RIA security based on OWASP Top 10

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```
<script language=“javascript”>
if ( prompt("Enter password") == “supersecret" ) {
    document.location.href = "secret.html";
}
</script>
```

OWASP Top 10

Open Web Application Security Project

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Rich Internet Applications

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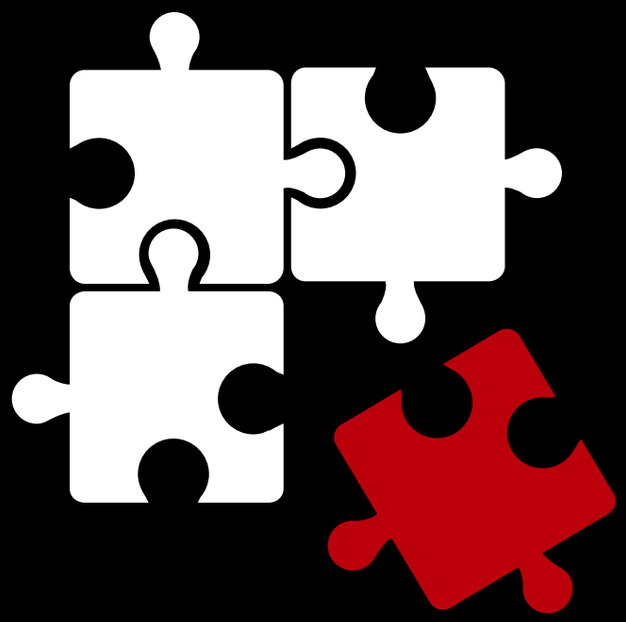

