

Web Based Support Aggregator to Consolidate and Categorize EBS Finance Alerts and Logs

Submitted By

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Web Based Support Aggregator to Consolidate and Categorize EBS Finance Alerts and Logs

Thesis

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Certificate

This is to certify that the thesis entitled ”**Web Based Support Aggregator to Consolidate and Categorize EBS Finance Alerts and Logs**” submitted by **Ashvinkumar Thakor (Roll No: 16MCEC24)**, towards the partial fulfillment of the requirements for the award of degree of Master of Technology in Computer Engineering(CSE) of Nirma University, Ahmedabad, is the record of work carried out by him under my supervision and guidance. In my opinion, the submitted work has reached a level required for being accepted for examination. The results embodied in this major project part-II, to the best of my knowledge, haven’t been submitted to any other university or institution for award of any degree or diploma.

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Statement of Originality

I, **Ashvinkumar Thakor**, Roll. No. **16MCEC24**, give undertaking that the Thesis entitled "**Web Based Support Aggregator to Consolidate and Categorize EBS Finance Alerts and Logs**" submitted by me, towards the partial fulfillment of the requirements for the degree of Master of Technology in **Computer Engineering(CSE)** of Institute of Technology, Nirma University, Ahmedabad, contains no material that has been awarded for any degree or diploma in any university or school in any territory to the best of my knowledge. It is the original work carried out by me and I give assurance that no attempt of plagiarism has been made. It contains no material that is previously published or written, except where reference has been made. I understand that in the event of any similarity found subsequently with any published work or any dissertation work elsewhere; it will result in severe disciplinary action.

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- **Ashvinkumar Thakor**

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Abstract

Making Function Automatic improves the performance as well as efficiency of Application because it involves less human effort in working. There is a EBS Finance Team Who are getting Alerts and log in mail now a day and they have to categorize, operate and maintain status of that alerts and logs manually. So it takes more time to maintain and solve that alerts and involve more human efforts and because of this sometime they does not get some important alerts early and they might not able to solve it within particular time. So for avoiding such problem and improve performance of working there is a need of Dashboard which consolidate and categorize that alerts in one place and make support team users to maintain status of such alerts and logs and for that I have made a Dashboard which is web application that Automatically consolidate mail from exchange server periodically and categorize them into different categories using rule file and represent them as graphically as well as in tabular format to check and maintain the status of alerts. It also exports the data of particular time into an Excel sheet which helps to identify status of all alerts of particular time of period. So it will improve performance and reduce response time as well as automate some task so support team users can easily identify and maintain the status of alerts and logs using this Dashboard.

Abbreviations

EBS	Electronic Business Suite
EWS	Exchange Web Services
API	Application Programming Interface
CSS	Cascading Style Sheets
GUI	Graphical User Interface
RDP	Remote Desktop Protocol
SSMS	SQL Server Management Studio
IAM	Identity and Access Management
AWS	Amazon Web Services
EC2	Elastic Compute Cloud
S3	Simple Storage Service
RDS	Remote Desktop Protocol
IIS	Internet Information Services

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Chapter 1

Introduction

1.1 Problem Statement

There is a EBS Finance team which maintain all intercompany transaction which occurs every day and also have to maintain status of all transactional which is going. Now for that recently they are getting alerts and logs of all transaction in mail and from that mail they are solving issues and maintaining that status in Excel sheet. As they have to do categorize that alerts manually and have to find all alerts of particular source manually and there are all process for maintaining status of alerts and logs is going manually now a day.it decreases performance and efficiency and also take more time to perform operation. So some automatic Function require to improve response time as well as it should provide some control to user so they can maintain the status of alerts.

1.2 Proposed Solution

According to requirements,I have developed dashboard kind of Web Application which overcome all the problems that EBS Finance team is facing now a day. This Web Application is Consolidate all alerts and logs from exchange server and for that periodically it checks for new alerts and if there is new alerts then it will store that alerts and logs details into Applications Database, But before that it also categorize all alerts into various categories and also identifying source information using rule file which is one CSV file in which I have developed some rule to categorize alerts into various categories in which they belongs. One big advantage of rule file is that after development if support team want to add more category then they can easily add by just adding it in rule file because

rules are not hard coded in web application. User can see graphical as well as statistical information of various source alerts of different categories. User can also maintain the current status and able to change it whenever required. I have also added bootstrap Functionality to make my web application design Responsive on mobile view and tablet view. After hosting user can also maintain and check for updates by using their mobile.

User can see status of all types of alerts graphically with the help of Google chart for various time period. User can also check the status of various alerts separately of particular time period and with the help of background color which denotes the status of particular alerts like danger, safe and need attention. Email module is developed which send mail to higher authority person regarding status of all categories at particular interval. So this Application will going to be great helpful for EBS Finance team members.

Chapter 2

Literature Survey

2.1 Current System

In Existing Work system, EBS finance team users are getting alerts and logs details through outlook mail. They are getting 50 to 60 Alerts and logs mail in one day. So EBS finance team Identify alerts which need to be resolved first and after that they take appropriate action for particular alerts but still they have to maintain status of the alerts in separated staging folder where other users will get to know about the recent status of particular issue. And some time it may happen that all user are busy with some issues but some important alert come and no one take any action because they are not aware of that. It may lead to inefficiency. This approach is also manually and need more humans effort and time consuming also.

2.2 Drawback of Current System

- More Response time
- Require More Humans effort
- Exporting Report of particular time period for Validation is complex
- Difficult to identify current Status of any alerts that we are getting through mail.
- Not User Friendly GUI
- chances of missing alert from taking appropriate action for it
- difficult to identify which alerts are still not progressed

- difficult to identify recent status of particular alert
- User are getting just alert information after that they are responsible for whole process which is very complex.

So there is need of such application which will automate some task and also provides user interface so they can monitor and update status of the alert with user friendly GUI.

Chapter 3

Objectives

3.1 Objectives

- Application Should Check for New alerts and if there will be new alerts and logs then it will get the information from exchange server periodically.
- There should be one rule file which includes rules for categorize various alerts into a particular category.
- Application represent the alert information on dashboard graphically as well as statistical.
- Application will displayed Graphs which represents different graphs for different time period which represent analysis of alert's status.
- Synchronization with exchange server should be done in background Process.
- There should be one module which pull the mail from Oracle database periodically.
- Oracle DB module will also run as background process.
- Users can change the status of alerts whenever required.
- Users can export the data of particular time into Excel sheet which will be downloaded to user.
- Users can also identify how many alerts are still open or not solved.

- Application design should be responsive to different view like mobile view and tablet view so user can also access it efficiently from other devices whenever they want.
- User friendly GUI and Automate some Function to Improve performance.
- button's background should change dynamically based on predefined criteria which represent status of particular alert.
- Application will trigger a mail to higher authority person regarding status of all alerts at particular time interval and it is automatic background process.

Chapter 4

Technology and API Used

In development this web application I have used various tools and technology. I have also used some API, Class file and Library which is required for my web Application that is mention below.

4.1 C, Asp.Net

I have developed Web Application using C Programming language which is object oriented and for that a web development platform is needed which is Asp.net. C also provides many built in user control like button, textbox, label, link button, Grid view and many more which helps user to make better interactive GUI according to their requirement.

4.2 EWS managed API

As I have to Work with Alerts which comes in the foam of mail so I need the permission to access exchange server from my web application so it can be synchronize with mails. So for accessing exchange server from web application I have used EWS managed API[1] which provides all the functionality which we need to access and use the exchange server remotely. We have to provide user credentials of our exchange server to connect with it and then we can use this API functions to our application according to our requirement so it can perform desired function.

4.3 SQL server Express

This is back end of my web application I have created SQL server database for my web application to store the information of alerts so user and web application can access it

whenever required. I have used SSMS for making tables and design for my web application database which is good tool to manage our back end database.

4.4 Google Chart

It is library which provides functionality to draw a various kind of charts in web pages using java scripts[2]. I have made some web method which will work as web services and will pass the statistical information to JavaScript Function which will draw a chart whenever page is load so every time it will represent updated values. So it represent latest statistical information in the foam of Pie chart and Columns charts and also we can draw various chart according our requirement. So Google chart library is one of the best option to includes graphs dynamically in any web application .

4.5 Bootstrap

I have made Responsive designing of this Web Application using Bootstrap[3] so on different devices it will responsive and user can easily access this web application from tablets as well as mobile phones. It is CSS file which includes various class and we have to just use that classes according to our need. JQuery is also for making design responsive alone with bootstrap. with the help of it we could made gridview responsive so gridview will automatically hides the columns based on width of device.

4.6 Visual Basic class file

This is System class file to works with IO. As I have made .CSV Rule file in which each field is separated by comma delimiter. Then application should be able to parse rule file correctly and for that we have used this so if any string contain comma it will ignore it if it will be in double quotation mark.

4.7 Quartz API

This is very important API which helped to run any function periodically in background. This web application checking for new alerts and logs and if it is there then it will be process to categorize and then it will be stored to database, This Whole operation repeated after particular time in background and for that Quartz API[4] provides Functions which helps to trigger that background process after particular time interval that we have to

provide. So with the help of this API we can periodically run any process in background in asp.net. we have used Quartz API also with email module which will trigger a mail and sent information to higher authority person periodically. Oracle DB module also used this for synchronization with oracle Database periodically.

Chapter 5

Design

5.1 Flowchart

Here is the flowchart of EWS finance monitoring Dashboard. So with the help of it we can understand how our dashboard works in particular flow and how it provides functionalities using document file and database

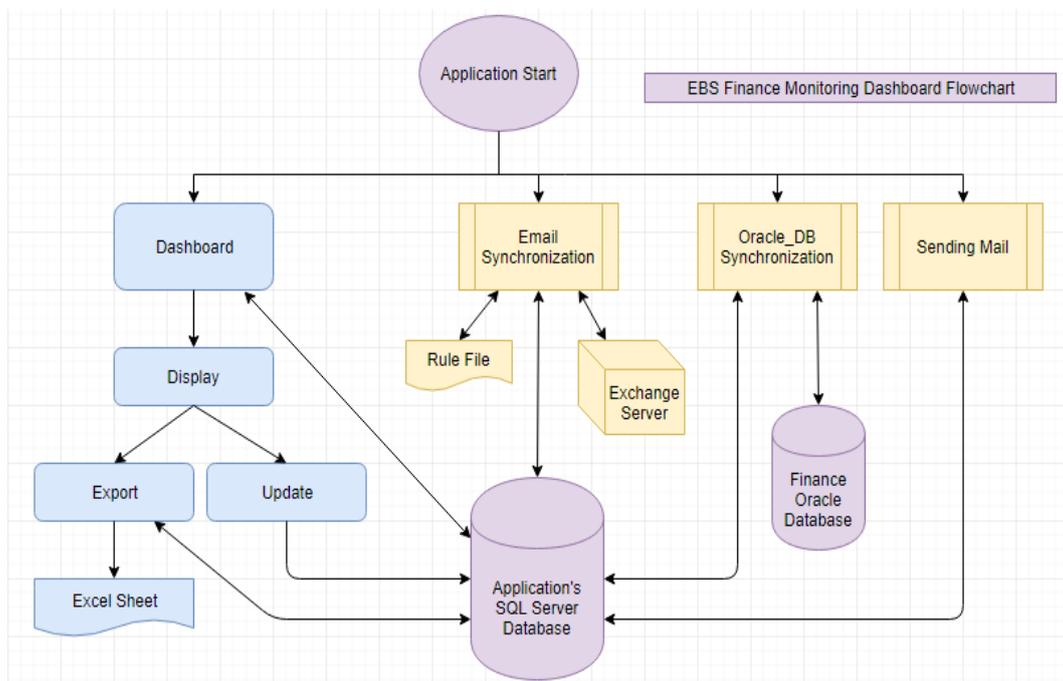


Figure 5.1: EBS Finance Monitoring Dashboard Flowchart

5.2 Working

- When Application Starts, It will Show dashboard on browser and at the same time Email synchronization will be started which is nothing but one background predefined function.
- Email synchronization pull the alert mail from the exchange server at every 10 minutes and while that they also categorize them into various category with the help of rule file.
- When It fetch new alert item from exchange it will check and compare some condition mention in rule file and then store that alert information into application database along with its source and category.
- OracleDB module pull the Oracle DB alerts from ORACLE database periodically same as Email Synchronization module and also saves the information of Oracle DB alerts into Application Database and Display that on Dashboard. So user can also manage the status of Oracle DB alerts Directly from Dashboard.
- Email module will send the status of all alerts categories to higher authority person at particular time Interval.
- We have discussed till now which is happening in background. Now we will come to UI.
- With the help of dashboard UI User Can see every information about all alerts graphically as well as statistically.
- When New alerts come it status will be stored as new in database after that EBS finance team user can change it to Approval Awaited(A/A), Work in Progress(W/P), Resolved and Closed based on action taken for particular alerts.
- User can also Export the all the information alerts including current status into Excel sheet for tracking and identifying recent circumstances of every sources.

