

Training on The Use of Cloud Computing Based Online Data Storage Application at SMAN 1 Citeureup

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ABSTRACT

This service programme aims to provide training to teachers at SMAN 1 Citeureup in using online academic data storage media. SMAN 1 Citeureup is one of the schools based on digitalization in academic and non academic activities. The stages carried out in this service include planning, preparation, training, and evaluation. In the development of cloud computing based data storage applications needed for academic data storage. The results show that after attending training with the service scheme the teachers can understand the features in the data storage media. It can be seen from the response value that there is an increase from 3.48 which has a high level of understanding to a very high scale after training with a value of 4.31.

Keywords: Application, Cloud, Nextcloud, Storage

1. INTRODUCTION

The use of data storage media currently has two types, namely manually or conventionally and online. Manual data storage media has limitations in that the devices used are easily damaged, data loss, and dead devices. Meanwhile, online based storage media has limitations on capacity requirements and the high cost of service rental.

Online based data storage is an effort to access data and applications using the network (**'Abidah et al., 2020**). Online data storage is data storage stored on a computer network (**Ramsari & Ginanjar, 2022**). Online based data storage currently inseparable from the development of cloud computing technology. Cloud computing can be used to store data, as well as to utilise third parties as service providers (**Irawan et al., 2019**).

Cloud computing is one of the technologies that can provide internet network based computing resources (**Sama & Lubis, 2021**). Cloud computing is a service model based on client server mode by accessing servers, storage, networks and applications that can be done remotely. The use of cloud computing allows users to store data anywhere, anytime, and on any device (**Ramsari & Ginanjar, 2022**). Cloud computing is a mechanism for a collection of resources

that are connected and can be accessed through a website privately or publicly (**Hadriansa et al., 2020; Likmi, 2023**).

SMAN 1 Citeureup is a school that is based on digitalisation and makes use of applications in every academic and non academic activity. Currently SMAN 1 Citeureup already has academic activity applications such as Learning Management System (LMS), online attendance, and digital guest book. Currently, another application need that can support academic and non academic activities at SMAN 1 Citeureup is the use of data storage media needed for academic data. So, the process of making applications for online data storage can be used by using cloud computing. The use of online data storage media is able to increase collaboration and understand the use of Google Drive (**Saprudin et al., 2023**).

Cloud computing can be used to optimise resources in information, services, and the impact of economies of scale in the use of information technology (**Alam, 2020; Rashid & Chaturvedi, 2019; Srivastava & Khan, 2018**). Cloud computing is an abstraction of information technology infrastructure as a service that can be accessed via internet (**Ramsari & Ginanjar, 2022**).

The school wants to have an application to store independent data online, to meet the needs of academic and non academic data storage. So, through the efforts the community service scheme, it can be accomplished by providing applications for data storage and training on the use of these applications. This programme is expected to help the needs of the school to have an online data storage media independently, and can provide training in the use of the application.

2. METHOD

In order for the implementation of this community service to be carried out properly, several stages are carried out, namely planning, preparation, training, and evaluation. These stages are described in Figure 1.

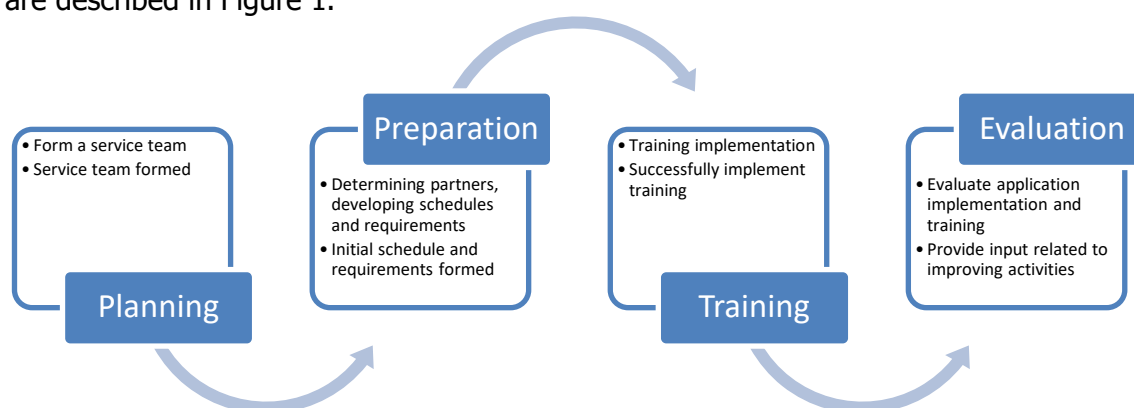


Figure 1 Implementation method

The planning stage is the initial stage in forming a community service team consisting of lectures and at least two students involved. After the team is formed, then draw up a plan for the follow up. The preparation stage is a follow up stage to planning, this stage compiles a schedule, determines partners, and compiles the needs that will be needed when implementing community service. At this stage we discussed with partners to get an initial analysis of service needs. After this formed, we compile a service proposal.

The third stage, carrying out community service based on the initial stages that have been prepared. The final stage is the evaluation stage. This stage aims to evaluate the service

activities that have been carried out. At this evaluation stage, an evaluation using a Likert Scale is also used. At this stage the Likert Scale is used to see the level of understanding of the training provided.