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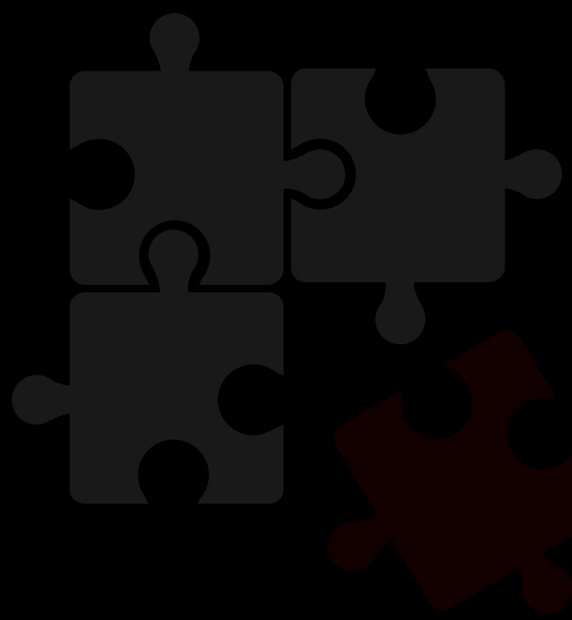

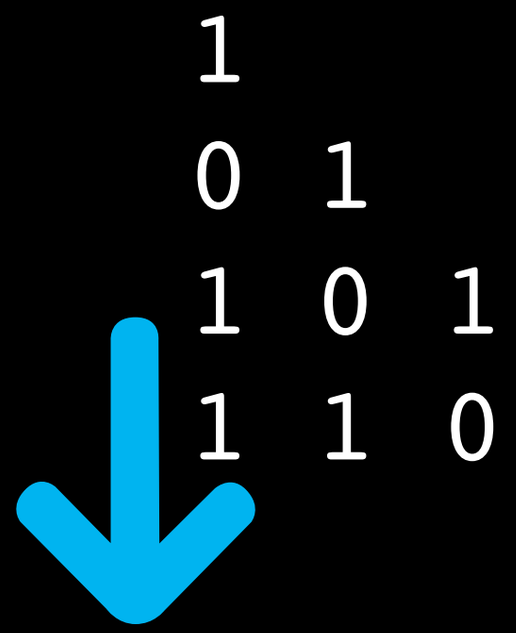

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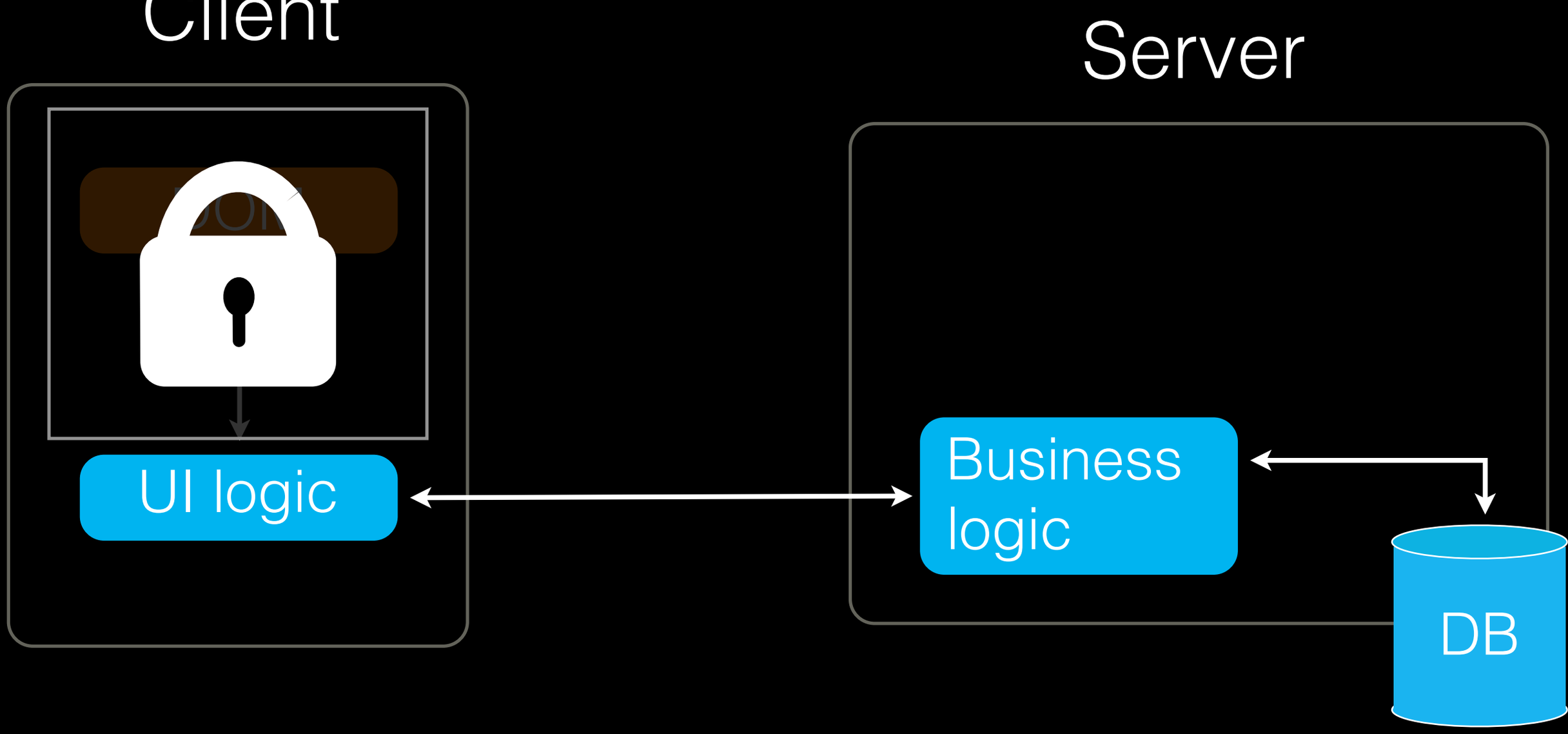
GWT



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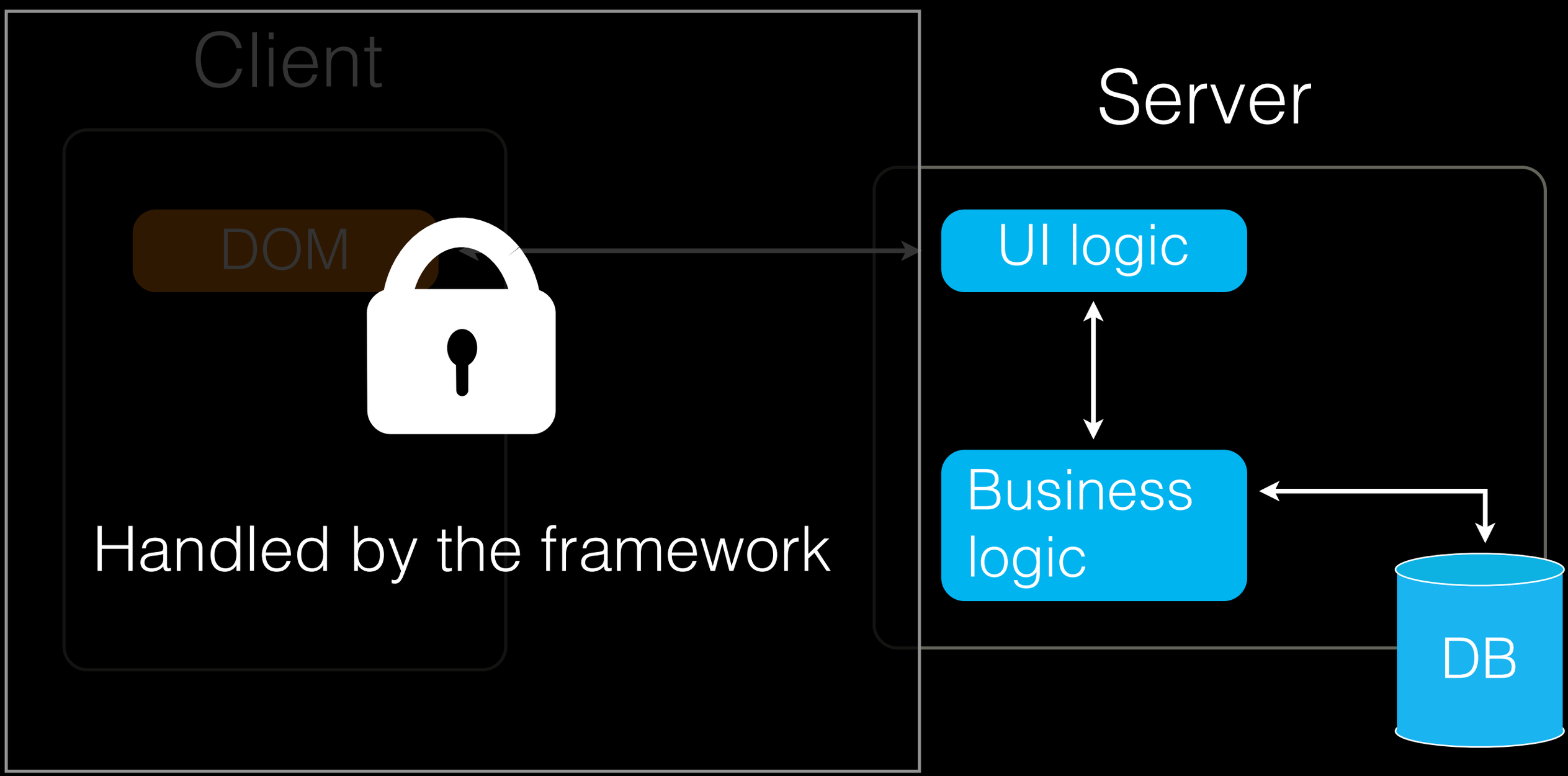

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A1: Injection

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```
“SELECT * FROM Users WHERE username=’”
+ userNameField.getValue() + “’“
```