Chapter 6

Implementation

This web application was hosted on AWS and various implementation features are shown below and also its designing is also responsive according to devices so we can easily access it from mobile and tablets. Before deploying to AWS I had deployed web application to iis and tested[5].

6.1 Hosted on AWS

In beginning,For the demonstration purpose I had published this web application on AWS cloud platfoam[6] but Now it is hosted in our intranet network because of privacy policy.

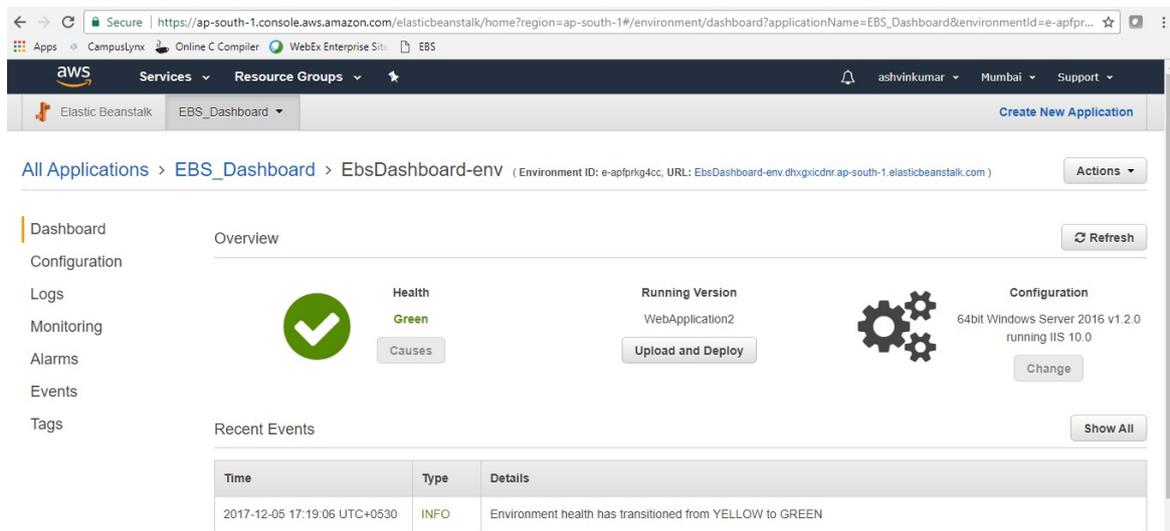


Figure 6.1: Web Application Hosted on AWS

6.2 Home Page or Statistical Page

6.2.1 Alert's Overview Representation on Dashboard

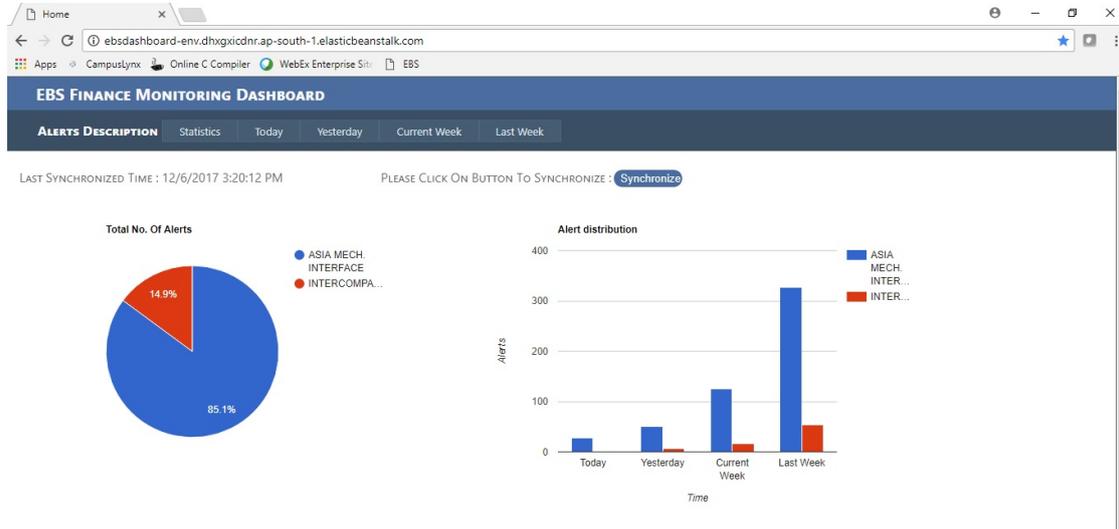


Figure 6.2: Home Page or Statistical Page

This Page shows two chart which is based on statistical count of alerts and it also shows last synchronized time and also provide one synchronize button if you want to synchronize in case of emergency.

Whenever Page is loaded it will generate graph based on latest information which it is getting through web method from database. With the help of this graph users can be updated with alerts whenever they want.They can identify easily if new alerts come.So with the help of this graph user can easily get the overview of alerts and logs.

6.2.2 Alert's Graphically Representation On Dashboard

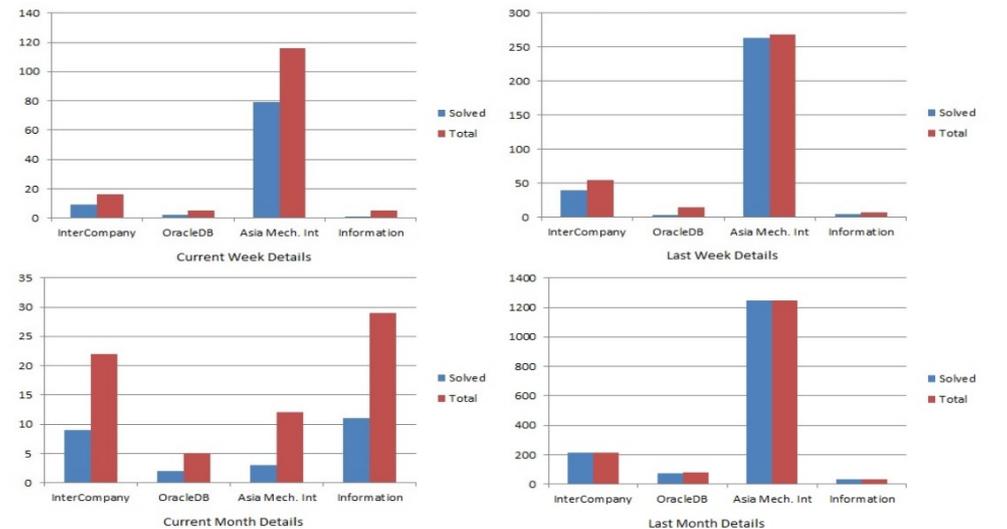


Figure 6.3: Graphically Representation of Alerts

Home page also shows more charts which represent the status of alerts for various time period. There are Four columns chart which displayed count of solved and total alerts for current week, last week, current month and last month. So with of help of this graphically representation user can determine which alerts need more attention for now because this charts will displayed updated information dynamically by getting information directly from the application database.

6.3 Criteria of Assigning Priority to Alert

This Table describes criteria for assigning priority to alerts when it will be synchronizing in background process and also that priority will be saved in application database.

Asia Mechanical Interface alerts and Intercompany alerts have same and higher priority because it must be resolved within two weeks. Oracle Alerts have lower priority because it takes one month to be resolved and remaining alerts are informational so it need not to be resolved because they are just giving meaningful information and acknowledgement regarding various scenario.

	RED		GREEN		ORANGE	
PERIOD	H1	H2	H1	H2	H1	H2
C.W.	IF R & C < 50%	IF N == 100%	IF R & C == 100%	IF R & C == 100%	IF R & C BW 49% TO 100%	ELSE
L.W	IF R & C < 90%	IF N == 100%	IF R & C == 100%	IF R & C == 100%	IF R & C BW 89% TO 100%	ELSE
C.M.	IF R & C < 80%	IF R & C < 50%	IF R & C == 100%	IF R & C == 100%	IF R & C BW 79% TO 100%	IF R & C BW 49% TO 100%
L.M.	ELSE	IF R & C < 90%	IF R & C == 100%	IF R & C == 100%	NONE	IF R & C BW 89% TO 100%

*NOTE : C.W. = Current Week, L.W.= Last Week, C.M.= Current Month, L.M.= Last Month, R= Resolved, C= Closed, N= New, BW= Between

H1 Priority for Asia Mech. Interface and Intercompany Alerts AND H2 Priority for ORACLE Alerts

As H3 Priority Is for information & Acknowledgement Alerts So RGO notification is not Required For them

Figure 6.4: Predefined Criteria for Priority

6.4 Today Page

This page provides functionality of display update and export for all the alerts of today. This page Display various button of various source of alerts which name is based on status of particular alerts and also when you click on particular source of alert then it will show grid which will display alert mail subject, date time, source, category, status of alerts where User can update the current status of alerts and can save or cancel that changes. Subject in the grid view is hyperlink so when users click on it, it will redirect them to detail page where They can get all the details of the particular alert on which they click. There is also cancel button so if user dont want save changes then it can be cancelled using cancel button. Message will be displayed either changes will be saved or not. There also one button for exporting data into excel sheet and it will be downloaded so users have all update with in excel sheet.

The screenshot shows the 'EBS FINANCE MONITORING DASHBOARD' with the 'Today' tab selected. It features a grid of buttons for different alert sources, each with a count. Below the grid are 'SAVE', 'CANCEL', and 'EXPORT' buttons. At the bottom, a table displays alert details:

Subject	Time	Source	Alert	Status
FW: AVOTUS - FOCUS AP INTERFACE Reconciliation Report for 06-Mar-2018	3/6/2018 10:22:49 AM	AVOTUS	ASIA MECH. INTERFACE	New

Figure 6.5: Today Page

6.5 Yesterday Page

This page provides functionality of display update and export for all the alerts of yesterday.

This page Display various button of various source of alerts which name is based on status of particular alerts and also when you click on particular source of alert then it will show grid which will display alert mail subject, date time, source, category, status of alerts where User can update the current status of alerts and can save or cancel that changes. Subject in the grid view is hyperlink so when users click on it, it will redirect them to detail page where They can get all the details of the particular alert on which they click. There is also cancel button so if user dont want save changes then it can be cancelled using cancel button. Message will be displayed either changes will be saved or not. There also one button for exporting data into excel sheet and it will be downloaded so users have all update with in excel sheet.

The screenshot displays the 'EBS FINANCE MONITORING DASHBOARD' with the 'Yesterday' tab selected. It features a grid of alert sources and their counts, a table of alert details, and control buttons for Save, Cancel, and Export.

