Design and Architecture Document

Server Perfromance Monitoring And Improvement Tools

SPMIT – V1.0

Sachin Patil

Sachin\_patil.1982@yahoo.com

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# Document Information & Review History

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| Document Information | |  |
| *File Name* | SPMIT-Workflow | |
| *Author* | Sachin Patil | |
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| Revision History | |  |  |
| ***Author/s*** | **Date** | | **Notes** |
| Sachin Patil | 09/02/2020 | | First Draft |
|  |  | |  |

# Introduction

This project is an automation to Monitor and Improve the performance of the server based on the events capture on the server.

As per this automation, it captures the event, analyse it based on predefine criteria, notify and generate reports through which engineering team can automate further to improve the performance

# Specification

Infrastructure:-

* EC2 Instance 🡪 Windows Server 2016 Standard

Database:-

* SQL Server 2018 Enterprise Edition

Coding Platform:-

* Python
* Django
* HTML
* Celery

System Configurations:-

* [Git Project:- sachinpatil1982/SPMIT](https://github.com/sachinpatil1982/SPMIT)
* [Git Repository:- sachinpatil1982/SPMIT](https://github.com/sachinpatil1982/SPMIT/tree/master/SPMITAutomation/ProjDocs)
* Important Docs :-
  + SQL used in Core Development
  + Word Documents
  + Processed Server Logs -- Excel Sheet
    - ..\SPMITAutomation\SPMIT\projdocs
    - ..\SPMITAutomation\ProjDocs
* AWS Instance :-
  + Public DNS     ec2-100-26-32-238.compute-1.amazonaws.com  
    User name     Administrator
* SQL Server 2018
  + SQL SERVER : EC2AMAZ-848AN2Q\Administrator  
    SQL User ID : spmit\_admin
* Tableau Cloud Login   
  UserId:- sachin\_patil.1982@yahoo.com  
  PWd:- sachin1234
  + Tableau Punished Space:-
  + <https://prod-useast-a.online.tableau.com/#/site/spmithub/projects/59757>
  1. Plot 1:-
     1. <https://prod-useast-a.online.tableau.com/#/site/spmithub/views/spmit/UniqeIPAddress?:iid=18>
  2. Plot 2:-
     1. <https://prod-useast-a.online.tableau.com/#/site/spmithub/views/spmit-2/TrackUserActivity-2?:iid=16>
  3. Plot 3:-
     1. <https://prod-useast-a.online.tableau.com/#/site/spmithub/views/spmit-2/TrackUserActivity-2?:iid=16>
     2. Please refer attached Workflow Document and Demo Screen Recorded Files for this report as I had some challenges to run published report after click navigation with Published Tableau Report.

# Architecture

This automation contains 3 sections

1. Engine
2. UI
3. Reports

## Engine

It’s a heart of the automation, which will pull the data from Server, analyse, notify and generate reports. Here is the workflow diagram as follows.

* This is Daily Job with Python Code
* It pulls the data from System Events
* Save these events in txt format at common accessible location
* Code will further push this log in SQL DB Table “ServerLogs\_Step1\_Raw” for further processing
* Code will further apply cleansing mechanism to get the correct data and put into “ServerLogs\_Step2\_Clean” SQL Table
* Code will further filter records which contains give set of words and put into “ServerLogs\_Step2\_Final”

Save into .txt file

Pull data from System Events

Filter records which contains “users”, “assets”, uploads”, “admin”, “dashboard”

* Tokenize
* Probability
* Stop-words
* Remove Duplication
* Stemming

Push into SQL DB

## UI

UI of this application can get the visualise effect of above workflow and user can trigger the engine work flow manually by uploading log files.

## Reports

Reports of this application has been planned with SQL Reporting / Tableau depends on compatibility of these software’s with EC2 instance.

