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Networking
IP Restriction filtering and network address

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Abstract

Permissions setting on a computer is necessary. This is an effort that is not easy to change the system configuration or settings changed by the user. With a network of computers, of course, permissions settings do not need to be done one by one manually. Because in a computer network course there are many collections of computers connected together. Permissions setting so that the system can use the client-server applications that access restrictions can be done effectively. As the implementation of client-server applications can be created using Visual Basic 6.0. This language has been able to access the socket on the Windows operating system, named Winsock API that supports TCP / IP. This protocol is widely used because of the reliability of client-server application programming. The application is divided into two main applications, namely the client and server program name with the name of the Receiver Sender program. Receiver function receives instructions restriction of access rights Sender and sends reports to the Sender process execution. While Sender functions to send instructions restrictions permissions via the Registry to the Receiver. And after the test, the application can block important features available in the Windows operating system. So it is expected that these applications can help in permissions setting on a computer network.

Keywords: Registry, Winsock API, TCP/IPI, Networking

1. Introduction

Development of network technology computers are increasing rapidly, p this was seen in the era of the 80s network the computer is still a puzzle people want to answer academics, and in 1988 networks Computers began to be used at universities, companies, now begins this millennium era Especially the internet into millions of everyday realities humans on this earth. One of the benefits that we can feel with technology computer networks are getting the smooth operation of computerization, which is used to be a single computer model which serves all tasks Computing an organization now replaced by a group of Computers separate but mutually separate related in implementing his assignment. A bunch of these computers Usually always monitored by a person admin to overcome the conditions So that the computer can work normally both in terms of hardware (hardware) or on the device (software). But sometimes changing settings on a computer without the admin's knowledge leads to activities that are related to the process computerization can be interrupted. Change settings and disruptions on the computer can considered by changing rights access to uses for each Computers that are in a network, therefore research is done to make a program designed for Facebook admins can remain in the condition of the computers it handles it stays in Good conditions, so activities computerization can be done more effective and efficient.

To support manufacturing the program uses Microsoft Visual Basic 6 because it already is an object called WinSock (Windows Socket) which is the main component of making a program in this research.

In this study is limited discussion of the following issues:

1. Begin communication between applications Sender with Receiver.
2. The process of sending instructions from Sender to Receiver.
3. How to end the application communication Sender and Receiver.

The purpose of the research to be achieved is to provide convenience for network administrators in managing and maintaining the condition of the computer so that it is always in optimal condition. Results this research can be applied by the admin network to secure a set of computers in terms of software, so they can avoid change unnecessary and without system admin's knowledge.

2. Research Method

Research methods conduct namely analyzing the problems that have been defined and grouped in the early stages as well as collecting and analyzing supporting needs in the form of software and hardware for solving the problem in a manner overall in detail. Next design stage, in this stage results analysis is made in the program structure, and overall interface design in detail. The next is applying system modeling (design) into the programming language with the appropriate source code / syntax and the language used in this research is using language Visual Basic programming. Next the documentation stage is doing documentation / document collection for all materials, data, modules that have been completed from the initial stage to the final stage workmanship related to the program that was done.

2.1 System Requirements Analysis

In this study, it was designed with two main applications, namely applications Sender and Receiver application. Application Receiver must be installed at all computers that will have limited access rights, while the Sender application is only installed on one computer.

3. Findings

3.1 Problem

The Registry Editor on the operating system Windows is the center of everything good operating system configuration software or hardware. Changing settings in the registry can result in the system not running as it should be. Especially if the computer is in a number which is quite a lot, then the admin must supervise and maintain a computer so that it always works as it should. In this study it was made an application that can change settings registry remotely, so computer registry settings can be done effectively and efficiently. This application must be able to write to The registry containing important system settings.

Of course in implementation This application must have more than one socket, which one socket used for listening and one again for the program connection. This socket communication needs a port for communication, like a gate for traffic so that A can go to place B. Port is settled with a number. Of the many ports provided by windows, ie as many as 65536 ports. Port 3030 used as a communication channel. Because this port is not used internally by the Windows system. When will connect, winsock object this must be loaded first. And if the connection has ended, let unload objects that don't use it up. With the application then the system on the computer will continue awake and can run optimally.

3.2 Research Implementation

If we want to open a site, of course we need an internet connection. When we access the internet also the devices we use must have an IP Address or IP address as an identifier of that device on the internet.

A site also has an ip address as the identity of the site itself, Because a site cannot be built if it does not have a server, well when a server is connected to the internet, the server must also have an IP address.

Returning to the discussion of alfi, on the IP Restriction Management menu found on the Success Factor site, we can limit the IP Users who access the site. It can be seen that a site cannot directly serve users accessing the site simultaneously. If the user accesses the site simultaneously then what happens is that the server of the site cannot accommodate the user and will dive down the server.

Therefore restrictions on IP addresses are needed to prevent this. If the server is down, the employee's performance at the company will be hampered and cannot work as much as possible.

3.2.1 In these settings there are IP restriction settings, which include 3 checklist menus to choose from including:

1. Turn off the IP restriction for 360 Multi-Rater external users. We can disable IP restrictions for outside users who provide 360 degree ratings (performance appraisal from many parties).
2. Turn off the IP restriction for external onboarding users. We can disable IP restrictions for outside users who are trying to adjust to the site (new Employees).
3. Turn off the IP restriction for external learning users. We can disable IP restrictions for outside users who are trying to learn about the site's system.

