



# Challenge Report

## Hackathon Aubay 2024

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### Challenge 1 - Uploading Videos to Chamilo Courses

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# Introduction

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This report documents the process required to integrate internal training videos into Chamilo using a combination of Vimeo and Cloudflare.

This solution provides enhanced security and access control without significant additional costs and without the need to modify the platform's code.

# Challenge Description

- **Challenge:** For information security reasons, it is necessary that the internal training videos be made available directly on Chamilo, avoiding the use of YouTube.

- **Problem:** Chamilo has disk space limitations for content storage. Uploading all internal videos directly to the platform would result in significant additional costs, as it would require purchasing more disk space.

- **Proposed Solution:** Use **Vimeo** in combination with **Cloudflare** to host the videos and embed them in Chamilo courses through the embed code, without the need for significant changes to the platform's code.

# Objectives

Use the combination of Vimeo and Cloudflare to embed videos securely in Chamilo with granular access control, as described:

**Vimeo Configuration:** Set the videos to "Only people with the link" and, if available in the plan, configure a custom domain for strict access control.

– **Cloudflare Configuration:**

- Configure the **WAF** to restrict access, allowing only the Chamilo server.
- **Geo-blocking (Optional):** Limit access from specific regions as needed.
- **IP Allow List:** Allow access only from trusted IPs associated with the Chamilo server.
- Implement **CORS rules** to allow secure requests from Chamilo and restrict external sharing.

# Comparison of Solutions: Loom, Vimeo, and YouTube

## Loom:

- **Advantages:** Ease of use and basic privacy configuration.
- **Limitations:** The free plan allows only 25 videos; for higher capacity, additional costs become a concern.

## Vimeo:

- **Advantages:** Advanced privacy settings and support for a custom domain, providing refined control over video access.
- **Limitations:** Additional cost depending on the resources used and storage required.

## YouTube:

- **Advantages:** Free alternative that allows uploads with an "Unlisted" setting, making videos accessible only with the link.
- **Limitations:** Lower privacy control; the link can be shared, compromising exclusive access.

# Procedure for Embedding Vimeo Videos in Chamilo with Cloudflare

## **Step 1: Preparing the Video on Vimeo:**

- Log in to Vimeo with the institutional account.
- Upload or record the training video.
- Set privacy to "Only people with the link" and, if available, configure a custom domain.
- Obtain the embed code.

## **Step 2: Configuring Cloudflare:**

- Set up the WAF to allow access only from the Chamilo server.
- Optionally, configure Geo-blocking to limit geographical access.
- Create an IP Allow List to include the IPs of the Chamilo servers.
- Properly configure CORS headers to allow Chamilo to make requests to Vimeo, preventing external access.

## **Step 3: Embedding in Chamilo:**

- Log in to Chamilo with trainer/admin credentials.
- Select the desired course, create or edit a document.
- In the text editor, switch to HTML mode and paste the Vimeo embed code.
- Save and preview the document to confirm that the video is displayed correctly.

# Benefits of the Solution (Vimeo + Cloudflare):

- **Robust Security:** Granular access control through WAF, CORS configuration, and Vimeo privacy settings.
- **Space Savings:** Videos are hosted outside the Chamilo server, avoiding additional storage costs.
- **Flexibility and Performance:** Cloudflare can enhance video delivery performance.
- **Future Compatibility:** The solution does not interfere with Chamilo updates, allowing continued use without code adjustments.



# Considerations and Costs

- **Additional Costs:** The use of Vimeo and Cloudflare may incur extra costs depending on the number of videos and chosen security settings. Evaluating these costs is important for future decisions.
- **Maintenance:** Cloudflare configuration may require adjustments over time, especially with updates to server IPs or new Chamilo features.

# Conclusion

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The proposed solution with Vimeo and Cloudflare provides the necessary security and control to keep videos restricted to Chamilo, efficiently meeting security and cost-effectiveness requirements. This combination allows the organization to continue offering training securely and efficiently, without compromising data integrity or incurring high storage costs on Chamilo.

# References

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**ASSOCIAÇÃO CHAMILO.** Chamilo LMS Documentation [online]. [S.l.]: Associação Chamilo, [s.d.]. Disponível em: <https://docs.chamilo.org>.

**VIMEO Inc.** Guia de Incorporação e Privacidade.

**CLOUDFLARE Inc.** Documentação WAF e CORS.