1. Plot 1:-

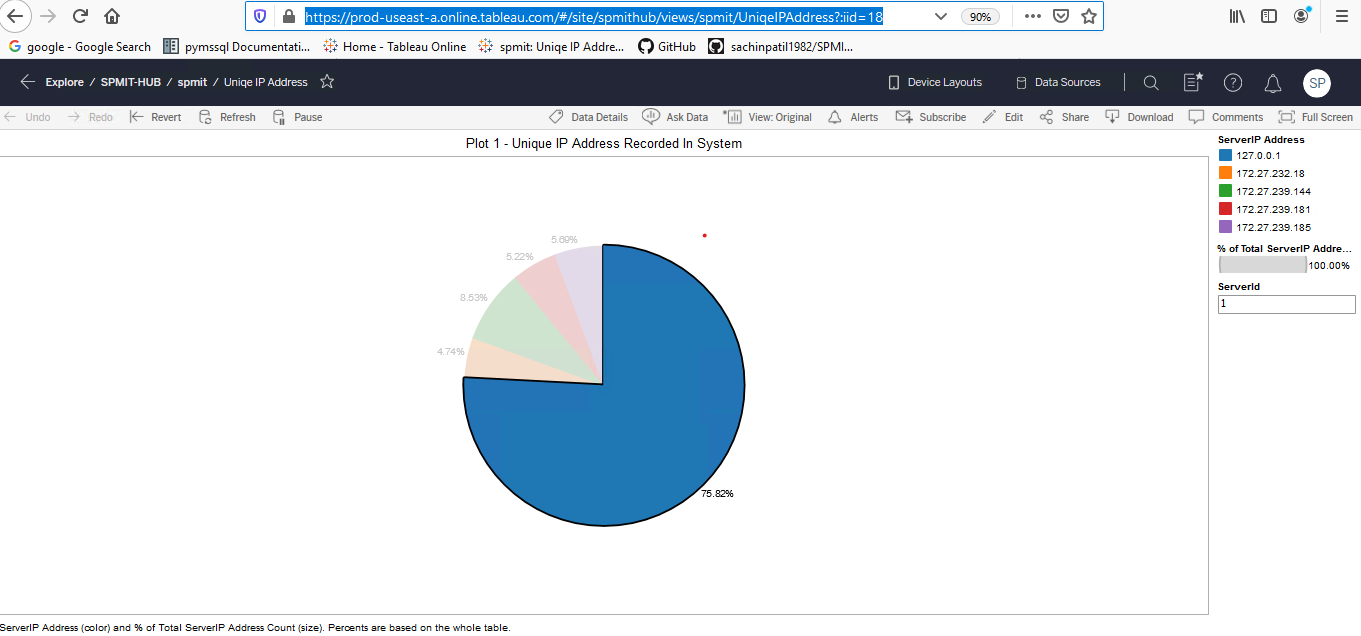
For the last 7 days, the unique IP addresses that are recorded in the system.

The plotting is in Pie chart, the size denotes the percentage of the total count of the IP over all IPs.

Only those total count greater than 5% (required 5% but due to less number of count changed to 3%) of the total circle should be plotted (do not plot the tiny regions).

It will be a plus if mouse hovering is implemented, where the details (IP address, and total count) will be shown alongside the pie sector

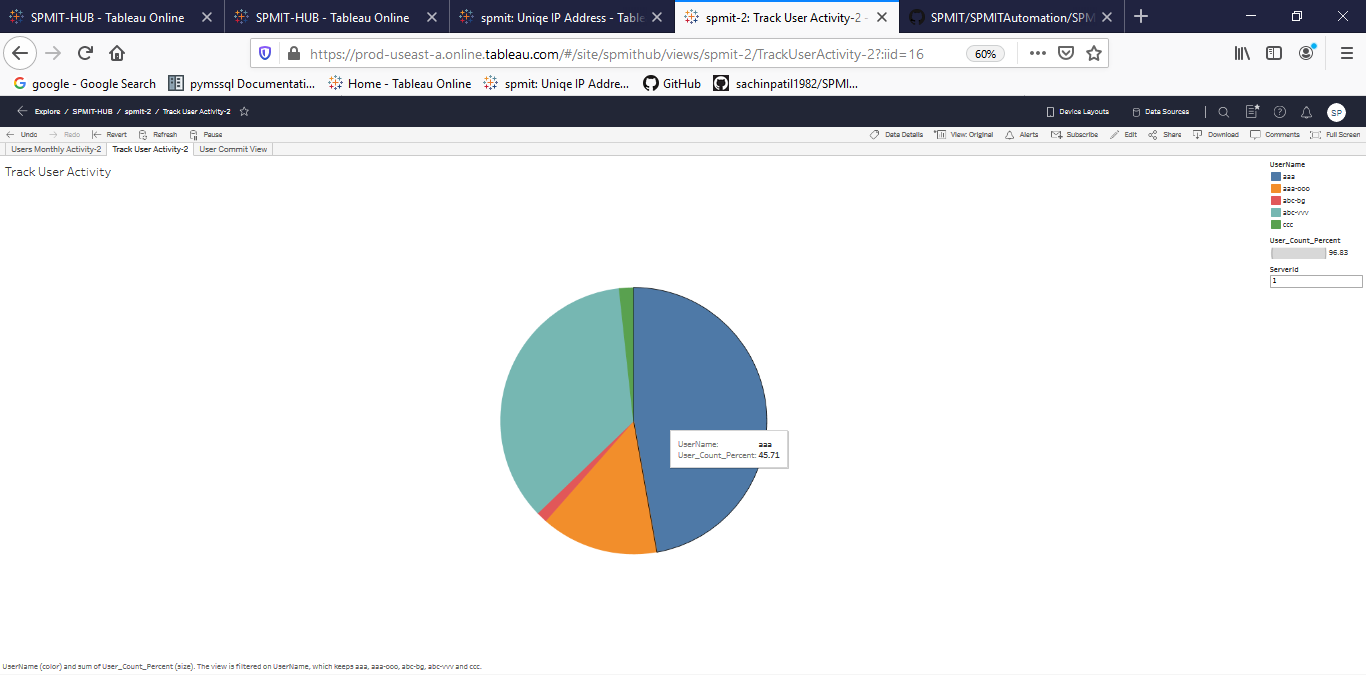
* <https://prod-useast-a.online.tableau.com/#/site/spmithub/views/spmit/UniqeIPAddress?:iid=18>