Subject	Time	Source	Alert	Status
FW: GISAR_HOLD - FOCUS AP INTERFACE Reconciliation Report for 04-Mar-2018	3/4/2018 4:45:32 PM	GISAR_HOLD	ASIA MECH. INTERFACE	New
FW: GISAR_HOLD - FOCUS AP INTERFACE Reconciliation Report for 04-Mar-2018	3/4/2018 3:39:22 PM	GISAR_HOLD	ASIA MECH. INTERFACE	New
FW: GISAR_HOLD - FOCUS AP INTERFACE Reconciliation Report for 04-Mar-2018	3/4/2018 3:32:22 PM	GISAR_HOLD	ASIA MECH. INTERFACE	New

Figure 6.6: Yesterday Page

6.6 Current Week Page

This page provides functionality of display update and export for all the alerts of Current Week in which starting day of week is Monday. Unlike Today and Yesterday Pages This Page have background color on every alert specified button and it will be changed according to it's recent status.

This page Display various button of various source of alerts which name is based on status of particular alerts and also when you click on particular source of alert then it will show grid which will display alert mail subject, date time, source, category, status of alerts where User can update the current status of alerts and can save or cancel that changes. Subject in the grid view is hyperlink so when users click on it, it will redirect them to detail page where They can get all the details of the particular alert on which they click. There is also cancel button so if user dont want save changes then it can be cancelled using cancel button. Message will be displayed either changes will be saved or not. There also one button for exporting data into excel sheet and it will be downloaded so users have all update with in excel sheet.

User can also determine the status of particular category based on it's background color and it will be changed dynamically whenever any changes happen to any type of alerts. Red Color specified that particular category going in danger. Orange Color specified that it needs attention and Green color specified that it is in safe state.

6.6.1 Alert's status is in Danger state

The screenshot shows the 'EBS FINANCE MONITORING DASHBOARD' with a navigation bar and a filter menu. The filter menu includes 'ALERTS DESCRIPTION', 'Statistics', 'Today', 'Yesterday', 'Current Week', 'Last Week', 'Current Month', and 'Last Month'. The 'Current Week' filter is selected.

Below the filter menu, there is a grid of alert buttons. The buttons are color-coded: yellow for 'Warning' and red for 'Danger'. The 'CHSAPI' alerts are in the Danger state (red background).

Alert Button Text => "SOURCE-NAME" : "RESOLVED & CLOSED COUNT" / "TOTAL COUNT"

Buttons: SAVE, CANCEL, EXPORT

Subject	Time	Source	Alert	Status
FW: CHSAPI - FOCUS AP INTERFACE Reconciliation Report for 06-Mar-2018	3/6/2018 5:32:49 PM	CHSAPI	ASIA MECH. INTERFACE	New ▾
FW: CHSAPI - FOCUS AP INTERFACE Reconciliation Report for 05-Mar-2018	3/5/2018 1:22:49 PM	CHSAPI	ASIA MECH. INTERFACE	New ▾

Figure 6.7: Current Week's CHSAPI alerts In Danger state

As we can see in above snapshot of current week, CHSAPI alerts are in Danger state because it falls in predefined danger state criteria for current page. So background color of CHSAPI alerts is Red now which is set dynamically.

6.6.2 Alert's status is in Safe state

The screenshot shows the 'EBS FINANCE MONITORING DASHBOARD' with a navigation bar for 'Alerts Description' and time filters (Today, Yesterday, Current Week, Last Week, Current Month, Last Month). The 'Current Week' filter is active. Below the navigation bar, there are 16 alert indicators in a grid, each with a colored background and text like 'GIS_PRODUCT:9/16'. The 'Current Week' indicator for 'CHSAPI' is green, indicating a 'Safe' state. To the right, there are buttons for 'SAVE', 'CANCEL', and 'EXPORT', along with a text field for 'ALERT BUTTON TEXT'. Below this is a table of resolved alerts.

Subject	Time	Source	Alert	Status
FW: CHSAPI - FOCUS AP INTERFACE Reconciliation Report for 06-Mar-2018	3/6/2018 5:32:49 PM	CHSAPI	ASIA MECH. INTERFACE	Resolved
FW: CHSAPI - FOCUS AP INTERFACE Reconciliation Report for 05-Mar-2018	3/5/2018 1:22:49 PM	CHSAPI	ASIA MECH. INTERFACE	Resolved

Figure 6.8: Current Week's CHSAPI alerts In Safe state

When User found CHSAPI alerts in danger state then they gave them higher priority to solve it on urgent basis. Once user had solved that alerts and make it solved or closed then again application will check the criteria to determine the state of each and every alerts to set it's background color.

As we can see user had solved CHSAPI alerts and now it satisfied criteria of safe state for current week page so it's background color is set to green.

6.7 Last Week Page

This page provides functionality of display update and export for all category's alerts of Last week. Unlike Today and Yesterday Pages This Page have background color on every alert specified button and it will be changed according to it's recent status.

This page Display various button of various source of alerts which name is based on status of particular alerts and also when you click on particular source of alert then it will show grid which will display alert mail subject, date time, source, category, status of alerts where User can update the current status of alerts and can save or cancel that changes. Subject in the grid view is hyperlink so when users click on it, it will redirect them to detail page where They can get all the details of the particular alert on which they click. There is also cancel button so if user dont want save changes then it can be cancelled using cancel button. Message will be displayed either changes will be saved or not. There also one button for exporting data into excel sheet and it will be downloaded so users have all update with in excel sheet.

User can also determine the status of particular category based on it's background color and it will be changed dynamically whenever any changes happen to any type of alerts. Red Color specified that particular category going in danger. Orange Color specified that it needs attention and Green color specified that it is in safe state.

The screenshot shows a web browser window displaying the 'EBS FINANCE MONITORING DASHBOARD'. The dashboard has a navigation bar with tabs for 'ALERTS DESCRIPTION', 'Statistics', 'Today', 'Yesterday', 'Current Week', 'Last Week', 'Current Month', and 'Last Month'. Below the navigation bar, there is a grid of alert buttons, each representing a different source and its status. The buttons are color-coded: red for danger, orange for attention, and green for safe state. To the right of the buttons, there is a text label 'ALERT BUTTON TEXT => "SOURCE-NAME" : "RESOLVED & CLOSED COUNT" / "TOTAL COUNT"' and three buttons: 'SAVE', 'CANCEL', and 'EXPORT'. Below the buttons, there is a table with columns: 'Subject', 'Time', 'Source', 'Alert', and 'Status'. The table contains two rows of alert data.

Subject	Time	Source	Alert	Status
FW: KVMS - FOCUS AP INTERFACE Reconciliation Report for 01-Mar-2018	3/1/2018 9:22:49 AM	KVMS	ASIA MECH. INTERFACE	Resolved
FW: KVMS - FOCUS AP INTERFACE Reconciliation Report for 26-Feb-2018	2/26/2018 7:22:49 PM	KVMS	ASIA MECH. INTERFACE	Resolved

Figure 6.9: Last-Week Page

6.8 Current Month Page

This page provides functionality of display update and export for all category's alerts of Current Month. Unlike Today and Yesterday Pages This Page have background color on every alert specified button and it will be changed according to it's recent status.

This page Display various button of various source of alerts which name is based on status of particular alerts and also when you click on particular source of alert then it will show grid which will display alert mail subject, date time, source, category, status of alerts where User can update the current status of alerts and can save or cancel that changes. Subject in the grid view is hyperlink so when users click on it, it will redirect them to detail page where They can get all the details of the particular alert on which they click. There is also cancel button so if user dont want save changes then it can be cancelled using cancel button. Message will be displayed either changes will be saved or not. There also one button for exporting data into excel sheet and it will be downloaded so users have all update with in excel sheet.

User can also determine the status of particular category based on it's background color and it will be changed dynamically whenever any changes happen to any type of alerts. Red Color specified that particular category going in danger. Orange Color specified that it needs attention and Green color specified that it is in safe state.

The screenshot shows the 'EBS FINANCE MONITORING DASHBOARD' with a navigation bar for 'ALERTS DESCRIPTION' and tabs for 'Statistics', 'Today', 'Yesterday', 'Current Week', 'Last Week', 'Current Month', and 'Last Month'. Below the navigation bar, there are 16 colored buttons representing different alert categories and their counts, such as 'GIS_PRODUCT:9/22' (red), 'AVOTUS:6/7' (orange), 'CHSASIAPAC:23/38' (red), 'IPS:22/27' (orange), 'JCI_ASIA:1/1' (green), 'TWBCSTRPT:0/5' (red), 'JCI_AMER:1/1' (green), 'GISAR_HOLD:8/9' (orange), 'GISAR:10/12' (orange), 'CHSAPI_EMEA:0/3' (red), 'CHSAPI_HOLD:5/5' (green), 'CHSAPI:2/2' (green), 'KVMS:2/2' (green), 'KVMS_HOLD:1/2' (red), 'ORACLE:3/12' (red), 'INFO_ORC:3/7' (blue), 'INFO_ASIA:3/9' (blue), and 'INFO_INTCM:5/13' (blue). To the right of these buttons are three buttons labeled 'SAVE', 'CANCEL', and 'EXPORT'. Below the buttons is a table with the following data:

Subject	Time	Source	Alert	Status
FW: CHSAPI - FOCUS AP INTERFACE Reconciliation Report for 06-Mar-2018	3/6/2018 5:32:49 PM	CHSAPI	ASIA MECH. INTERFACE	Resolved
FW: CHSAPI - FOCUS AP INTERFACE Reconciliation Report for 05-Mar-2018	3/5/2018 1:22:49 PM	CHSAPI	ASIA MECH. INTERFACE	Resolved

Figure 6.10: Current Month Page

6.9 Last Month Page

This page provides functionality of display, update and export for all category's alerts of Last Month. Unlike Today and Yesterday Pages This Page have background color on every alert specified button and it will be changed according to it's recent status.

This page Display various button of various source of alerts which name is based on status of particular alerts and also when you click on particular source of alert then it will show grid which will display alert mail subject, date time, source, category, status of alerts where User can update the current status of alerts and can save or cancel that changes. Subject in the grid view is hyperlink so when users click on it, it will redirect them to detail page where They can get all the details of the particular alert on which they click. There is also cancel button so if user dont want save changes then it can be cancelled using cancel button. Message will be displayed either changes will be saved or not. There also one button for exporting data into excel sheet and it will be downloaded so users have all update with in excel sheet.

User can also determine the status of particular category based on it's background color and it will be changed dynamically whenever any changes happen to any type of alerts. Red Color specified that particular category going in danger. Orange Color specified that it needs attention and Green color specified that it is in safe state.

The screenshot shows the 'EBS FINANCE MONITORING DASHBOARD' with a navigation bar for 'ALERTS DESCRIPTION' and tabs for 'Statistics', 'Today', 'Yesterday', 'Current Week', 'Last Week', 'Current Month', and 'Last Month'. Below the navigation bar, there are several alert category buttons with their respective counts, such as 'GIS_PRODUCT:215/215' (green), 'AVOTUS:60/60' (green), 'CHSASIAPAC:300/300' (green), 'IPS:210/210' (green), 'JCI_AMER:3/3' (green), 'GISAR_HOLD:92/92' (green), 'CHSAPI_HOLD:58/58' (green), 'ORACLE:74/79' (orange), 'INFO_ORC:4/9' (blue), 'INFO_ASIA:11/11' (blue), and 'INFO_INTCM:15/15' (blue). To the right, there are 'SAVE', 'CANCEL', and 'EXPORT' buttons. Below the buttons, there is a table with the following data:

Subject	Time	Source	Alert	Status
FW: KVMS_HOLD - FOCUS AP INTERFACE Reconciliation Report for 24-Feb-2018	2/24/2018 6:42:49 AM	KVMS_HOLD	ASIA MECH. INTERFACE	Resolved
FW: KVMS_HOLD - FOCUS AP INTERFACE Reconciliation Report for 21-Feb-2018	2/21/2018 9:22:49 PM	KVMS_HOLD	ASIA MECH. INTERFACE	Resolved
FW: KVMS_HOLD - FOCUS AP INTERFACE Reconciliation Report for 14-Feb-2018	2/14/2018 9:22:49 PM	KVMS_HOLD	ASIA MECH. INTERFACE	Resolved
FW: KVMS_HOLD - FOCUS AP INTERFACE Reconciliation Report for 06-Feb-2018	2/6/2018 11:22:49 AM	KVMS_HOLD	ASIA MECH. INTERFACE	Resolved

Figure 6.11: Last Month Page

6.10 Exporting To Excel Function

Users can Export the data of particular time into excel sheet. There is a Export button on every page and when user will click on it selected alerts information which is displayed in grid view will be export to Excel file.

