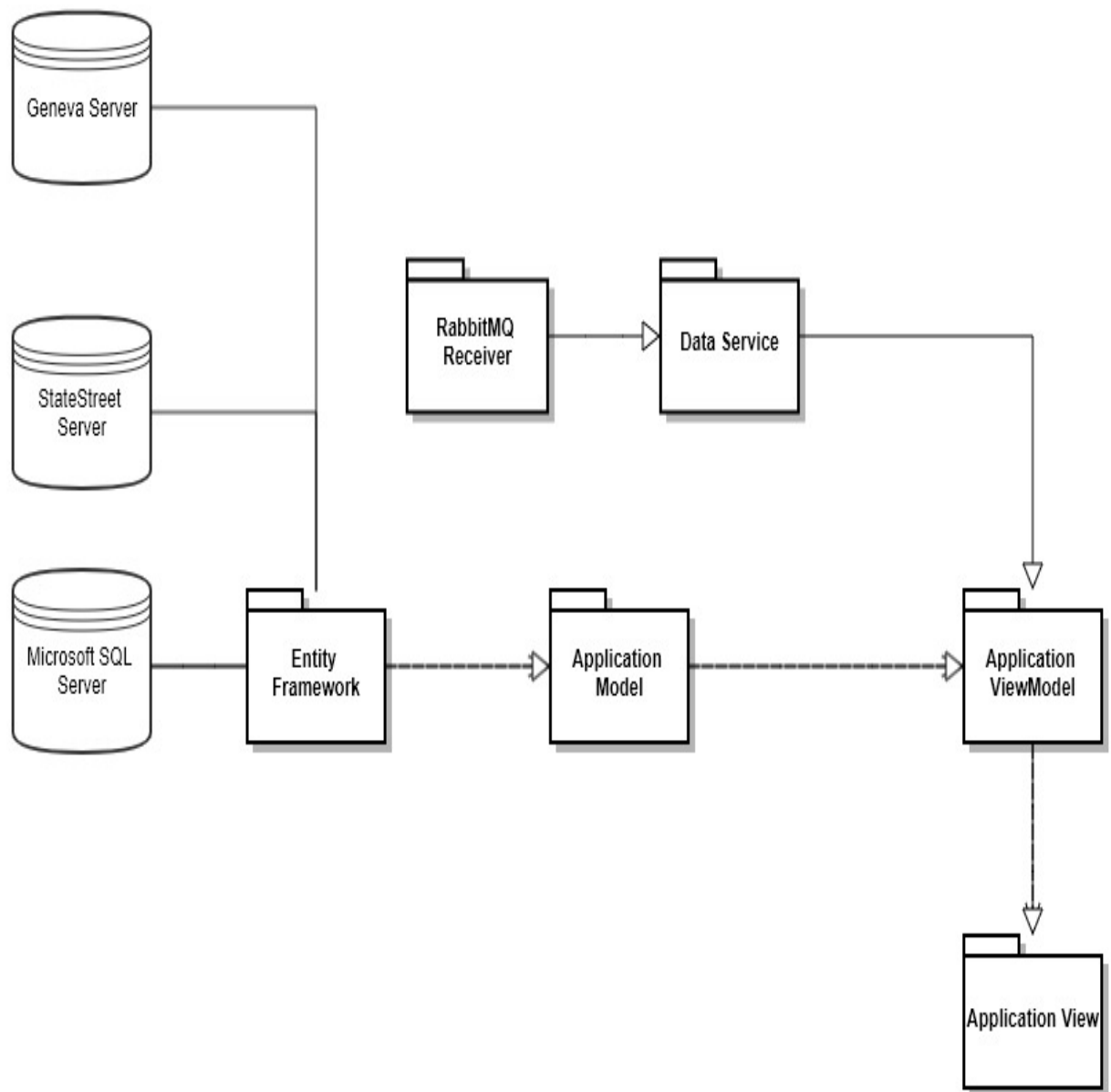
DevOps
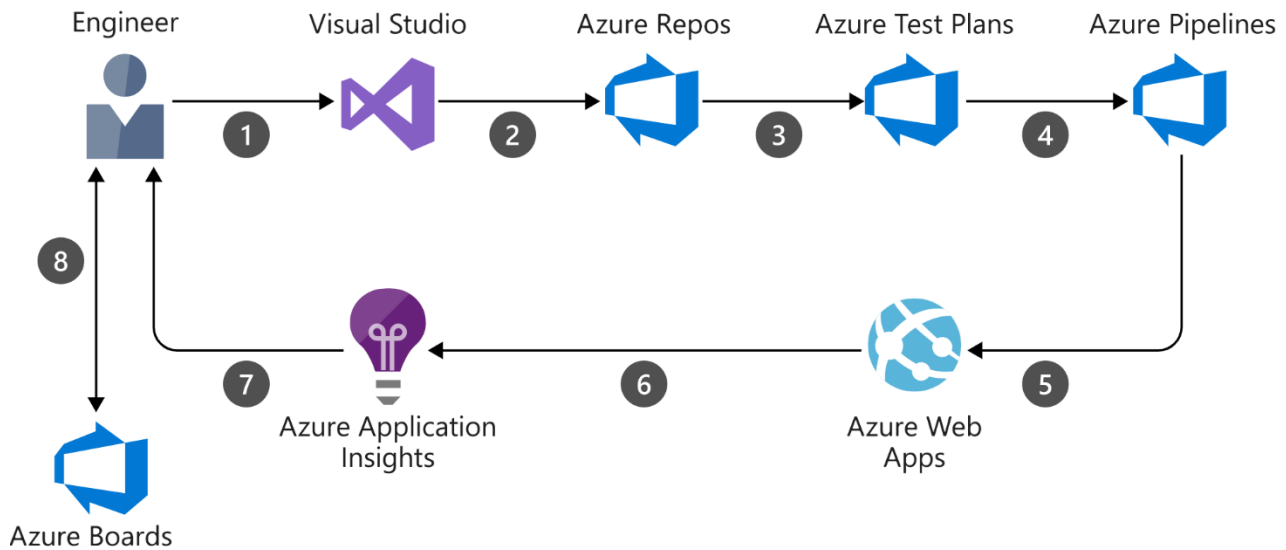
The data flows through the scenario as follows:
1. A developer changes application source code.
2. Application code including the web.config file is committed to the source code repository in Azure Repos.
3. Continuous integration triggers application build and unit tests using Azure Test Plans.
4. Continuous deployment within Azure Pipelines triggers an automated deployment of application artifacts *with environment-specific configuration values*.
5. The artifacts are deployed to Azure App Service.
6. Azure Application Insights collects and analyzes health, performance, and usage data.
7. Developers monitor and manage health, performance, and usage information.
8. Backlog information is used to prioritize new features and bug fixes using Azure Boards.
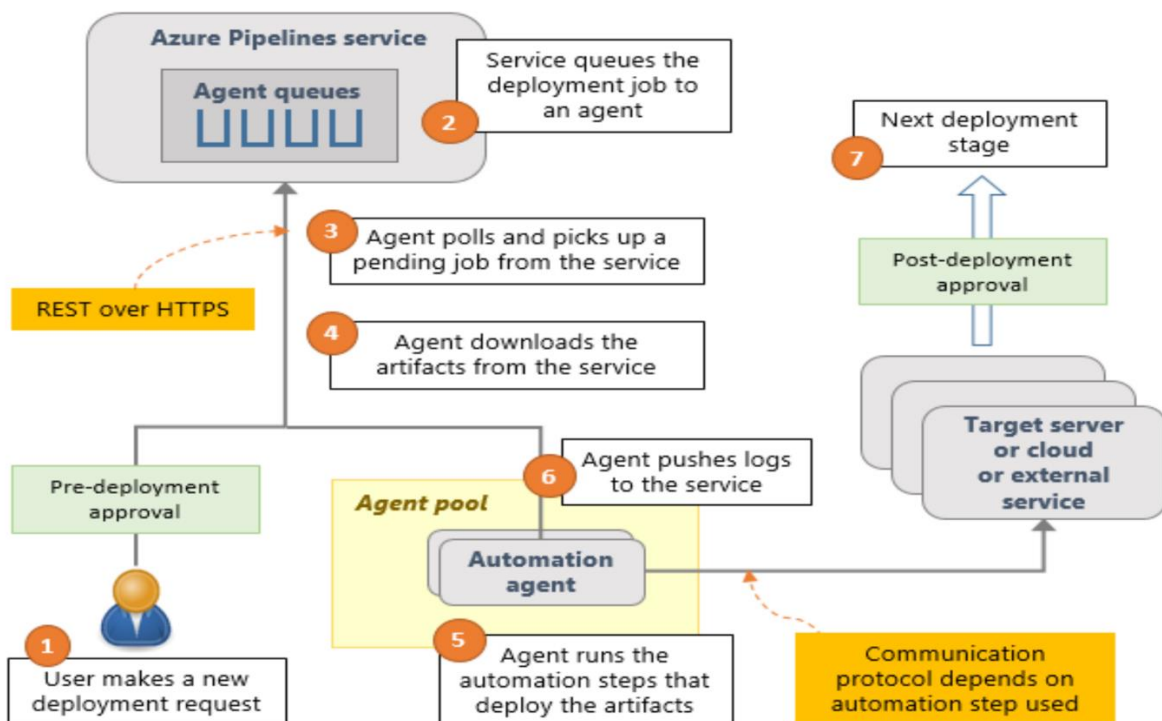
Conclusion:

To conclude, I would like to say that the experience as a software engineer intern at SVPGlobal was fruitful and I gained a lot of knowledge while working in an agile environment. Apart from technical skills, I also improved a lot on my behavioral skills since I had to coordinate project activities as well as various conflicts across multiple teams. Overall, my summer was a very positive and instructive experience.