1. Plot 2

For the last 30 days, the users that are active. “Active” means that user should upload the code at least three times per month.

* <https://prod-useast-a.online.tableau.com/#/site/spmithub/views/spmit-2/TrackUserActivity-2?:iid=16>



Use Pie chart to plot this. Only those total count greater than 5% (required 5% but due to less number of count changed to 1%) of the total circle should be plotted (do not plot the tiny regions).

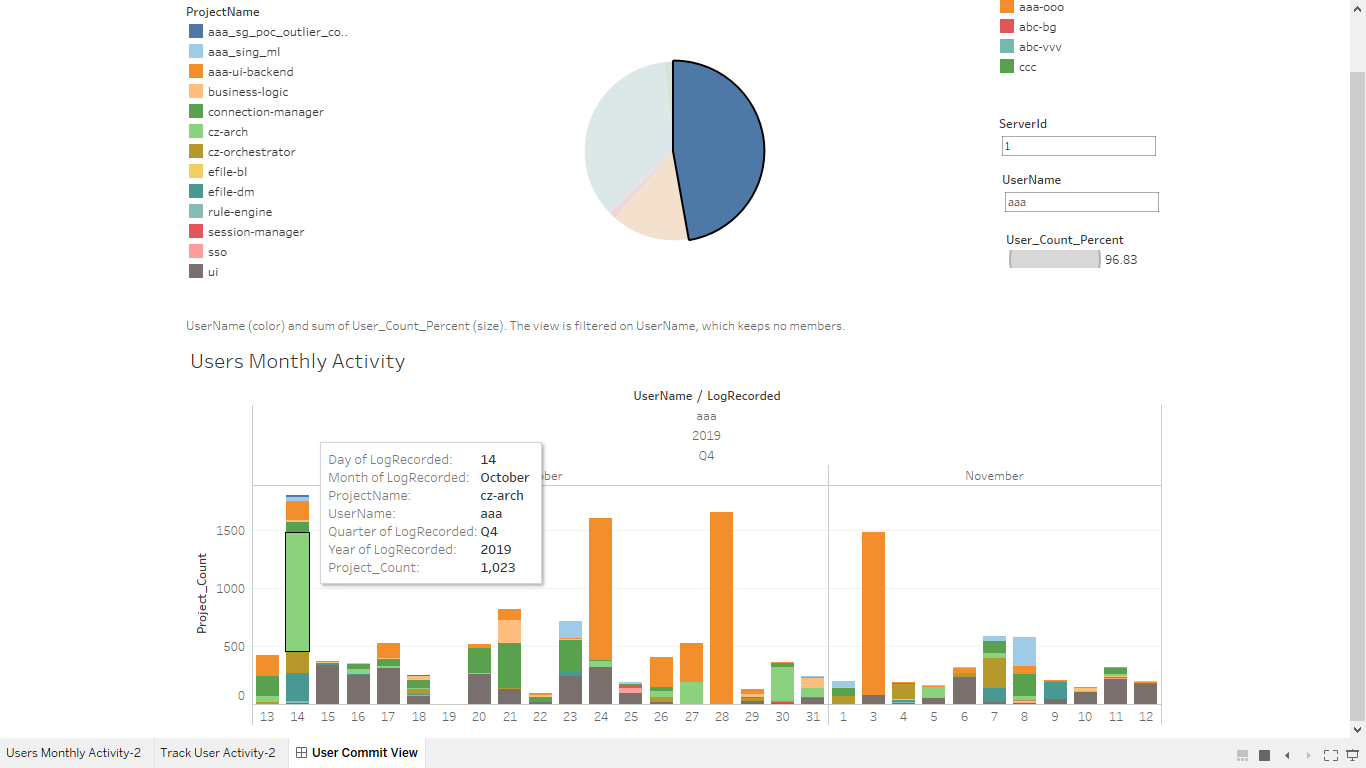
1. Plot 3:-

Continue with the plotting in item 2: when click the section, it should plot a bar graph, which plots for this user, across the last 30 days, the total count of code upload on each day.