Data collection for the trial was carried out to 20 respondents who tried the application used. The assessment interval on the Likert scale is used with a value between 1 - 5 (**Kuntoro & Fajrie, 2023**). The results of each question will be matched with the Likert scale table in Table 1.

Table 1 Satisfaction level score

Score	Satisfaction Level
1,00 – 1,80	Very Low
1,81 – 2,60	Low
2,61 – 3,40	Medium
3,41 – 4,20	High
4,21 – 5,00	Very High

3. RESULTS AND DISCUSSION

Before carrying out the training, we previously compiled the application needs for online data storage media. The technology we used was nextcloud-based data storage. After one to two months of developing the application, the application was then stored on the server owned by the SMAN 1 Citeureup school. The data storage application has been installed on the school website, with the address <https://storage.sman01citeureup.sch.id/login> with the display in Figure 2.



Figure 2 Display on the school website page

After going to the page, users will be directed to the login page as shown in Figure 3.



Figure 3 Display login page

At this stage, each teacher will be given an account to be able to enter their respective data storage media pages. Users registered in the application will appear on the active user page section as in Figure 4.



Figure 4 Display active user page

After logging into their respective accounts, users can perform the upload and download process on their respective pages. The upload results can be seen in all files section as shown in Figure 5.

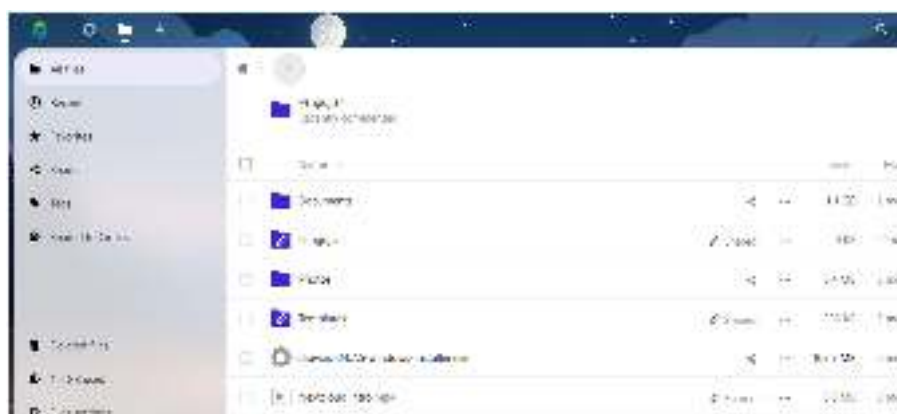


Figure 5 Display file page

For the features evaluation, each teacher is assigned to store their data, especially academic data. There were several teachers who tried the application as shown in Figures 6 and 7.



Figure 6 Application test documentation



Figure 7 The teachers access the application directly

Since the application is cloud computing based, it can be accessed from anywhere at any time. In Figure 8 the teacher access the application from his residence. This shows that the application provides efficiency and convenience for teachers in storing data. In this service, the data storage media used is a private data storage media that can be used in the school environment independently.



Figure 8 Test the application from home

To determine the level of application utilisation, at the evaluation stage a survey was conducted using a Likert Scale. The survey was conducted by giving initial questions before using the data storage media application and after using the application. This aims to see the achievement that there is an increase in understanding and knowledge of application users.

Initial questions were given with several questions listed in Table 2. While Table 4 is a question for the final questionnaire after using the application.

Table 2 Initial questionnaire

No	Question
1	Have you ever used online or cloud based storage before?
2	Do you believe the use of cloud data storage will facilitate file management?
3	Is cloud based storage more efficient than manual data storage?
4	Is cloud data storage easy to use?
5	Is online data storage able to increase productivity?

Table 3 Initial response results

Question number	Number of respondents	Average
1	20	3,1
2	20	3,55
3	20	4
4	20	3,1
5	20	3,65
Total average		3,48

Table 3 shows the results of the initial questionnaire that has been given. In these results, teachers argue that the use of online or cloud-based storage is able to efficiently store data compared to manual storage. This is indicated by a fairly high score of 4. In addition, the teachers said that the use of online data storage is able to increase productivity.

Table 4 Final questionnaire

No	Question
1	Does private online storage allow easy access to files?
2	Do you think the data stored is secure?
3	Are you satisfied with the features of online storage?
4	Does interface make it easy for you?
5	Would you recommend online storage to others?

Table 5 Final response results

Question Number	Number of Respondents	Average
1	20	4,5
2	20	4,3
3	20	4,15
4	20	4,4
5	20	4,4
Tota average		4,31

Table 5 shows the results of the questionnaire given after the users in this case the teacher after using the data storage application. From the results of the questionnaire, the value of each question is obtained at a value above 4. This is referred to the satisfaction table in the table shows that after using the application the teachers better understand the use of data

storage media. The use of online services and training can provide more understanding to users (**Lestari et al., 2023**). In this service, there is an increase in understanding in each user after training.

4. CONCLUSIONS

From the explanation that has been described, the results of this community service provide benefits, namely the school has data storage media independently. In addition, the training provided for the use of data storage media applications can help teachers to understand the features in the application. This community service programme succeeded in increasing the teachers understanding of the application used, as shown by an increase in satisfaction scores from 3.48 to 4.31 which shows the teachers' ability to improve in using the application.

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