Not just SQL - could also be JPQL, HQL, shell, XPath, XML, LDAP, regex, eval, ...

Web frameworks can help

GWT

- N/A

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- N/A

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A2: Broken Authentication and Session Management

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Session ID fixation

Exposure of session ID

Exposing user credentials

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Web frameworks can help

GWT

- N/A

Vaadin

- Helper for changing session id

A3: Cross-Site Scripting (XSS)

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Demo: auction application

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Web frameworks can help

GWT

- setText
- SafeHtml

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- setHtmlContentAllowed(false)
- Beware of tooltips (setDescription)

Other things to keep in mind

- Consider using Markdown
- Context is king
- The XSS filter evasion cheat sheet

A4: Insecure Direct Object References

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Web frameworks can help

GWT

- Not so much, since this is mostly a server-side thing
- Can be hard to realize the problem since requests are “invisible”

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- All ids are generated values that the server uses to find the right object when needed

A5: Security Misconfiguration

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Web frameworks can help

GWT

- N/A

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- productionMode = true

A6: Sensitive Data Exposure

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Keep in mind

- Use SSL, no excuses!
- Salt and hash passwords
- Avoid handling sensitive data,
  e.g. credit card numbers

A7: Missing Function Level Access Control

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A8: Cross-Site Request Forgery (CSRF)