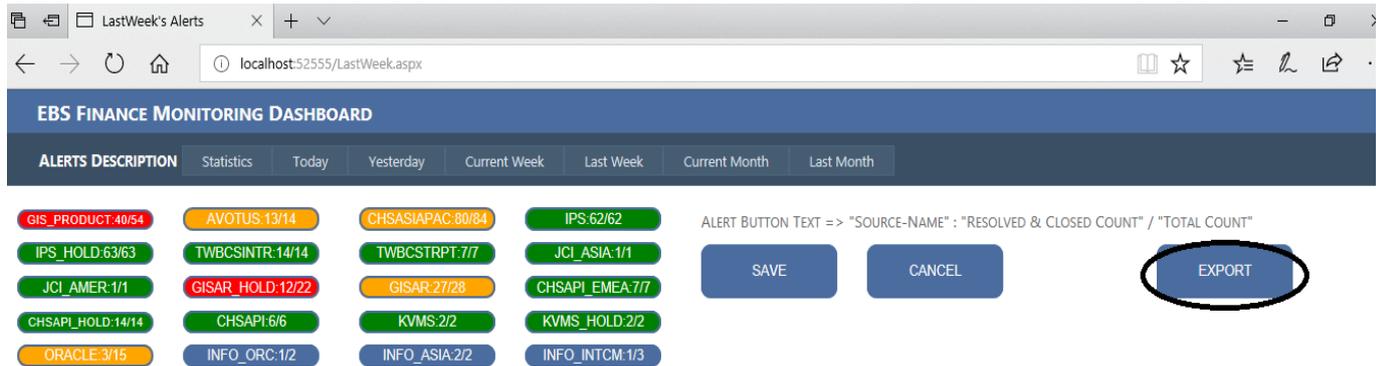


Figure 6.12: Export to Excel on Button click

	A	B	C	D	E	F
	Subject	Time	Source	Alert	Status	
1	FW: TWBCSINTR - FOCUS AP INTERFACE Reconciliation Report for 03-Dec-2017	12-03-17 22:41	TWBCSINTR	ASIA MECH. INTERFACE	New	
2	FW: GISAR_HOLD - FOCUS AP INTERFACE Reconciliation Report for 03-Dec-2017	12-03-17 22:35	GISAR_HOLD	ASIA MECH. INTERFACE	New	
3	FW: GISAR - FOCUS AP INTERFACE Reconciliation Report for 03-Dec-2017	12-03-17 22:30	GISAR	ASIA MECH. INTERFACE	New	
4	FW: GIS-PRODUCT-CHS_GLOBAL_11: Transaction Interface Process Report. Req-Id:7899004. Contact FSS-IT support for further info.	12-03-17 19:41	GIS-PRODUCT-CHS	INTERCOMPANY	Resolved	
5	FW: GIS-PRODUCT-CHS_GLOBAL_11: AutoInvoice Execution Report. Req-Id:7899020. Contact FSS-IT support for further info.	12-03-17 19:41	GIS-PRODUCT-CHS	INTERCOMPANY	Resolved	
6	FW: GISAR_HOLD - FOCUS AP					

READY

Figure 6.13: Excel sheet Generated by Dashboard

6.11 Save and Cancel changes Features

Users can Save or Cancel changes which they have made using this buttons.

ALERT BUTTON TEXT => "SOURCE-NAME" : "RESOLVED & CLOSED COUNT" / "TOTAL COUNT"

SAVE CANCEL EXPORT

NOTE: CHANGES SAVED SUCCESSFULLY...

Time	Source	Alert	Status
12/3/2017 6:31:34 PM	IPS	ASIA MECH. INTERFACE	W/P
12/3/2017 4:33:16 PM	IPS	ASIA MECH. INTERFACE	W/P
12/3/2017 7:06:02 AM	IPS	ASIA MECH. INTERFACE	W/P
12/3/2017 7:01:26 AM	IPS	ASIA MECH. INTERFACE	W/P
12/3/2017 6:55:48 AM	IPS	ASIA MECH. INTERFACE	W/P

Figure 6.14: Save Changes

ALERT BUTTON TEXT => "SOURCE-NAME" : "RESOLVED & CLOSED COUNT" / "TOTAL COUNT"

SAVE CANCEL EXPORT

NOTE: CANCELLED CHANGES...

Time	Source	Alert	Status
12/3/2017 5:32:40 PM	CHSASIAPAC	ASIA MECH. INTERFACE	New
12/3/2017 5:32:09 PM	CHSASIAPAC	ASIA MECH. INTERFACE	New
12/3/2017 7:07:33 AM	CHSASIAPAC	ASIA MECH. INTERFACE	New
12/3/2017 7:07:13 AM	CHSASIAPAC	ASIA MECH. INTERFACE	New
12/3/2017 6:57:27 AM	CHSASIAPAC	ASIA MECH. INTERFACE	New

Figure 6.15: Cancel Changes

6.12 Changes will not lost

once user have made changes than it will not lost till it will be cancelled or saved.so after making changes user must have to save that changes or Cancel it.

If user make some changes and try to do anything except save and cancel then it will show an alert message which will inform user to save changes or cancel changes.

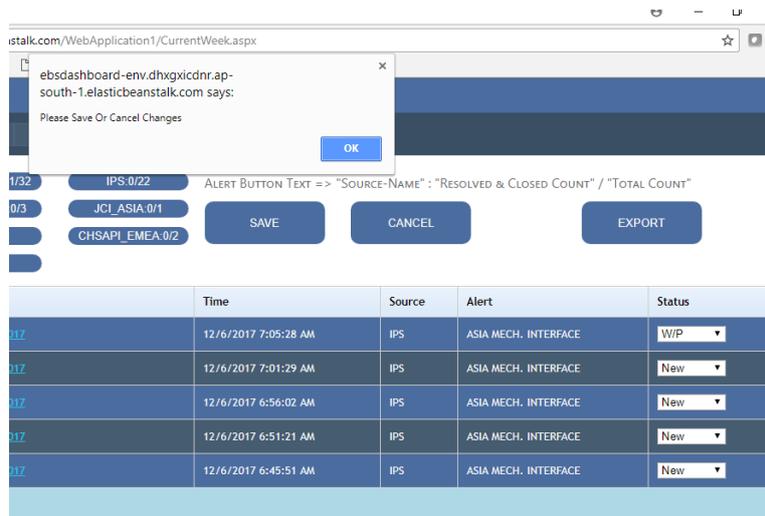


Figure 6.16: Changes Notification

6.13 Alert Detailed page

This page display all information like subject, time, sender, body and attachment if it is there for a particular alert.

SENDER : Duddukunta, Venkat

SUBJECT : FW: AVOTUS - FOCUS AP INTERFACE Reconciliation Report for 05-Dec-2017

TIME : 12/6/2017 7:25:45 AM

BODY :

```

From:
Sent: Tuesday, December 5, 2017 8:55:45 PM (UTC-05:00) Eastern Time (US & Canada)
To:
Subject: AVOTUS - FOCUS AP INTERFACE Reconciliation Report for 05-Dec-2017

*****
* ARRIS GFSS MECHANICAL AP FILE LOAD *
*****

ACCOUNTS PAYABLE FEED FILE LOAD SUMMARY REPORT
-----

Page: 1

FILE NAME          FILE!COUNT TRAILER!COUNT INSERTED!COUNT REJECTED!COUNT LOAD MESSAGE          LOAD STATUS LOAD
DATE
-----
PREDATA-AVOTUS-DEC_2017_05          00          00          00          00 Previous invoice data for this source.          SUCCESS          DEC-
05-2017

```

Figure 6.17: Detail Page For Particular Alert-1

ATTACHMENT : I7899004.req.doc

```

+-----+
Mot AR Custom: Version : UNKNOWN
Copyright (c) 1979, 1999, Oracle Corporation. All rights reserved.
PGISIIILD module: Product : Invoice Interface Process.
+-----+
Current system time is 03-DEC-2017 09:07:15
+-----+
Transaction with Error Entity Code is listed as following:
-----
Transaction with Error Entity Code is listed as following:
-----
***Unjoined transaction***
Total Unjoined transaction line : 0 records
-----
Product Transactions for
-----
Reject transactions from interface table due to invalid lines in the transaction. Total : 0
-----

```

Figure 6.18: Detail Page For Particular Alert-2

6.14 Mobile View of Web Application

This is Responsive view of web application which will be reflected when user open this web application from mobile and tablets.[?]

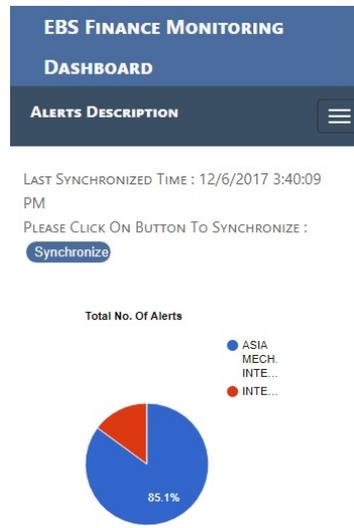


Figure 6.19: Mobile View-1

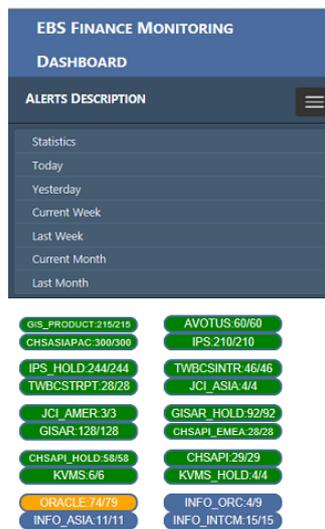


Figure 6.20: Mobile View-2

On mobile view grid will display only two column but users can expand it using plus icon if they want to all column in grid. Alert details page have many text-box for displaying body and attachment and other details so on mobile view all the text-box are responsive, their width will be adjust automatically based on device width.

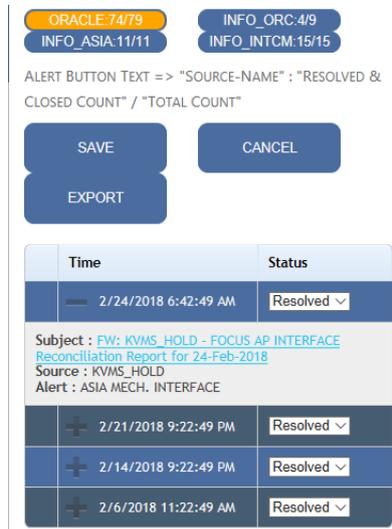


Figure 6.21: Mobile View-3



Figure 6.22: Mobile View-4

6.15 Email Module's Functions

Email module will send the mail to Higher Authority person who is managing whole support team regarding status of last week alerts and last month alerts. Last week alert's mail will be send on Monday and last month alert's mail will be send on first day of month. This is background process so no user interface is required for this function.

