*Florida International University*

*School of Computing and Information Sciences*

CIS 4911 - Senior Capstone Project

Software Engineering Focus

User Manual

Addigy

Team # X

**Team Members**

Ayme Morrina

Matthew Saunders

**Product Owner**: Jason Dettbarn

**Instructor**: Masoud Sadjadi

**Table of Contents**

Introduction................................................................................................................................... 2

Server Installation......................................................................................................................... 3

Client Software Package Generation........................................................................................... 4

Cronjob Installation....................................................................................................................... 4

Dashboard Tools.......................................................................................................................... 6

Login History Tool Usage............................................................................................................. 6

Software Metering Tool Usage..................................................................................................... 6

Software Updates Tool Usage...................................................................................................... 7

Facter Report Tool Usage............................................................................................................ 8

Available Memory Tool Usage...................................................................................................... 8

Select Tenant Tool Usage............................................................................................................ 8

Non-Volatile Event Timeline Tool Usage...................................................................................... 9

**Introduction**

The Addigy system is used by IT Administrators to monitor user behavior and system hardware across an organization. This is accomplished by having a client software package that runs remotely at regular intervals on each system in an organization. This information is then passed to a central server which displays the collected information to an IT Administrator through a web based console.

This document serves two purposes. The first is to provide a guide for installing the system components for a server or client. The second is to provide an overview of the features available using this system when setup correctly. The features detail how to use them and the expected behaviour.

**Installation**

**Server Installation**

To install the server follow the next series of steps:

1. sudo apt-get -y update && sudo apt-get -y upgrade && echo -e "\a\a\a\a\a"
2. sudo apt-get -y install python-pip python-dev build-essential && echo -e "\a\a\a\a\a"
3. sudo pip install --upgrade pip
4. sudo pip install virtualenvwrapper
5. echo -e "export WORKON\_HOME=$HOME/.virtualenvs\nsource /usr/local/bin/virtualenvwrapper.sh" > ~/.bash\_profile
6. source ~/.bash\_profile
7. mkvirtualenv <project name> --no-site-packages -p /usr/bin/python3.4
8. workon <project name>
9. pip install django djangorestframework markdown django-filter pymongo
10. sudo apt-get -y install apache2 git python-software-properties software-properties-common
11. sudo apt-get -y install apache2-dev python3.4-dev
12. sudo apt-get -y install apache2 apache2-data apache2-bin apache2-mpm-prefork apache2-utils libexpat1
13. sudo nano /etc/apache2/sites-available/test.name.com.conf
14. WSGIPythonPath /var/www/<project name>/macmanage:/var/www/<project name>/env/lib/python3.3:/var/www/<projectname>/env/lib/python3.3/site-packages:/home/ubuntu/.virtualenvs/<project name>/lib/python3.4/site-packages/

<VirtualHost \*:80>

ServerName test.name.com

ServerAlias test.name.com

WSGIScriptAlias / /var/<project name>/macmanage/macmanage.wsgi

Alias /assets/ /var/www/<project name>/macmanage/assets/

<Directory /var/www/<project name>/macmanage/assets>

Order deny,allow

Allow from all

</Directory>

</VirtualHost>

1. sudo a2dissite 000-default
2. sudo a2ensite test.name.com
3. sudo service apache2 reload
4. git clone <repo>
5. sudo mkdir /var/www/<project name>
6. sudo mkdir /var/www/<project name>/macmanage
7. sudo cp -r <project name>/\* /var/www/test.name.com/macmanage/
8. wget <https://github.com/GrahamDumpleton/mod_wsgi/archive/4.4.3.tar.gz>
9. tar -zxvf 4.4.3.tar.gz
10. cd mod\_wsgi-4.4.3
11. ./configure --with-python=/usr/bin/python3.4 && make
12. sudo make install
13. echo "LoadModule wsgi\_module /usr/lib/apache2/modules/mod\_wsgi.so" > /etc/apache2/mods-available/wsgi.load
14. ## after installing
15. sudo a2enmod wsgi
16. sudo service apache2 restart

**Client Software Package Generation**

The software that runs on a client system to collect and report information about that system to the server is packaged in a Java jar file. The following procedure will describe how to build this collector jar file locally.

*Prerequisite: Maven 3.3.0 is installed on the system building the software package.*

1. Navigate to the root directory of the project repository.
   1. cd /<path-to-repository>/Addigy3
2. Navigate into the Java project folder.
   1. cd AdgCollector
3. Create the jar file using the maven tool.
   1. mvn package

**Cronjob Installation**

The client data collector is meant to run at regular intervals on the client system, providing a historical record of the client system’s hardware and usage. The following procedure is used to register this client software with the cronjob process.

*Prerequisite: If the client software jar has not created, refer to the section “Client Software Package Generation”.*

1. If the “addigy” directory does not exist in the home directory of the user, create it.
   1. mkdir ~/addigy
2. Copy the client software jar file into the “addigy” directory.
   1. cp /<path-to-repository>/Addigy3/AdgCollector/target/adgcollector-1.0-SNAPSHOT-jar-with-dependencies.jar ~/addigy/
3. Navigate to the “scripts” directory in the Addigy repository.
   1. cd /<path-to-repository>/Addigy3/scripts
4. Run the “installAddigyCron.sh” script to register the client jar with the cronjob scheduler.
   1. ./installAddigyCron.sh

**Dashboard Tools**

***Login History Tool Usage***

The Login History Tool main purpose is to monitor the login/logout activity of users per machine for all machines of a specific organization.