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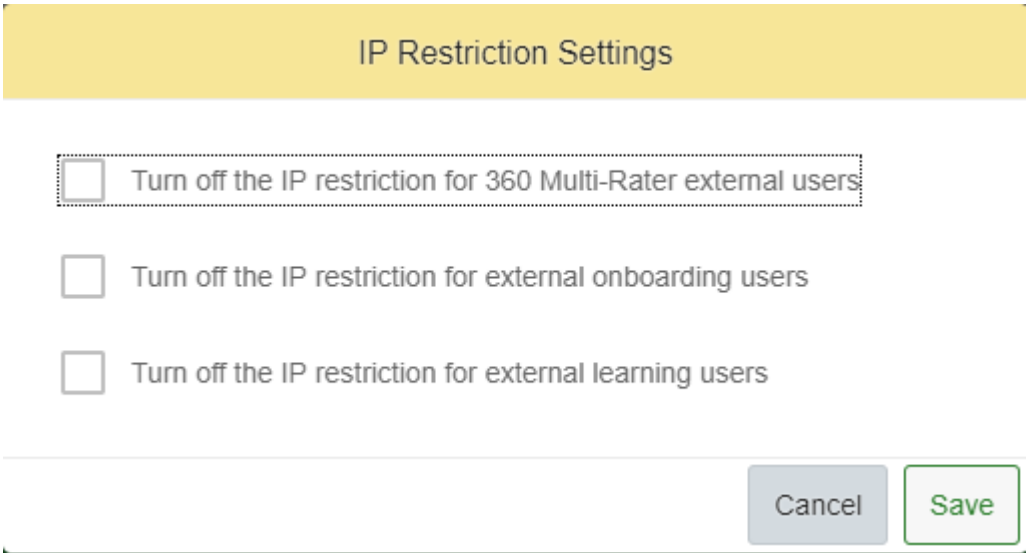

Picture 1. IP Restriction Settings

3.2.2 Not only that we can set the IP Address or ip address which can access the SAP Success Factor site either through a Single IP Address (private IP address) or use the IP Address Range.

Picture 2. Add IP Address

4. Conclusion

Socket application that uses TCP requires two data exchanges valid direction. This is indicated by the listen and connect commands thus ensuring inter-reliability application in communicating.

If interpreted as IP Restriction Management means Management of IP restrictions. The point is that on this menu we can manage IP restrictions that can access a site.

Based on planning analysis and discussion that has been carried out in making this application, it can be concluded that this application can already be used to limit some important menus in Windows, including Command Prompt, Task Manager, Folder Options, Run.

References

[1] Anharku. 2009. Flowchart. Diambil dari http://ilmukomputer.org/wpcontent/uploads/2009/06/anharku -flowchart.pdf

[2] Masya, Fajar dan Andrew Fiade. 2011. Socket Programming. Yogyakarta: Graha Ilmu.

[3] Nope'x. 2008. DNA Windows. Diambil dari: http://ilmukomputer.org/wpcontent/uploads/2008/07/nopexdna-windows.pdf

[4] Nugroho, Agus Sapto. 2011. Implementasi Winsock Berbasis TCP/IP Untuk Membangun Aplikasi Administrator. Yogyakarta: STMIK AMIKOM

[5] Raharjo, Budi, & Imam Heryanto, Arif Haryono. 2010. Mudah Belajar Java Edisi Revisi. Bandung: Informatika.

[6] Sopandi, Dede. 2008. Instalasi dan Konfigurasi Jaringan Komputer. Bandung: Informatika.

[7] Viva, Vygory. 2008. Trik Pemrograman Jaringan dengan Visual Basic 6. Yogyakarta: Gava Media.

[8] Aini, Q., Sunarya, P. A., & Bein, A. S. (2019). The Implementation Of Viewboard Of The Head Of Department As A Media For Student Information Is Worth Doing Final Research. *IAIC Transactions on Sustainable Digital Innovation*, *1*(1), 18-25.

[9] Rahardja, U., Pratama, D., & Susanti, E. (2016). Implementasi Viewboard Dalam Mendukung Penyebaran Informasi Dengan Penyajian Artificial Informatics Pada Perguruan Tinggi. *Creative Communication and Innovative Technology Journal*, *9*(3), 251-257.

[10] Rahardja, U., Aini, Q., & Faradilla, F. (2018). IMPLEMENTASI VIEWBOARD BERBASIS INTERAKTIF JAVASCRIPT CHARTS PADA WEBSITE E-COMMERCE PERGURUAN TINGGI. *Jurnal Dinamika Informatika*, *7*(2), 1-18.

[11] Aini, Q., Rahardja, U., Moeins, A., & Wardani, A. M. (2018). Penerapan Data Market Query (DMQ) pada Sistem Penilaian Berbasis Yii Framework. *InfoTekJar: Jurnal Nasional Informatika dan Teknologi Jaringan*, *3*(1), 26-31.

[12] Rahardja, U., Aini, Q., Graha, Y. I., & Tangkaw, M. R. (2019, December). Gamification Framework Design of Management Education and Development in Industrial Revolution 4.0. In *Journal of Physics: Conference Series* (Vol. 1364, No. 1, p. 012035). IOP Publishing.

[13] Rahardja, U., Aini, Q., & Zuliana, S. R. (2016). Metode Learning Management System (LMS) iDu Untuk Mendukung Kegiatan Belajar Mengajar MIT Pada Perguruan Tinggi Raharja. *Cyberpreneurship Innovative and Creative Exact and Social Science*, *2*(2), 156-172.

[14] Rahardja, U., Aini, Q., Apriani, D., & Khoirunisa, A. (2019). Optimalisasi Informasi Manajemen Laporan Assignment Pada Website Berbasis Content Management System. *Technomedia Journal*, *3*(2), 213-223.

[15] Aini, Q., Alwiyah, A., & Putri, D. M. (2019). Effectiveness of Installment Payment Management Using Recurring Scheduling to Cashier Performance. *Aptisi Transactions on Management (ATM)*, *3*(1), 13-21.