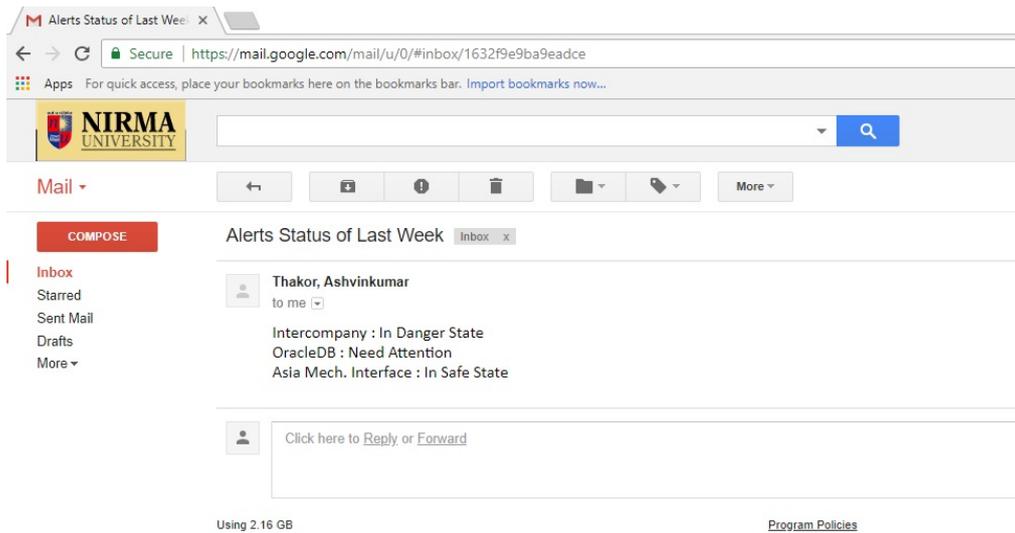


Figure 6.23: Mail for Last Week Alert's Status

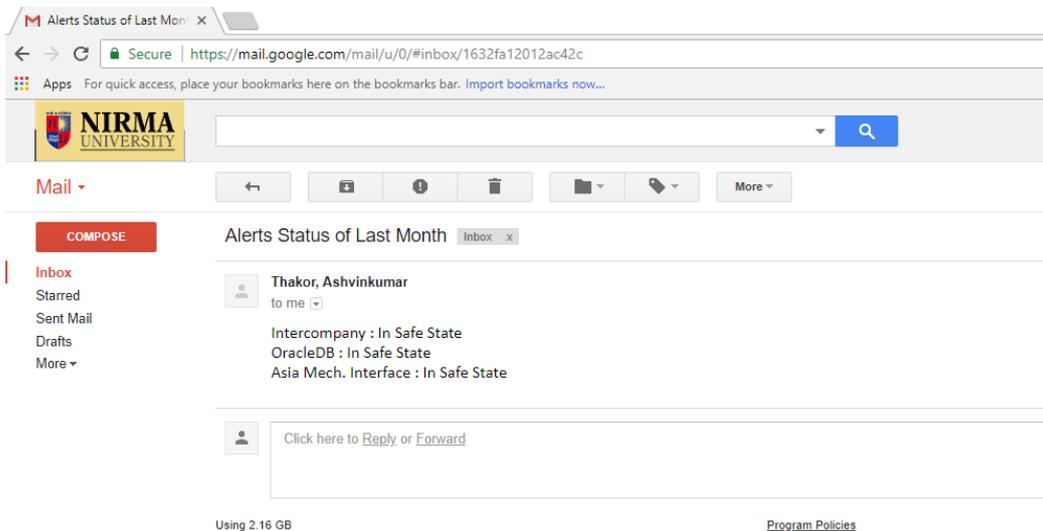


Figure 6.24: Mail for Last Month Alert's Status

Chapter 7

Other Work

7.1 POC(Proof of Concept) on AWS

7.1.1 Objectives

Make a POC for how to publish a Web Application on Amazon web services with Existing database

7.1.2 Introduction

AWS provides cloud computing services where user can do according to their need in cloud. AWS Provides Free tier Account in which there are various kind of cloud computing services available for the purpose of learning and making POC. So I have created free tier account and published a web application with database on AWS services and for that three services are very important[1].

- **Elastic beanstalk:** which is used to deploy any web application of different type like C, Java and many more[6]
- **S3:** Which is used to Store .bak file of database which is used for restoring existing database and it also store deployment package of different version of Application.[7]
- **EC2:** which is used to make environment on which we can run our applications[8]
- **RDS:** Which is used to make our own database or reuse existing by restoring it.[9]

7.1.3 Steps for Implementation

1. Make Elastic beanstalk environment according to your application requirement.[6]
2. Add RDS instance to that environment and also configure it and please note username and password for future use of this database instance[9]
3. Create IAM (Identity and Access Management) User and note the username.[10]
4. Add Inbound and outbound rule for TCP and make source anywhere.
Now, you are able to connect with your database instance with SSMS.
5. Connect your cloud database instance with SSMS on your machine using username and password that you have noted at the time of creation and Restore the backup of existing database to RDS instance.[11]
6. Make sure appropriate trust policy is assigned to user or not which is created at the time of option group modification.[12]
7. Now Build deployment package in visual studio for you web application and publish it on elastic beanstalk[13]
Now you have to make connection of your web application with database in RDS and for that you have to change connection string in web configuration file which is on virtual machine which you have created.
8. First Create the key pair in EC2 and save .pem file which will generated when you created your key pair.[14]
9. Attach that key pair to EC2 Instance
10. Add RDP in inbound and outbound rule of security group which you have assigned to your EC2 instance.

11. Now Connect to your EC2 instance[8]

- First click on connect to EC2 instance
- Click on get password and upload your .pem file
- Now decrypt password and copy it
- Now download RDP file
- Open RDP file and enter the password that you have decrypted
- Now you are connected.

12. Change your connection string in web configuration file

13. Now open Elastic beanstalk environment for your application and go to the URL.

14. Your application is successfully deployed on AWS with existing database now

7.2 Software Asset Tracker

7.2.1 Introduction

This is a Web Application made in Asp.net C which is hosted on our Server so every employee who have windows authentication can access this web application.

With the help of this application we can track the details of all software Asset easily. It makes management of software asset very efficient for Network team.They can Insert, update, delete and can get every details of particular software asset which includes Sub-Component, Category, Description, Version Details, Tags, Software location, Software Platform, Operating System Details, Current Status, Documentation Path, Restrictions, Limitations, Dependencies, Contact Person, Created Time, Created By and Also Last modification Time.

Now it is available on intranet network so only arris people who have authentication can access it from intranet. after that it will hosted on Global server of organization so this web application will be available to each every branch of Arris and it will make management of software asset globally so authenticated person will be able to see each and every details of software asset which are spread over the various different branches of organization all over world.

7.2.2 Objectives

- Authenticated is Required to access Application, It is Windows based Authentication so user have to enter their system credential. no one from other system can use that credential and can access it. So it improves security.
- Once user is Authenticated then user can have various functionality and using that they can make entry of software assets related information in Web Application and it will be stored in Application database.
- Only Authenticated User who has made entry can do modification for that entry. Only that User can edit and delete details of particular software asset. Others can only see the details of assets.
- Pop-up Modal will be displayed for Insert, Update, Details and Delete. So with the help of that pop-up modals users can make edit entry of software asset.
- Delete pop-up will display warning message for conformation of delete. once user conform the delete then it will be deleted from database.
- Sorting Functionality is there so user can sort the information based on their requirement. It is available on every columns with the help of DataTable plug-in. User can sort the information in ascending as well as descending order.
- Multiple filters search is also available to search details of particular software assets. User can search for record with more than one words for accuracy of search results.
- Bootstrap is used to make better User Interface of Web Application.

7.2.3 Tools and Technology Used

- **Asp.Net C Sharp**

I have developed Web Application using C Programming language which is object oriented and for that a web development platform is needed which is Asp.net. C also provides many built in user control like button, textbox, label, link button, Grid view and many more which helps user to make better interactive GUI according to their requirement.

- **Bootstrap**

I have made Responsive designing of this Web Application using Bootstrap[3] so on different devices it will responsive and user can easily access this web application from tablets as well as mobile phones. It is CSS file which includes various class and we have to just use that classes according to our need. JQuery is also for making design responsive alone with bootstrap. with the help of it we could made gridview responsive so gridview will automatically hides the columns based on width of device.

- **Data-Table Plug-in[15]**

I have used this plug-in for to display content of asset DB on home page. It makes paging, searching and sorting easier.

- **SQL Server Express**

This is back end of my web application I have created SQL server database for my web application to store the information of alerts so user and web application can access it whenever required. I have used SSMS for making tables and design for my web application database which is good tool to manage our back end database.

- **Ajax Toolkit[16]**

It is used for making pop-up modals for Insert, Update and Delete. With the help this it became easier.

7.2.4 Implementation

7.2.4.1 Hosted On Server

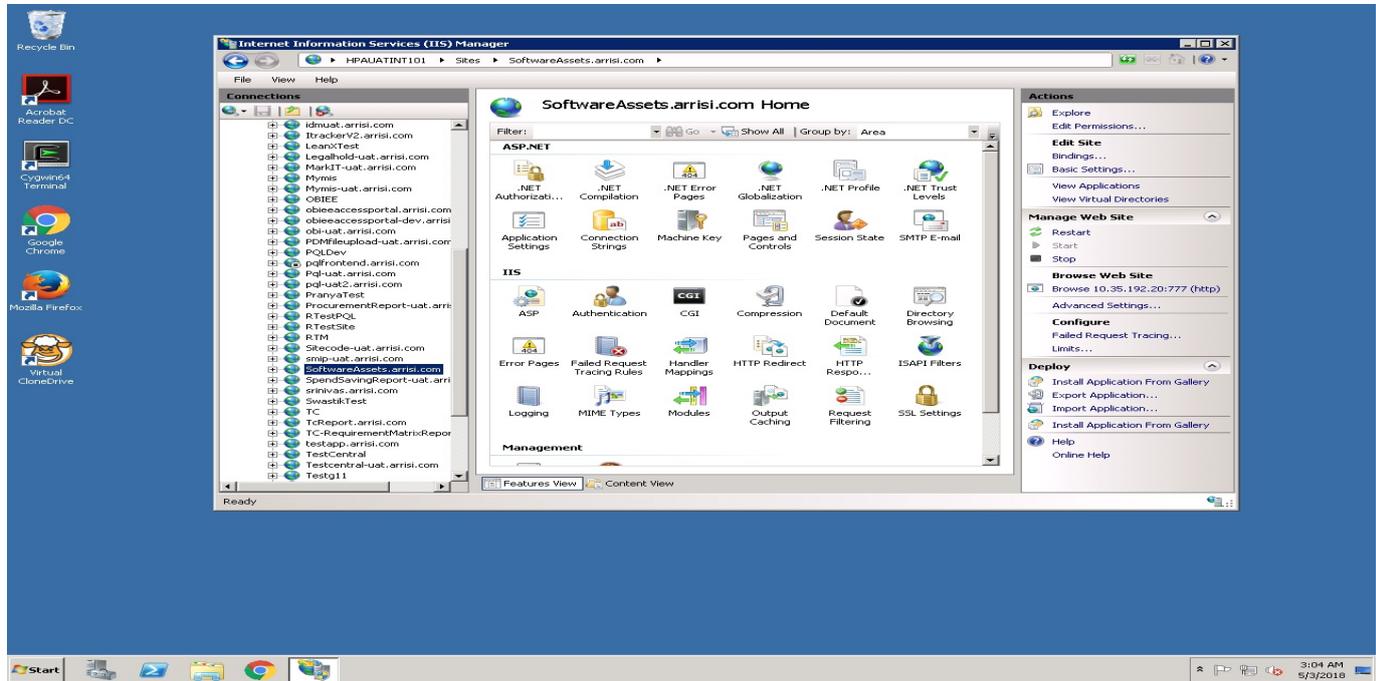
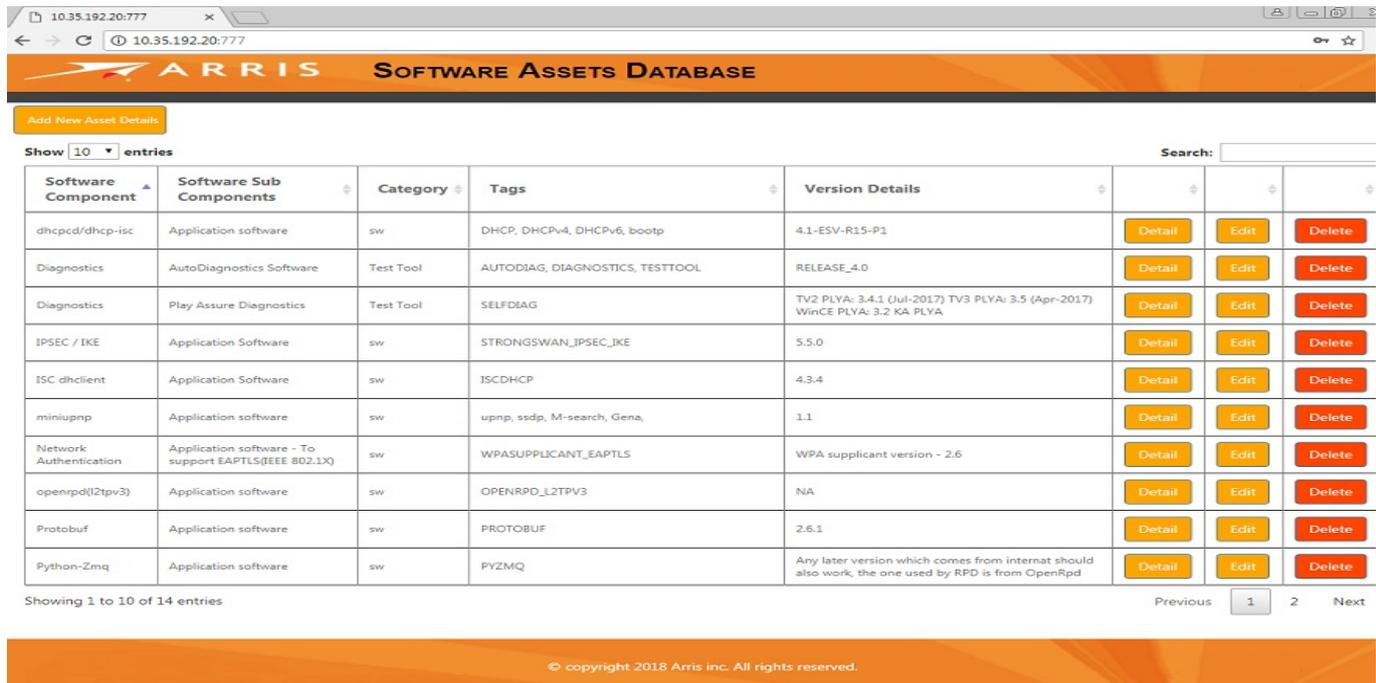


