

## Implementing Zero-Trust Security with Passwordless Authentication Gateways for Privacy-Oriented Organizations Using Keycloak

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**Abstract :** With the increasing concerns about data breaches and privacy violations, organizations seek robust security measures to protect sensitive information. This research paper highlights the importance of implementing the Zero-Trust Security methodology using Passwordless Authentication Gateways that leverage Keycloak, an open-source Identity and Access Management (IAM) software, as a solution to address the security challenges these organizations face. The paper presents the successful implementation and deployment of such a solution in a mid-size, privacy-oriented organization. The implementation resulted in significant security improvements, reducing the risk of unauthorized access and potential data breaches. Moreover, user feedback indicated enhanced convenience and streamlined authentication experiences. The results of this study bring solid contributions in the field of cybersecurity and provide practical insights for organizations aiming to strengthen their security practices.

**Keywords :** identity and access management, passwordless authentication, privacy, zero-trust security

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