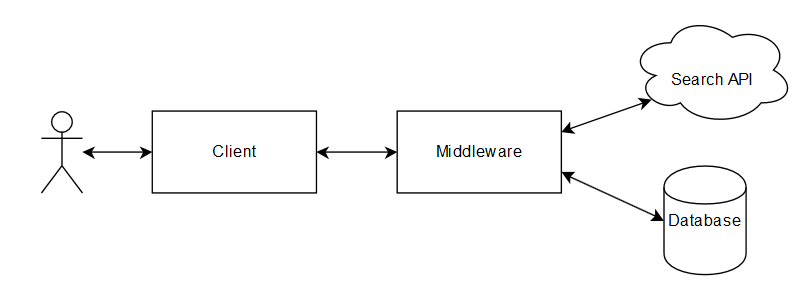
In the plot, it should also show the total number of unique project that the user upload on this day.

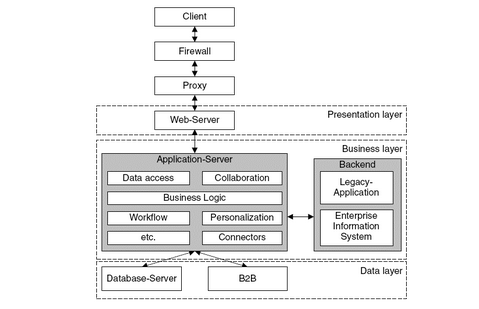
<https://prod-useast-a.online.tableau.com/#/site/spmithub/views/spmit-2/UserCommitView?:iid=16>

Please refer attached demo recording file (.avi) for this report as I have faced some issue with published Tableau Report

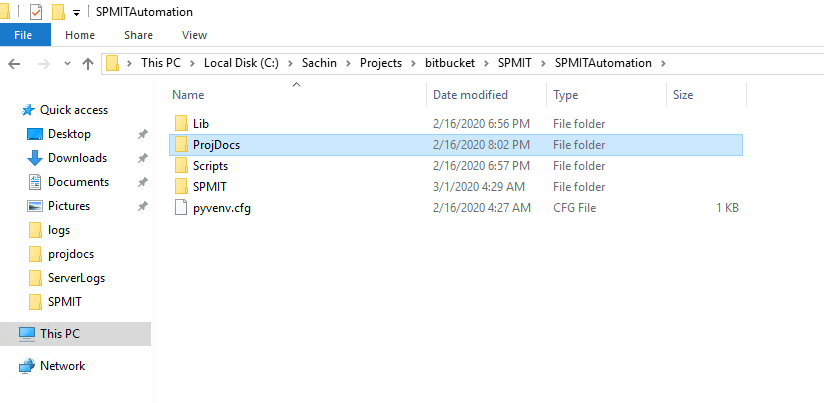


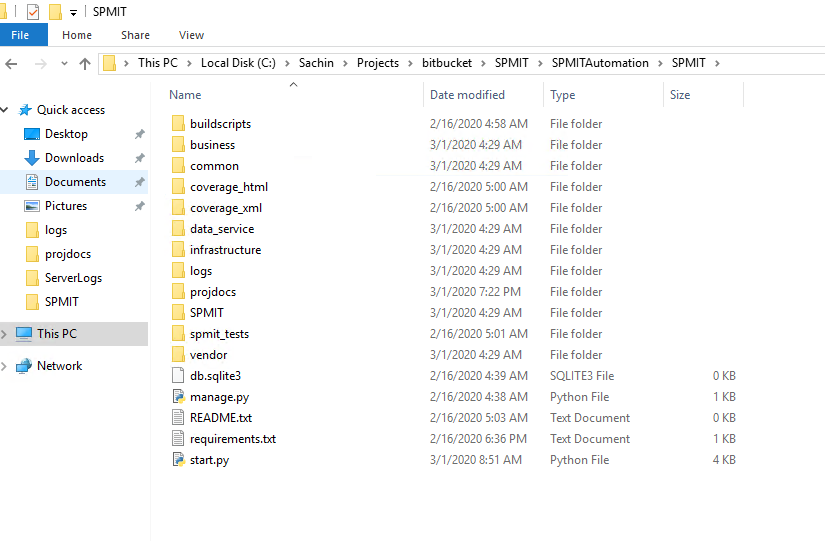
## Code Architecture





## Code Folder Design





## Database Design

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