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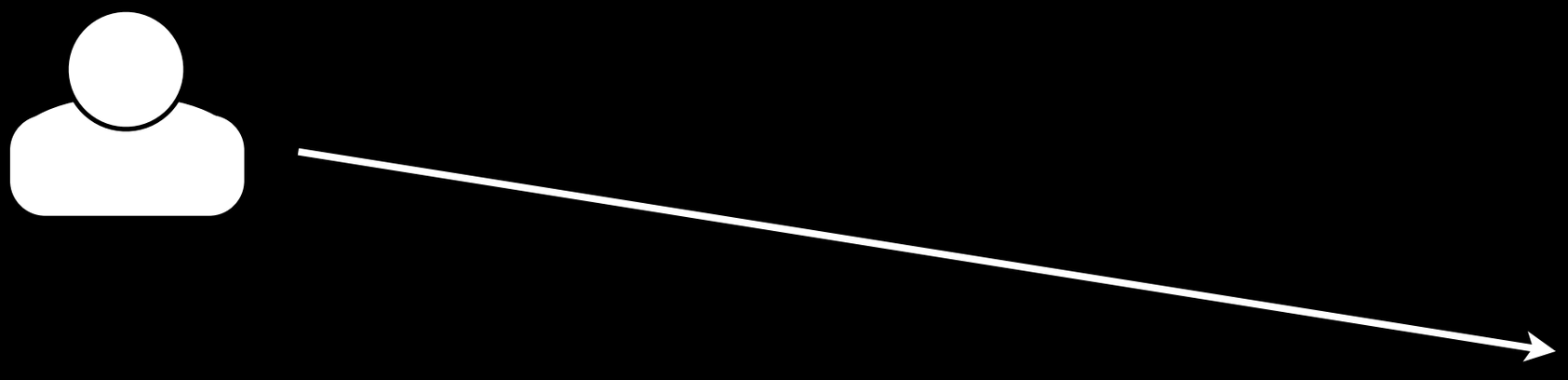
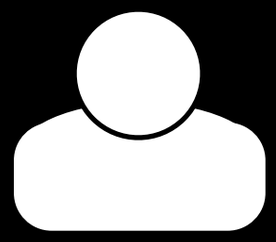
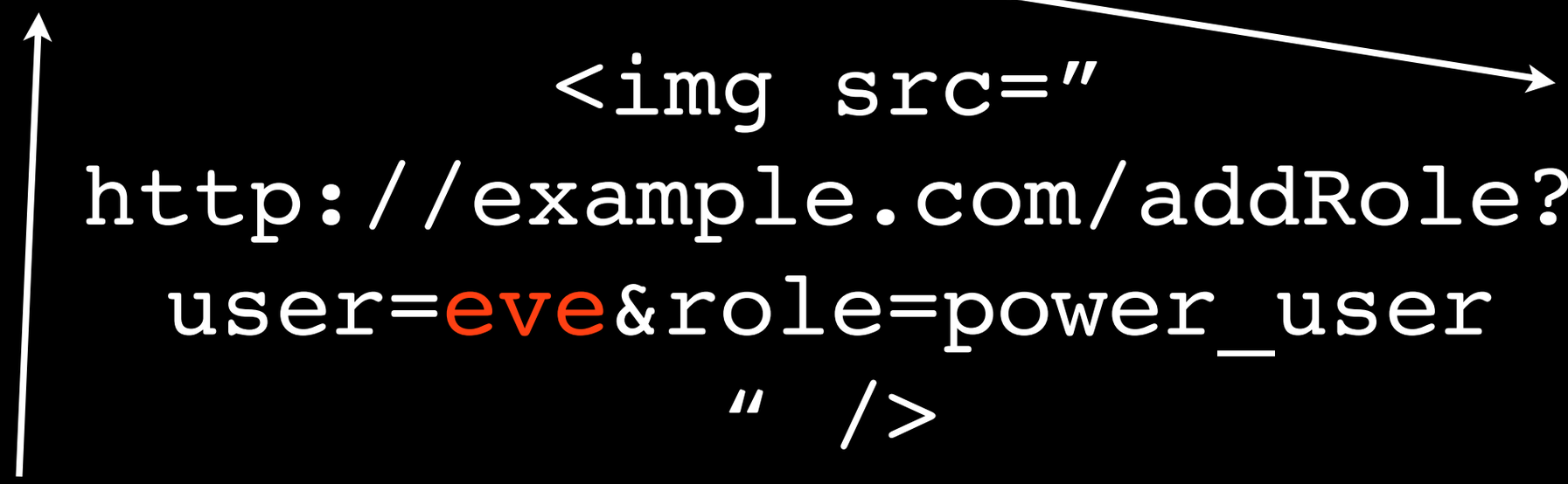
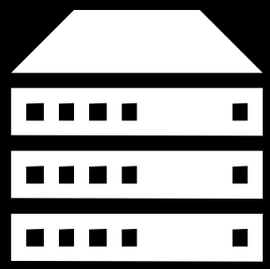


```
http://example.com/addRole?
user=adam&role=power_user
```




