

Introduction to
Cybersecurity

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Preserving Privacy

Web Browsing History

Logs

HTTP Headers

Google

🔍 cats|



Google Search

I'm Feeling Lucky


```
<a href="https://example.com">cats</a>
```

Referer: <https://www.google.com/search?q=cats>

Referer: <https://www.google.com/>


```
<meta name="referrer" content="origin">
```

```
<meta name="referrer" content="none">
```

Referrer-Policy: origin

Referrer-Policy: no-referrer

Fingerprinting

User-Agent

Mozilla/5.0 (Linux; {Android Version}; {Build Tag etc.})
AppleWebKit/{WebKit Rev} (KHTML, like Gecko)
Chrome/{Chrome Rev} Mobile Safari/{WebKit Rev}

Session Cookies

HTTP/3 200

Set-Cookie: session=1234abcd

GET / HTTP/3

Cookie: session=1234abcd

Tracking Cookies

Set-Cookie: `_ga=GA1.2.0123456789.0; max-age=63072000`

Tracking Parameters

https://example.com/ad_engagement?click_id=YmVhODI1MmZmNGU4&campaign_id=23

https://example.com/ad_engagement?click_id=YmVhODI1MmZmNGU4&campaign_id=23

https://example.com/ad_engagement?campaign_id=23

Third-Party Cookies

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```

```
    <title>Harvard</title>
```

```
  </head>
```

```
  <body>
```

```
    
```

```
  </body>
```

```
</html>
```

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```

```
    <title>Yale</title>
```

```
  </head>
```

```
  <body>
```

```
    
```

```
  </body>
```

```
</html>
```

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```

```
    <title>Stanford</title>
```

```
  </head>
```

```
  <body>
```

```
    
```

```
  </body>
```

```
</html>
```


GET /ad.gif HTTP/3

Host: example.com

Referer: <https://harvard.edu/>

HTTP/3 200

Set-Cookie: id=1234abcd; max-age=31536000

GET /ad.gif HTTP/3

Cookie: id=1234abcd

Host: example.com

Referer: <https://yale.edu/>

GET /ad.gif HTTP/3

Cookie: id=1234abcd

Host: example.com

Referer: <https://stanford.edu/>

Private Browsing

Supercookies

GET / HTTP/3

Host: example.com

GET / HTTP/3

Host: example.com

Cookie: id=1234abcd

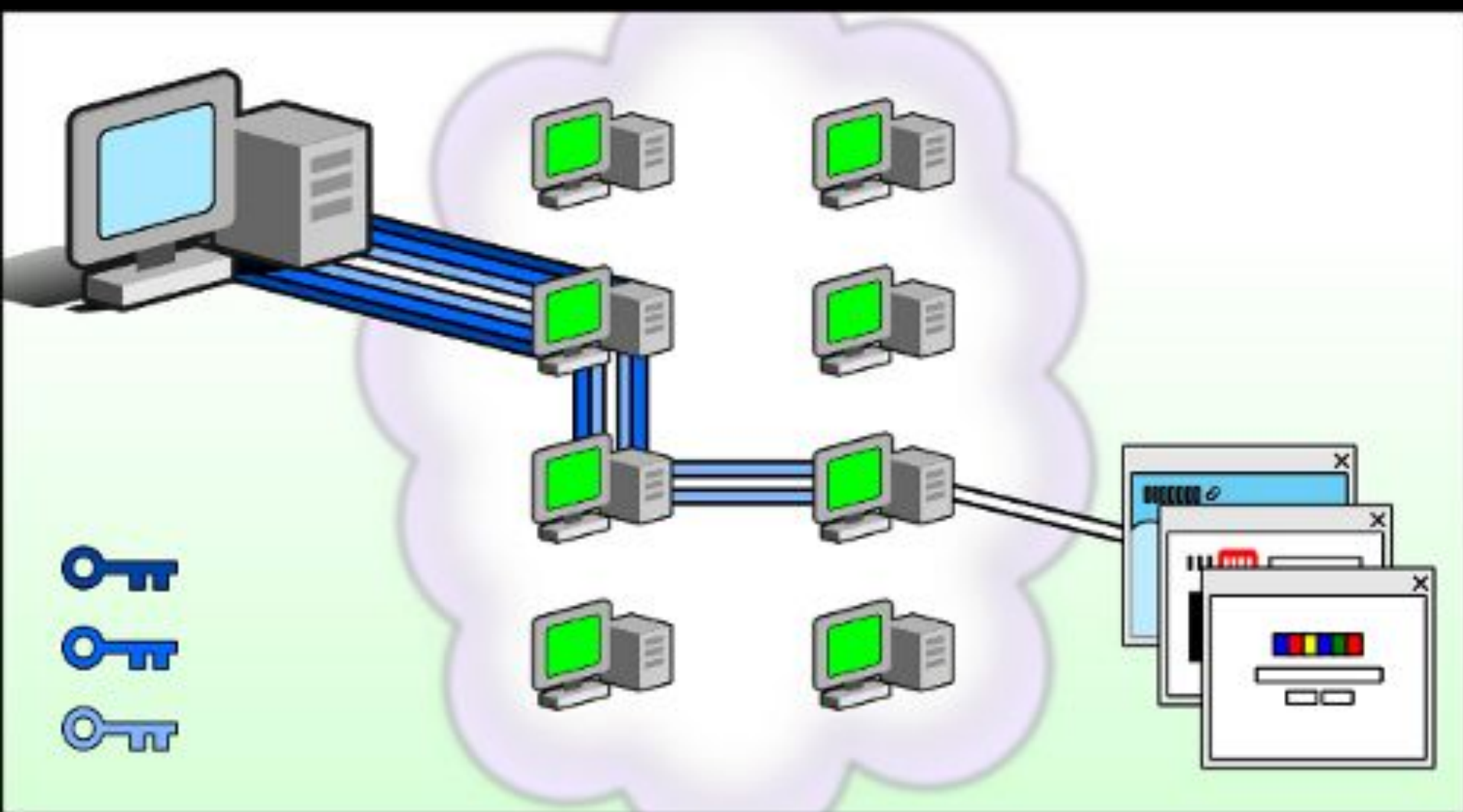
DNS

DNS over HTTPS (DoH)

DNS over TLS (DoT)

Virtual Private Network (VPN)

Tor



Permissions

Location-Based Services

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