Computer System- B Security

Introduction to Web Security P3

Cookies, Phishing, SQL injections

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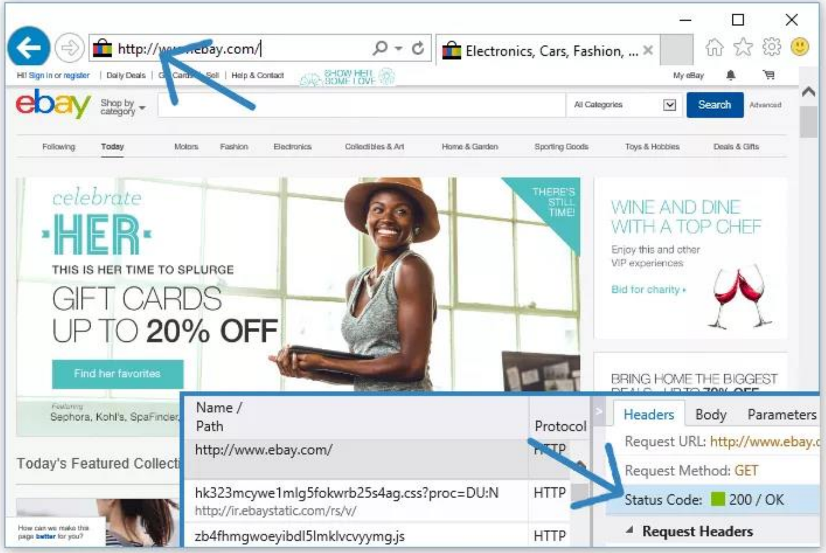
HTTP vs HTTPS

- HTTP send request/response in clear text
  - Information can be sniffed (confidentiality is lost)
- We do not know if we are connected to the right server
  - Identity/authenticity is not variable.
- HTTPS (secure) solves this by using crypto.
  - Encryption
  - Signature
  - MAC
- Example: SSL/TSL (later in the unit)

HTTP vs HTTPS



http://www.ebay.com/
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Hi! Sign in or register | Daily Deals | Gift Cards | Sell | Help & Contact
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Search
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Today
Motors
Fashion
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Home & Garden
Sporting Goods
Toys & Hobbies
Deals & Gifts
celebrate HER
THIS IS HER TIME TO SPLURGE
GIFT CARDS UP TO 20% OFF
Find her favorites
THERE'S STILL TIME!
WINE AND DINE WITH A TOP CHEF
Enjoy this and other VIP experiences
Bid for charity ›
BRING HOME THE BIGGEST
Featuring Sephora, Kohl's, SpaFinder
Today's Featured Collecti
How can we make this page better for you?

Name / Path	Protocol
http://www.ebay.com/	HTTP
hk323mcywe1mlg5fokwrb25s4ag.css?proc=DU:N http://ir.ebaystatic.com/rs/v/	HTTP
zb4fhmgwoeyibdl5lmklvcvyymg.js	HTTP

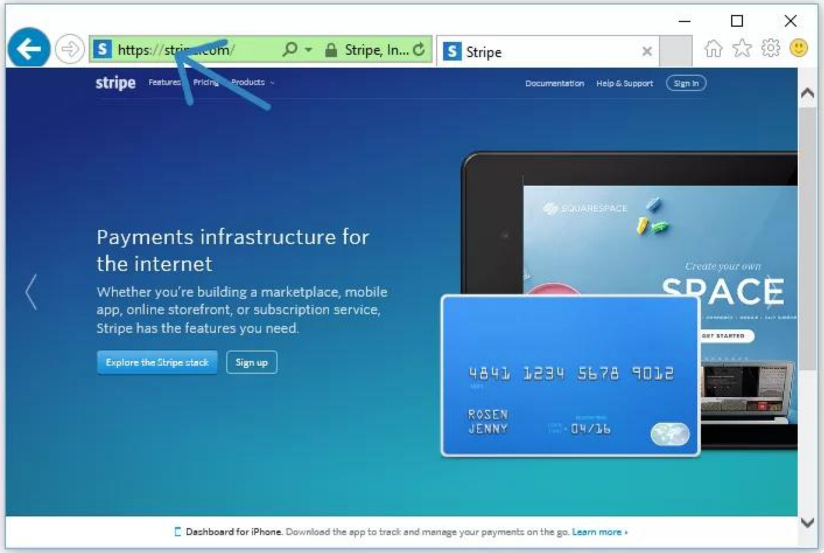
Headers | Body | Parameters

Request URL: http://www.ebay.c

Request Method: GET

Status Code: 🟩 200 / OK

Request Headers



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- Thus, a class of attacks known as session hijacking.

