Shiny in Production

What happens now?

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Data Pipelines, Infrastructure and Collaboration

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Data pipelines Managed R & RStudio Server health and security Transforming collaboration





Who is this talk for?

- 1. Do data science
- 2. Build app
- 3. Deploy app
- 4. Profit!





What is shiny?







LAZARUS

LAZARUS

Motivated by financial gain

LAZARUS

Motivated by financial gain

Target "data rich" organisations







Motivated by ideological

Hacktivists

causes

Target governments, corporations







Script Kiddies

Motivated by fun, vandalism

Script Kiddies

Motivated by fun, vandalism

Target humans,

Vulnerable targets



Attack Vectors: Vulnerabilities



Attack Vectors: Vulnerabilities

Within Shiny

Within dependencies

Attack Vectors: Vulnerabilities

Within Shiny

Within dependencies

Within the Dockerfile

1. Path traversal

- 1. Path traversal
- 2. Read the code

Path traversal
Read the code
See the secrets

- 1. Path traversal
- 2. Read the code
- 3. See the secrets
- 4. Combine exploits

- 1. Path traversal
- 2. Read the code
- 3. See the secrets
- 4. Combine explicit 5. Steal the data

How might one exploit this? 1. Path traversal Data breach 2. Read the code 3. See the sec 4. Combine ex Stealth 5 data

How might one exploit this? 1. Path traversal Data breach 2. Read the code 3. See the sec Data loss 4. Combine ex 5. Steal th data

How might one exploit this? 1. Path traversal Data breach 2. Read the code 3. See the sec 4. Combine ex Stealth data

5.

Denial of service

Why was the app vulnerable?

How might one prevent this? Why was the app vulnerable? Patch policy

Patch polic

Why was the app vulnerable?

What was I able to exploit it?

Why was the app vulnerable?

Web application firewall

Patch polic

What was I able to exploit it?

Why was the app vulnerable? A Patch polic

What was I able to exploit it? Web application firewall

Why were the secrets in the

code?

Why was the app vulnerable? A Patch polic

What was I able to exploit it? Web application firewall

Why were the secrets in the

code?

Secrets management

Why was the app vulnerable? A Patch policy

What was I able to exploit it? Web application firewall

Why were the secrets in the Secrets management code?

Why was the dockerfile vulnerable?

Why was the app vulnerable? A Patch policy

What was I able to exploit it? Web application firewall

Why were the secrets in the Secrets management code?

Why was the dockerfile vulnerable?

Pipeline security

Why was the app vulnerable?

What was I able to exploit it?

Why were the secrets in the code?

Why was the dockerfile vulnerable?

How might one prevent this? Patch policy

Web application firewall

Secrets management

Pipeline security

Attack Vectors: Cloud infrastructure smells

Everything is public

Attack Vectors: Cloud infrastructure smells

Everything is public

Lax firewalls

Attack Vectors: Cloud infrastructure smells

Everything is public

Lax firewalls

Low visibility

Cloud infrastructure, Well

Separate public & private

Firewall everything

Infrastructure as code

Everything is public

Lax firewalls

Low visibility

What have we learned?

Shiny in production?

Who are the baddies?

Vulnerabilities

Shiny in production?

Who are the baddies? Vulnerabiliti

What have we learned? How they can be exploited How can we stop them **Cloud Infrastructure**

concerns



Thanks

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