Figure 7.1: Hosted On Server

Recently This Web Application is hosted on our organization’s Intranet for feedback and User testing purpose.

After That we will be hosted on global server so authenticated person in each and every branch can access it and organization can manage all software assets globally.

7.2.4.2 Home Page



10.35.192.20:777 x

10.35.192.20:777

ARRIS SOFTWARE ASSETS DATABASE

Add New Asset Details

Show 10 entries Search:

Software Component	Software Sub Components	Category	Tags	Version Details			
dhcpcd/dhcp-isc	Application software	sw	DHCP, DHCPv4, DHCPv6, bootp	4.1-ESV-R15-P1	Detail	Edit	Delete
Diagnostics	AutoDiagnostics Software	Test Tool	AUTODIAG, DIAGNOSTICS, TESTTOOL	RELEASE_4.0	Detail	Edit	Delete
Diagnostics	Play Assure Diagnostics	Test Tool	SELFDIAG	TV2 PLYA: 3.4.1 (Jul-2017) TV3 PLYA: 3.5 (Apr-2017) WinCE PLYA: 3.2 KA PLYA	Detail	Edit	Delete
IPSEC / IKE	Application Software	sw	STRONGSWAN_IPSEC_IKE	5.5.0	Detail	Edit	Delete
ISC dhclient	Application Software	sw	ISCDHCP	4.3.4	Detail	Edit	Delete
miniupnp	Application software	sw	upnp, ssdp, M-search, Gena,	1.1	Detail	Edit	Delete
Network Authentication	Application software - To support EAPTLS(IEEE 802.1X)	sw	WPASUPPLICANT_EAPTLS	WPA supplicant version - 2.6	Detail	Edit	Delete
openrpdl2tpv3	Application software	sw	OPENRPD_L2TPV3	NA	Detail	Edit	Delete
Protobuf	Application software	sw	PROTOBUF	2.6.1	Detail	Edit	Delete
Python-Zmq	Application software	sw	PYZMQ	Any later version which comes from internet should also work, the one used by RPD is from OpenRpd	Detail	Edit	Delete

Showing 1 to 10 of 14 entries Previous 1 2 Next

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Figure 7.2: Home Page

This is the Home page of Software Asset Tracker Web Application which is hosted on Organization's Intranet. After successful Authentication user will be redirected to page. Authenticated User can see a Grid View of Asset Information and can make Insert new asset's information and also Update to previously made entries of software Asset.

This Page have all the functionality which is have the functionality for tracking and managing the Software Asset. Information Table have Buttons for pop-up modal of Add New Software Asset, Update, Detail and Delete. When user Click on particular button it will pop-up a particular modal for desired function.

7.2.4.3 Insert Modal Pop-up

When User click on Add New Software Asset Button located in upper left corner, Will display Pop-up modal In which User can Insert Details and Save it to Database.

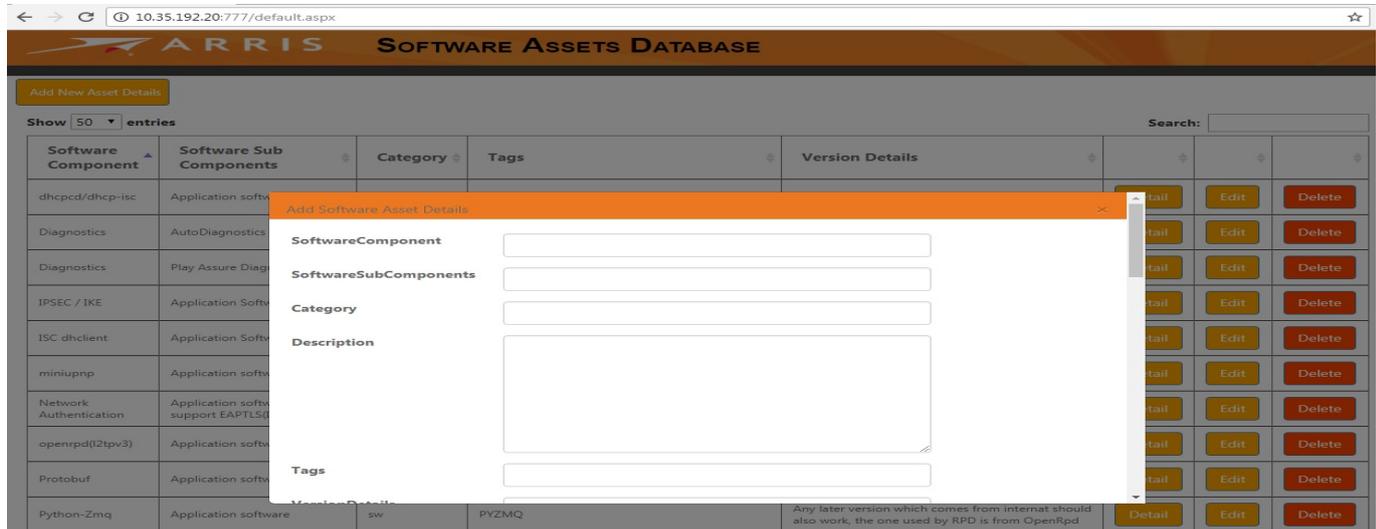


Figure 7.3: Insert Modal Pop-up

7.2.4.4 Edit Modal Pop-up

When User click on Edit button of particular row, Modal Will be Pop up for modification of that particular row and User can edit Existing Information and Update it into Database.

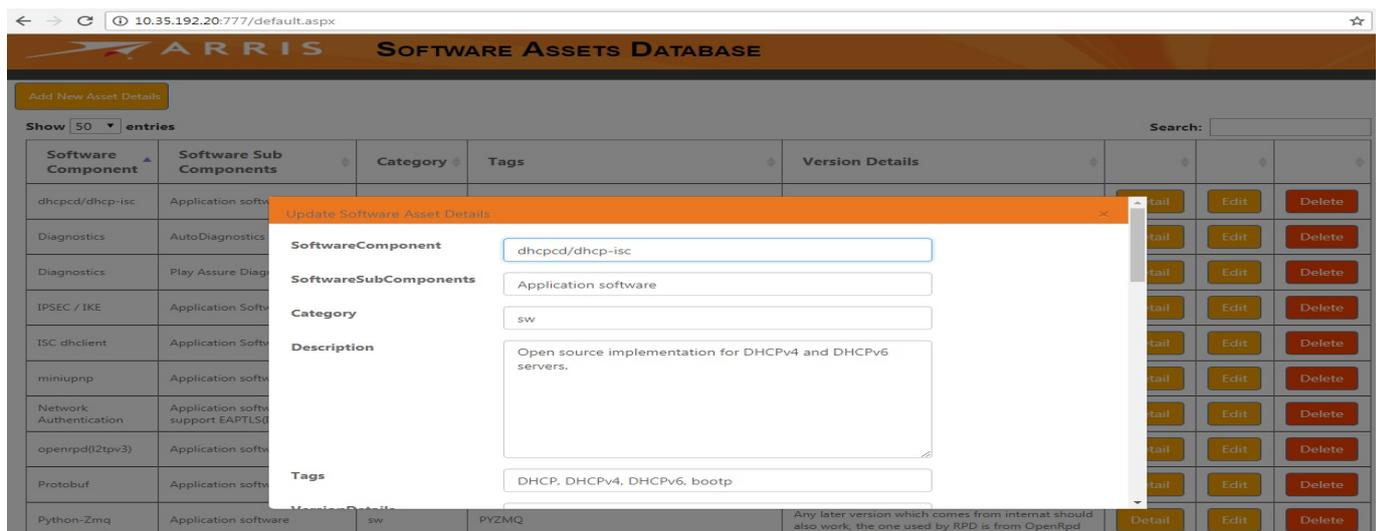


Figure 7.4: Edit Modal Pop-up

7.2.4.5 Detail Modal Pop-up

When User click on Detail button of particular row, Modal Will be Pop up and display information of that particular Software Asset.