The main dashboard shows a graph that aggregates the total number of users logged in, at a time of a specific day. Current date is shown by default.

* Chose a date to display user activity

1. Select a date on the date picked on top of the Login History graph.
2. The graph will automatically reload and show the user activity for the selected date.

* See details of user activity on a selected date.

1. Click on the expand button on the top right corner of the Login History module.
2. A new layer with an expanded version of the Login History graph will appear.
3. To change date on the expanded layer, follow the steps described on the previous point.
4. To display the informations about the users logged in at specific time of a day:
   1. Click on the point in the graph for which details are wanted.
   2. Click on the User Details Button to display a list of all the timeslots of the date and select those for which details are wanted.

***Software Metering Tool Usage***

The Software Metering Tool main purpose is to monitor the cloud and system applications usage to be able to determine the most/less used applications within a company. The main dashboard shows a graph that displays the top 5 most used applications/domains.

* See applications usage details.

1. Click on the expand button on the top right corner of the Software Metering module.
2. A new layer with an expanded version of the Software Metering graph will appear with a new graph showing the top domain for all users in the previous week.
3. To select a specific application/domain, click on the “Domain” dropdown and search/select the desired application/domain.
4. To select a specific user, click on the “User” dropdown and search/select desired user.
5. To select how many applications/domains to display, click on the “Top” dropdown and search/select the amount provided. The top X(selected number) domains will be display.
6. To display the previous month application/domain usage, click on the “Last month” button under the Time Period section.
7. To display the previous week application/domain usage, click on the “Last week” button under the Time Period section.
8. To display only system applications, click on the “System” button under the Application Type section.
9. To display only cloud applications, click on the “Cloud” button under the Application Type section.
10. To display all types of applications, click on the “All” button under the Application Type section.

***Software Updates Tool Usage***

The Software Updates Tool main purpose is to check for the available software updates within the company and the usage of the applications related to the updates. It allows to deploy the softwares at different organizational levels. The main dashboard shows a gauge displaying the quantity of available software updates within the organization and a gauge showing the amount of devices within the organization that have available software updates.

* See updates details.

1. Click on the expand button on the top right corner of the Software Updates module.
2. A new layer will appear with a graph showing the application usage of those applications related with the software updates and a list of the software updates within the organization.
3. To deploy a software update, click on the “check” icon at the top right of each update section/subsection.
4. To navigate through the policy hierarchy of those policies that have such update available, click on the parent policy and a subsection of the child policies will display under the parent policy.

Note: Updates can be deployed at any level of the policies hierarchy.

***Facter Report Tool Usage***

The Facter Report Tool main purpose is to provide hardware information of each machine for all machines of a specific organization. The main dashboard shows a table that aggregates system hardware for a specific machine of a specified organization.

* Display Facter Report

1. Select the “Display Facter Report” button to display the latest Facter Report.
2. The table will be displayed with all collected information.

***Available Memory Tool Usage***

The Available Memory Tool main purpose is to display available memory trends of a specific machine within an organization.

The main dashboard shows a graph that plots the available memory in megabytes during one of the system audits. The start date of the plot is the current date by default. The user is able to change the start date of the plot from the available memory display.

* Chose a date to start display of available memory

1. Select a date on the date picked on top of the Available Memory graph.
2. The graph will automatically reload and show the available memory starting from the selected date.

* See details of available memory for a specific point.

1. Hover over a point on the graph.
2. The date and time the data was collected is displayed along with the value of available memory in megabytes.

***Select Tenant Tool Usage***

The Select Tenant Tool main purpose is to display all tenant machines within an organization and let the user choose one to use for displaying data.

The main dashboard shows two dropdowns: one for the organization and one for the tenant (or machine). Once the user selects the machine they wish to see data for, the plots should automatically update for that specific machine. Currently, the Available Memory graph is the only plot that will change when a new tenant is picked.

* Chose an organization and tenant

1. From the top panel, select an organization and tenant from the dropdown of available organizations and tenants.
2. The graph will automatically reload and show the available memory for the selected tenant.

***Non-Volatile Event Timeline Tool Usage***

The Non-Volatile Event Timeline Tool main purpose is to the events, or changes in a non-volatile fact about a system, when a change occurs.

The data is displayed in an overview table which shows the last 5 events, and in a timeline modal that shows all events for a machine in an organization. In the timeline display, the user is able to select a time period in which they wish to query all events for a system.

* Chose the timeline display

1. Click the expand button on the top-right corner of the Non-Volatile Event Timeline display.
2. The timeline will automatically generate for the past 1 day.

* Select a time period to display the timeline.

1. On the top of the timeline modal window, select one of the time period options.
   1. 1 day
   2. 1 week
   3. 1 month
   4. 3 months
   5. 1 year
2. The timeline will automatically update with all events for that time period for the specified organization and tenant machine.