<img src="
http://example.com/addRole?
user=eve&role=power_user
" />



```
http://example.com/addRole?
user=eve&role=power_user&token=abcd
```

Web frameworks can help

GWT

- GWT-RPC: XsrfTokenService and/or HasRpcToken
- RequestFactory: Make your own RequestTransport

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- Secured out of the box

A9: Using Components with Known Vulnerabilities

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How do you know whether they are vulnerable?

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A10: Unvalidated Redirects and Forwards

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```
<a href=”http://myapp.com?
redirect=example.com/evil"> Open app </a>
```

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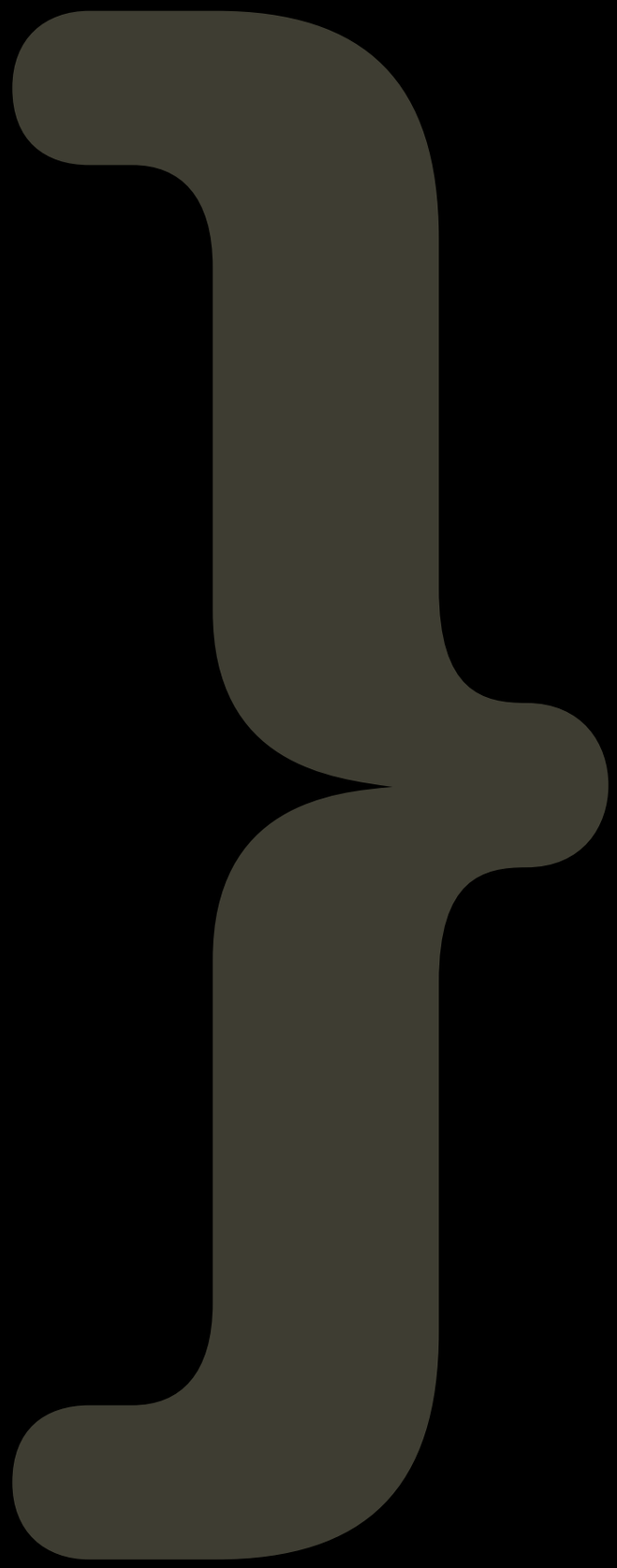

Very quick conclusion

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Did we get some detail wrong?

Questions?

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