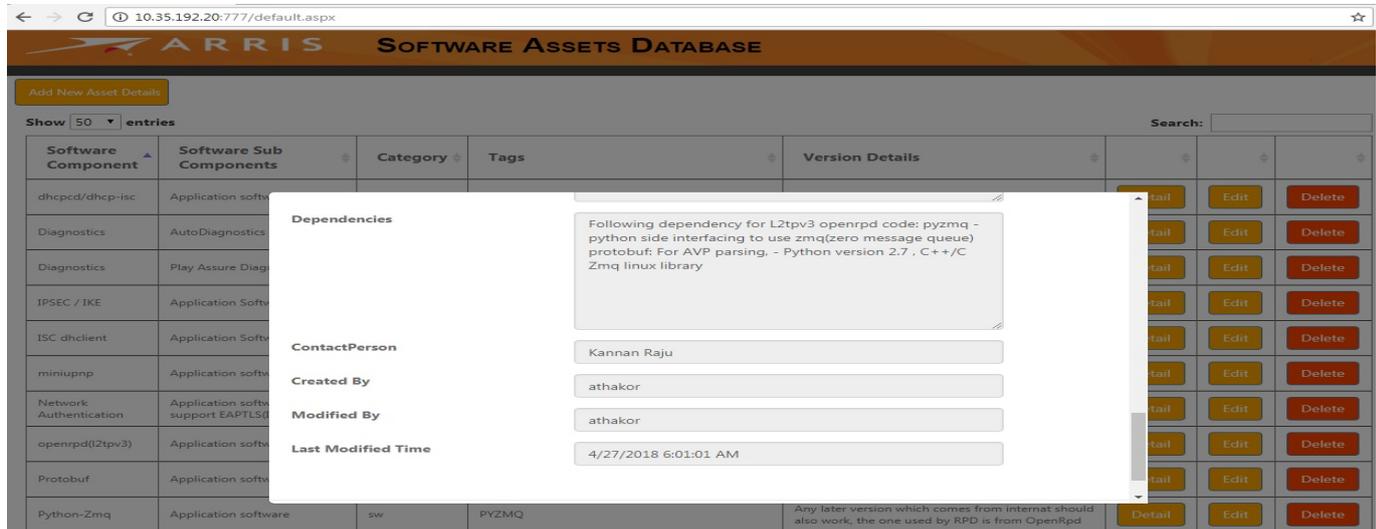


Figure 7.5: Detail Modal Pop-up

7.2.4.6 Delete Modal Pop-up

When user Click on Delete button it will pop-up modal for conformation of delete. once user conform it will be deleted from Database

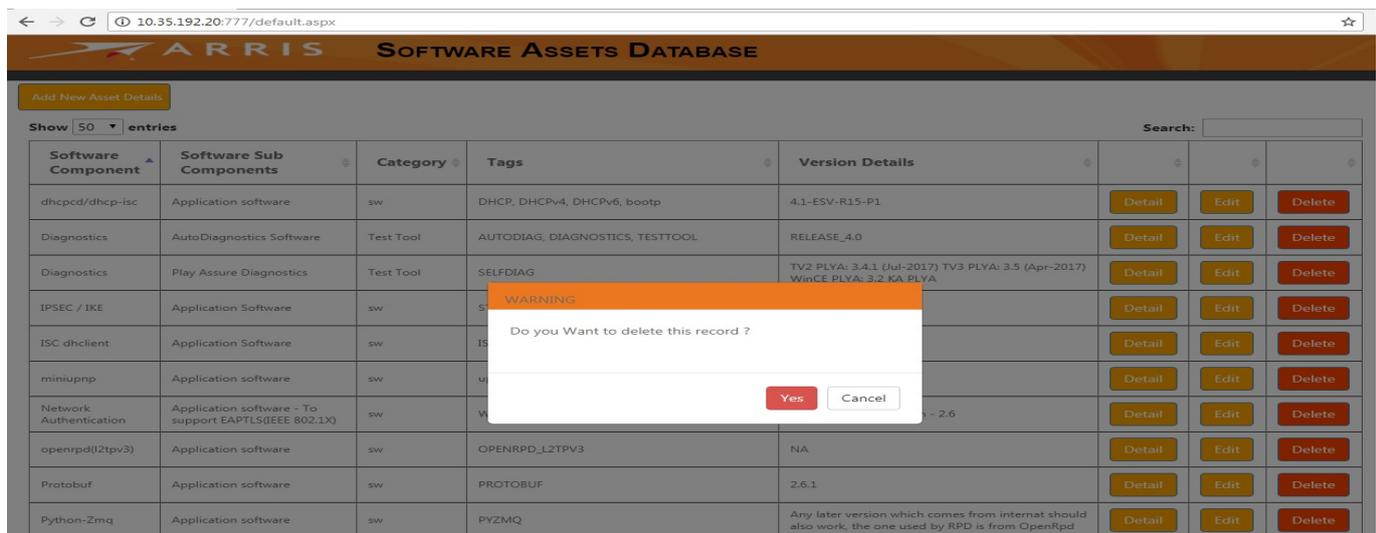


Figure 7.6: Delete Modal Pop-up

7.2.4.7 Sorting In Ascending Order

There is an icon(Up Arrow) of sorting on every column of table so when click on icon of particular column it will sort the table in Ascending order based on Value of that column.

Software Component	Software Sub Components	Category	Tags	Version Details			
miniupnp	Application software	sw	upnp, ssdp, M-search, Gena,	1.1	Detail	Edit	Delete
WIDE-DHCPv6	Application software	sw	IPv6, DHCPv6, SLAAC, Stateful Addressing, RFC3315, RFC3633	1.3	Detail	Edit	Delete
radvd	Application software	sw	IPv6, Router Advertisement, Router Solicitation, Neighbor Solicitation, Neighbor Advertisement	1.31	Detail	Edit	Delete
Protobuf	Application software	sw	PROTOBUF	2.6.1	Detail	Edit	Delete
dhcpd/dhcp-isc	Application software	sw	DHCP, DHCPv4, DHCPv6, bootp	4.1-ESV-R15-P1	Detail	Edit	Delete
ISC dhclient	Application Software	sw	ISCDHCP	4.3.4	Detail	Edit	Delete
IPSEC / IKE	Application Software	sw	STRONGSWAN_IPSEC_IKE	5.5.0	Detail	Edit	Delete
Python-Zmq	Application software	sw	PYZMQ	Any later version which comes from internet should also work, the one used by RPD is from OpenRpd	Detail	Edit	Delete
openrpd(l2tpv3)	Application software	sw	OPENRPD_L2TPV3	NA	Detail	Edit	Delete
ssh	Application software	sw	OPENSSSH	OpenSSH_7.1p1, OpenSSL 1.0.2	Detail	Edit	Delete

Showing 1 to 10 of 11 entries (filtered from 14 total entries) Previous 1 2 Next

Figure 7.7: Sorting In Ascending Order

7.2.4.8 Sorting In descending Order

There is an icon(Down Arrow) of sorting on every column of table so when click on icon of particular column it will sort the table in Ascending order based on Value of that column.

Software Component	Software Sub Components	Category	Tags	Version Details			
Network Authentication	Application software - To support EAPTLS(IEEE 802.1X)	sw	WPASUPPLICANT_EAPTLS	WPA supplicant version - 2.6	Detail	Edit	Delete
ssh	Application software	sw	OPENSSSH	OpenSSH_7.1p1, OpenSSL 1.0.2	Detail	Edit	Delete
openrpd(l2tpv3)	Application software	sw	OPENRPD_L2TPV3	NA	Detail	Edit	Delete
Python-Zmq	Application software	sw	PYZMQ	Any later version which comes from internet should also work, the one used by RPD is from OpenRpd	Detail	Edit	Delete
IPSEC / IKE	Application Software	sw	STRONGSWAN_IPSEC_IKE	5.5.0	Detail	Edit	Delete
ISC dhclient	Application Software	sw	ISCDHCP	4.3.4	Detail	Edit	Delete
dhcpd/dhcp-isc	Application software	sw	DHCP, DHCPv4, DHCPv6, bootp	4.1-ESV-R15-P1	Detail	Edit	Delete
Protobuf	Application software	sw	PROTOBUF	2.6.1	Detail	Edit	Delete
radvd	Application software	sw	IPv6, Router Advertisement, Router Solicitation, Neighbor Solicitation, Neighbor Advertisement	1.31	Detail	Edit	Delete
WIDE-DHCPv6	Application software	sw	IPv6, DHCPv6, SLAAC, Stateful Addressing, RFC3315, RFC3633	1.3	Detail	Edit	Delete

Showing 1 to 10 of 11 entries (filtered from 14 total entries) Previous 1 2 Next

Figure 7.8: Sorting In descending Order

7.2.4.9 Filtered Search

In Search text-box, User can type more than one parameters for searching a record. Once user type something in text-box grid view will displayed search results.

The screenshot shows the ARRIS Software Assets Database interface. At the top, there is a search bar with the text 'sw Application Softwa'. Below the search bar, there is a table with 10 entries. The table has columns for Software Component, Software Sub Components, Category, Tags, and Version Details. Each row has three buttons: Detail, Edit, and Delete. The 'Edit' and 'Delete' buttons are only visible for the user who created the entry.

Software Component	Software Sub Components	Category	Tags	Version Details			
dhcpcd/dhcp-isc	Application software	sw	DHCP, DHCPv4, DHCPv6, bootp	4.1-ESV-R15-P1	Detail	Edit	Delete
IPSEC / IKE	Application Software	sw	STRONGSWAN_IPSEC_IKE	5.5.0	Detail	Edit	Delete
ISC dhclient	Application Software	sw	ISCDI-CP	4.3.4	Detail	Edit	Delete
miniupnp	Application software	sw	upnp, sstp, M-search, Gena,	1.1	Detail	Edit	Delete
Network Authentication	Application software - To support EAPTLS(IEEE 802.1X)	sw	WPASUPPLICANT_EAPTLS	WPA supplicant version - 2.6	Detail	Edit	Delete
openrpdl2tpv3	Application software	sw	OPENRPD_L2TPV3	NA	Detail	Edit	Delete
Protobuf	Application software	sw	PROTOBUF	2.6.1	Detail	Edit	Delete
Python-Zmq	Application software	sw	PYZMQ	Any later version which comes from internat should also work, the one used by RPD is from OpenRpd	Detail	Edit	Delete
radvd	Application software	sw	IPv6, Router Advertisement, Router Solicitation, Neighbor Solicitation, Neighbor Advertisement	1.31	Detail	Edit	Delete
ssh	Application software	sw	OPENSSSH	OpenSSH_7.1p1, OpenSSL 1.0.2	Detail	Edit	Delete

Showing 1 to 10 of 10 entries (filtered from 14 total entries) Previous 1 Next

Figure 7.9: Filtered Search

7.2.4.10 Only User Who Made entry can Edit and Delete it

The Authenticate Person Who will have made entry can only see Edit and Delete option and others user who are not creator of that record can see details of that Asset Information.

The screenshot shows the ARRIS Software Assets Database interface. At the top, there is a search bar with the text 'sw Application Softwa'. Below the search bar, there is a table with 50 entries. The table has columns for Software Component, Software Sub Components, Category, Tags, and Version Details. Each row has three buttons: Detail, Edit, and Delete. The 'Edit' and 'Delete' buttons are only visible for the user who created the entry.

Software Component	Software Sub Components	Category	Tags	Version Details			
dhcpcd/dhcp-isc	Application software	sw	DHCP, DHCPv4, DHCPv6, bootp	4.1-ESV-R15-P1	Detail	Edit	Delete
Diagnostics	AutoDiagnostics Software	Test Tool	AUTODIAG, DIAGNOSTICS, TESTTOOL	RELEASE_4.0	Detail	Edit	Delete
Diagnostics	Play Assure Diagnostics	Test Tool	SELFDIAG	TV2 PLYA: 3.4.1 (Jul-2017) TV3 PLYA: 3.5 (Apr-2017) WinCE PLYA: 3.2 KA PLYA	Detail	Edit	Delete
IPSEC / IKE	Application Software	sw	STRONGSWAN_IPSEC_IKE	5.5.0	Detail	Edit	Delete
ISC dhclient	Application Software	sw	ISCDHCP	4.3.4	Detail	Edit	Delete
miniupnp	Application software	sw	upnp, sstp, M-search, Gena,	1.1	Detail	Edit	Delete
Network Authentication	Application software - To support EAPTLS(IEEE 802.1X)	sw	WPASUPPLICANT_EAPTLS	WPA supplicant version - 2.6	Detail	Edit	Delete
openrpdl2tpv3	Application software	sw	OPENRPD_L2TPV3	NA	Detail	Edit	Delete
Protobuf	Application software	sw	PROTOBUF	2.6.1	Detail	Edit	Delete
Python-Zmq	Application software	sw	PYZMQ	Any later version which comes from internat should also work, the one used by RPD is from OpenRpd	Detail	Edit	Delete
radvd	Application software	sw	IPv6, Router Advertisement, Router Solicitation, Neighbor Solicitation, Neighbor Advertisement	1.31	Detail	Edit	Delete

Figure 7.10: Other User View

7.3 MYMIS Application and Handling Back-End

7.3.1 Introduction

MYMIS was Developed in ASP.net Classic in 2004.It was Used by Motorola for Managing All Process Centrally. ARRIS Acquires the Home Business of Motorola Mobility from Google in 2013.Motorola Home Covers the Company's cable TV and Internet devices Which Combine With Arris Existing Businesses to Create Premier Video Delivery Broadband Technology Company. MYMIS is Used by Arris to Manage All Processes Of Motorola Home.

