

# RunSafe Alkemist Immunizes Software Deployed via JFrog Artifactory

RunSafe Alkemist is a cybersecurity solution built to defeat an entire class of cyber attacks. It seamlessly integrates into software build toolchains to eliminate the threat of memory-based vulnerabilities. Through RunSafe's unique User Plugin, Jfrog users can now automatically apply Alkemist protections directly to artifacts flowing through Artifactory repositories.

## HOW DOES ALKEMIST WORK?

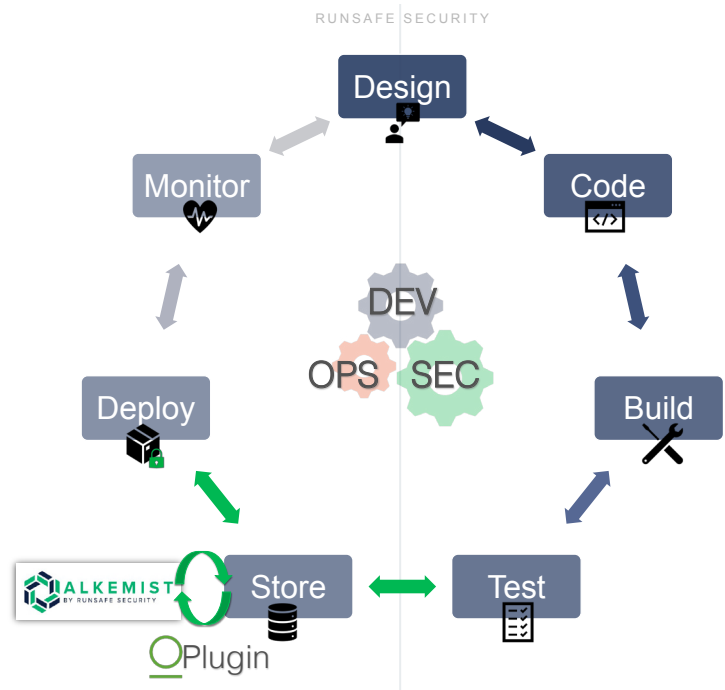
Alkemist's patented protections are applied directly to compiled binaries and introduce randomization in how programs load in memory without changing program functionality. This eliminates the determinism attackers require to exploit all memory-based vulnerabilities by breaking the kill chain. Once these protections are applied, a binary's memory layout is unique, immunizing the software from memory-based attacks. The Alkemist JFrog plugin changes hacker economics by taking in a single software binary and creates multiple, logically unique, versions that are immunized from attack, thus removing the risk of malware proliferation.

## HOW DOES ALKEMIST WORK WITH JFROG ARTIFACTORY?

RunSafe has developed a User Plugin enabling Artifactory customers to apply Alkemist protections directly to software binaries flowing into and out of their repos. This highly configurable solution allows users to build a library of protected artifacts without disrupting the normal deployment processes already in place. There is no change to your pipeline beyond insertion of the plugin. By dropping the Alkemist User Plugin for Artifactory into a CI/CD or DevSecOps pipeline, a unique, but functionally equivalent, binary can be deployed to each target system in an automated fashion.

## PROCESS FLOW:

- 1) Check out source code from SCM
- 2) Build source
- 3) Test compiled binaries
- 4) Binaries are pushed to Artifactory
- 5) Alkemist Plugin identifies appropriate files and protections are applied to n # of binaries
- 6) Protected binaries are stored in Artifactory creating a unique hardened repository
- 7) For each download request, a random binary is pulled from the Artifactory hardened repository, utilizing the Alkemist Plugin logic, and deployed to



## SUMMARY

With RunSafe's Alkemist User Plug for Artifactory, customers can enjoy an unprecedented level of cyber protection and diversity in their software deployments. Whether IT Infrastructure or IoT firmware, Alkemist has you covered!

For more information on RunSafe Alkemist, please contact us at [support@RunSafeSecurity.com](mailto:support@RunSafeSecurity.com)