Because of the following reasons It requires Re-Engineering.

- Identifying and Fixing Bugs are very Difficult
- Changes are Time Consuming
- Difficult to add existing or New module which has been made in asp.net
- Difficult to make interface with existing Arris modules
- Information is Less secure

7.3.2 Objectives

- Design a Web pages for HR Module with better GUI and Required Function.
- Making Various Function which should be in HR Module.
- Making Stored Procedures for every DB function for each and every module.
- Making a Database for whole Project according to team member Requirements.

7.3.3 Modules

- **HR Application**

This Module is mainly involves all the task of HR team like Hiring, On boarding, Exit Clearance, Report Generating, Certificate Request and many others. When any New hiring is done HR Team will make profile of employees and they can also inform network team to set up system for new employee. It also involves exit clearance process using that HR team easily track and Process of Employee Exit. So using that HR team can see the progress like which department approve the exit because in Exit Clearance process employee have to take approval from Network Team, Facility Team, IT team, Finance Team, Security, Department Director and Team Manager. These all are application user so everyone check the status and make update on process.

- **Conveyance Booking**

This module is for Providing Reimbursement of Various Expenses like Travel Cost, Accommodation Cost, Medical Bill. So with the help of this module Employee can request for Reimbursement of various expenses by providing details information with proof. Then Team manager will Approve it for Reimbursement and after that It will be sent to Finance Team for Transfer of Approved amount to that employee account.

- **Gate Pass System**

This Module is used for the functionality of transporting stuff in and out from office. If Someone Transporting any office stuff outside then permission is required for that employee can request for permission and after getting approval mail will be trigger to security team and after that security team will allow employee for transporting office stuff.

- **Out of Office**

This module is used for the purpose of considering out of office hours as working. when any employee will go on travel for office work than he will put request for considering that time as working and after manager approval it will be sent to finance team for payment.

- **Noticeboard**

This Module is Mainly for Advertisement Purpose. It is accessed by everyone so they can put advertisement which is useful for someone in office like House for rent, Selling or Renting something and many useful things they can share with others.

- **Telephonic System**

Our Organization Provides Mobile phone to Senior employee as well as Pay the monthly call bill for them. So module is used for management of this task.

- **Country Management Question Box**

This module is Used for Question Answer with Country Head. Any employee can ask question to country head regarding something going wrong against company's policy. It provides one to one communication so Only country head and person who asked question can see their conversation.

7.3.4 Implementation

7.3.4.1 Employee Profile Page

The screenshot shows a web form titled "Employee Profile" with a header note: "* Indicates the fields are mandatory". The form is organized into several sections:

- Employee Information:** Employee Name, ARRIS Email ID, Grade (Default Grade), Current Location (-None-), Department Search, Department Name (-None-), Hiring Purpose (Expansion, New Hire), Type of Hiring (International Transfer).
- Supervisor and Job Information:** Hire Date (6-FEB-2018), ARRIS Emp ID, Supervisor Search, Supervisor (-None-), Job Title Search, Job Title (-None-), Employee Search, Replacement for (-None-), Pay Scale Area Code (IN (India)), Last Pay Country (if International Transfer).
- Original Information:** Original ArrisID, Original Hire Date (6-FEB-2018).
- Shift:** IN-N1(India:Normal-1).
- Personal Area:** Sector (FIN, HR, IT, CPEP, NCGS, Sales, Other Corp, PCORP, ENTNW, ICPE, Video CPE, Cable CPE), Legal Entity (ARRIS Group India Private Limited, Ruckus Wireless Private LTD), Branch Name (Arri), Pay Area (IN).
- Employee Type and HR Flag:** Employee Type (Direct Labour (D), Indirect Labour (I)), HR Flag (Yes, No).
- Work Phone Number and Employee Category:** Work Phone Number, Employee Category (Engineering).
- Emp Type and Arris user name:** Emp Type (Permanent), Arris user name.

An "Add" button is located at the bottom center of the form.

Figure 7.11: Employee Profile Page

Employee Profile Page will be Used by HR team for making profile or editing profile of employees. We Include calendar functionality to pick the date and also there are various check-box will make function easier and Better User Interface. We have also Used a Drop-down function for Predefined values.

There is Add button for Inserting Information into database and also we can edit existing profile and during editing mode they can also see the existing details of every field. Add button will work as Update during editing mode. So we are using One web Page for Insert and Update.

7.3.4.2 Employee Boarding Page

OnBoarding

CANDIDATE ONBOARDING DETAILS	
Candidate Name*	<input type="text"/>
CONTACT DETAILS	
Contact Number*	<input type="text"/>
Personal EMail Id*	<input type="text"/>
JOINING DETAILS	
Tentative Date of Joining *	<input type="text" value="DD-MM-YYYY"/>
Supervisor*	-None-*
Operations Manager*	-None-*
Referral	Yes <input type="checkbox"/>
	Employee* <input type="text" value="-None-"/> *
	Amount* <input type="text"/>
Any Remarks	<input type="text" value="500 characters left"/>
<input type="button" value="Submit"/>	

Figure 7.12: Employee Boarding Page

7.3.4.3 Employee Exit Clearance Page

Employee Exit

Employee Number	111
Employee Name	SWASTIK SAHOO
Employee Employee Id	ssahoo
Supervisor	Swastik TEST MGR
Department	5R400
Designation	Sr IT Business Sys Analyst
Location	BANGALORE
Exit Details	
Separation Type*	- None -
Date of Resignation Given*	<input type="text" value="DD-MM-YYYY"/>
Proposed Last Working day*	<input type="text" value="DD-MM-YYYY"/>
Any Remarks	<input type="text" value="500 characters left"/>
Contact Details	
Contact Person *	<input type="text"/>
Contact Address*	<input type="text"/>
City *	<input type="text"/>
Pin Code	<input type="text"/>
State Name *	<input type="text"/>
Country Name *	<input type="text"/>
Permanent Contact No.*	<input type="text"/>
Email ID*	<input type="text"/>
Emergency Contact Person*	<input type="text"/>
Emergency Contact No.*	<input type="text"/>

Figure 7.13: Employee Exit Clearance Page

7.3.4.4 Handling Database for Whole Project

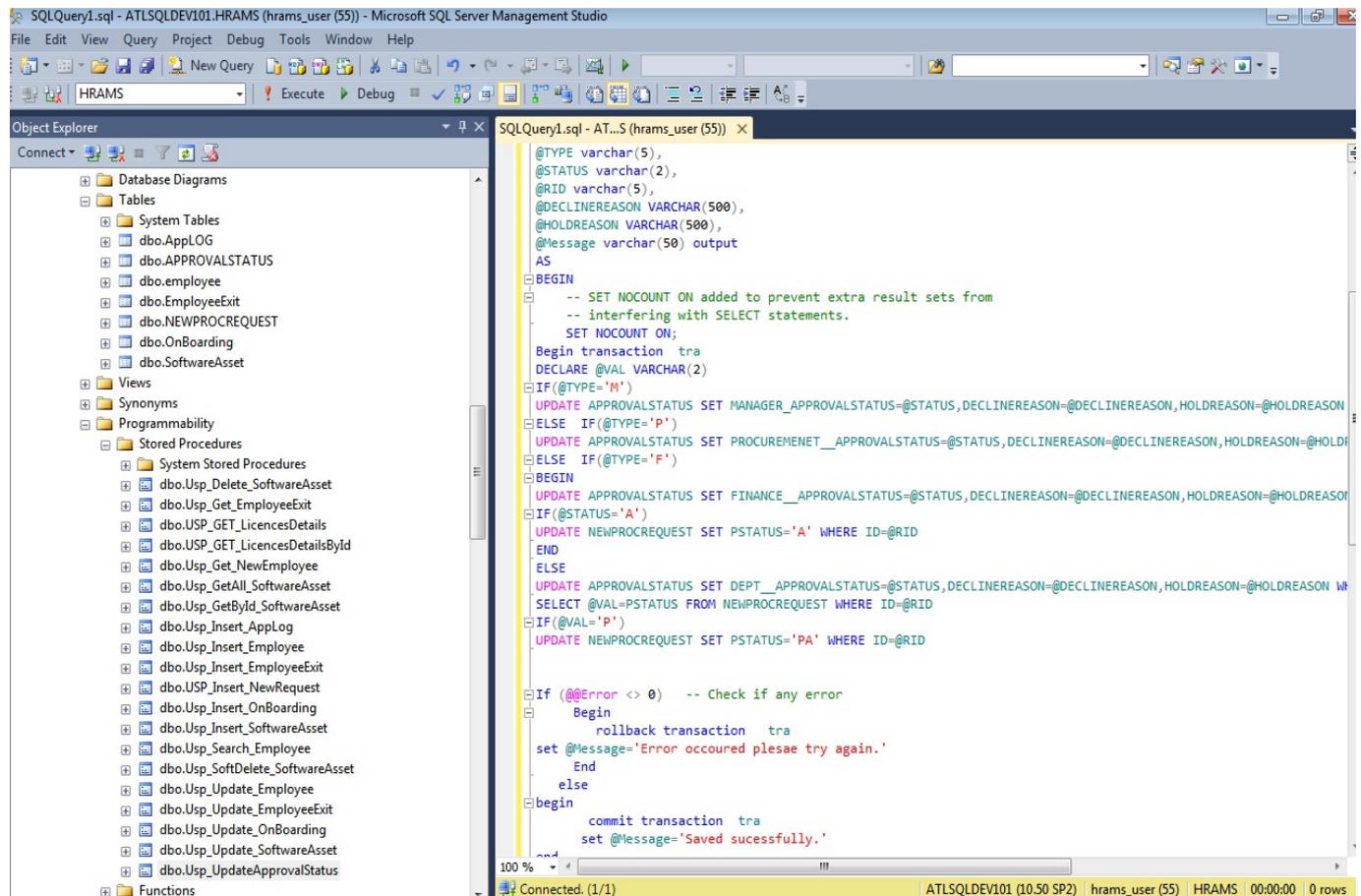


Figure 7.14: DB and Stored Procedures Implementation

I am implementing table and stored procedures for whole project. This is a screenshot of one of the dynamic stored procedures which includes multiple query filters and multiple queries in one stored procedure. Also, it supports transaction functionality.

Chapter 8

Conclusion

8.1 Conclusion

I have developed a web Application which is EWS Finance Monitoring Dashboard. This dashboard overcome the many drawbacks of previous working system and now there are many thing is included as dashboard functionalities so there is no need of more manual and humans effort for making operation. Dashboard automatically synchronize with exchange server and also consolidate and categorize alerts into their particular category so now user just have to monitor the status of alerts and user can also export the data into excel sheet by just one click. So now EBS finance team have easier and efficient dashboard application with better UI with responsive designing so they can access it from anywhere using mobiles, tablets and PCs Which Improve performance as well as response time.

I have Developed another web application which is "Software Asset Database". This Web application makes management of software asset easier and efficient and During this Project, I have learned about use of Ajax Toolkit for making pop-ups for Add, Update, Delete and Details Functionality and also uses and Implementation of DataTable Plug-in for Searching, Paging, Sorting Functionality.

I have also Made POC on AWS and because of that I have learned how to use AWS for using cloud computing services. I have also handled back-end and because of that I have learned many new things and Implemented Dynamic Stored Procedures.

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