Session Hijacking

- Leakage of HTTP session information may lead to an attack called *session hijacking*.
  - Stealing of session ID/cookies allows an attacker to impersonate an ongoing session
  - Replay of a session to repeat some important action.

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- SOP policy is applicable to who access the cookies
- Contains sensitive information!

Phishing

- Forged web pages created to fraudulently acquire sensitive information.

Click-Jacking

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- Click-jacking is a form of web site exploitation.
- A user's mouse click on a page is used in a way that was not intended by the user
- For example
- <a onMouseUp=window.open("http://www.evilsite.com") href="http://www.trustedsite.com/">Trust me!</a>

SQL Injection Attack

- Web Security

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- An SQL injection attack involves placing SQL statements in the user input (again, data-code confusion!)

SQL:
Standard
Query
Language

SQL lets you access and manage (Query) databases

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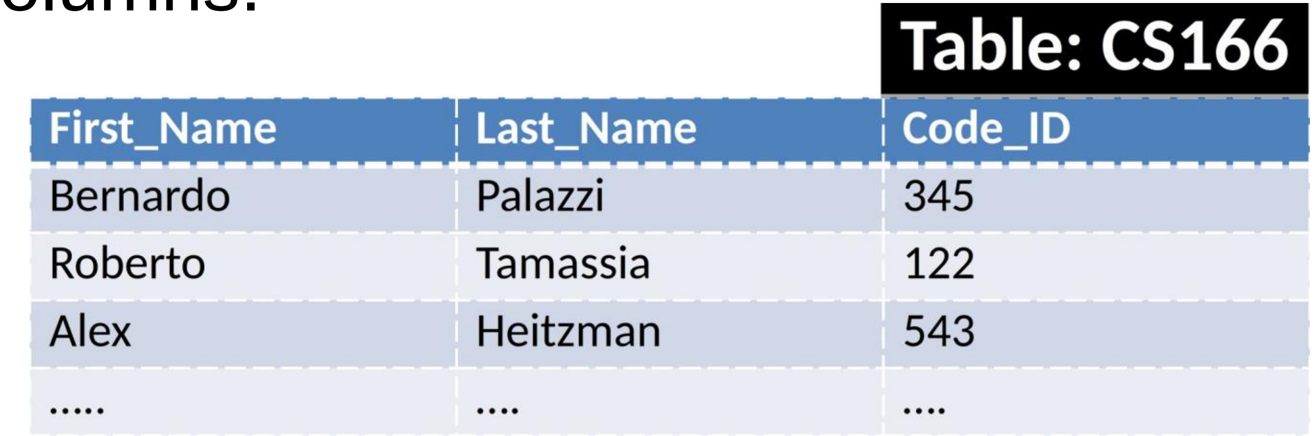
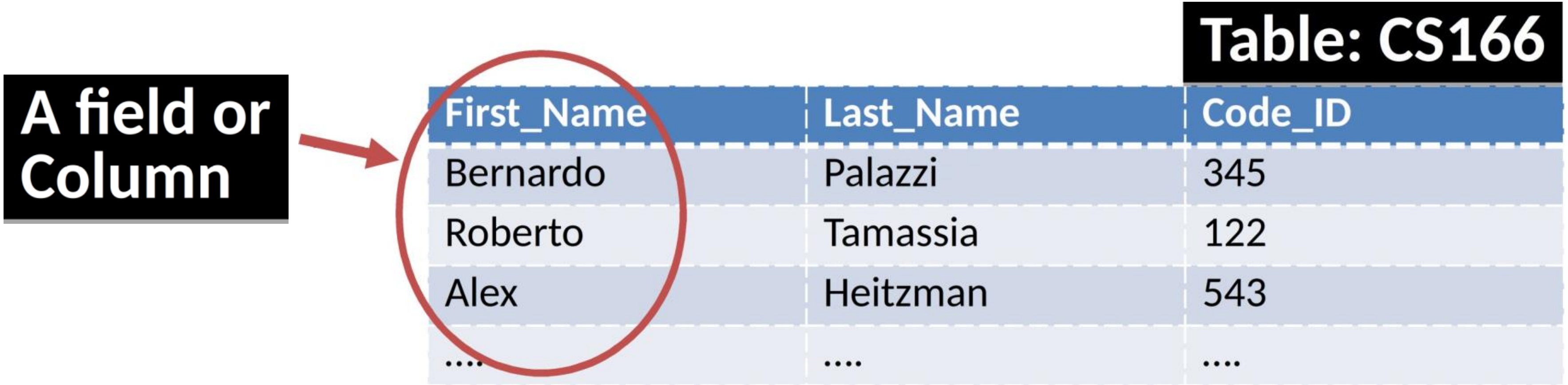


Table: CS166

First_Name	Last_Name	Code_ID
Bernardo	Palazzi	345
Roberto	Tamassia	122
Alex	Heitzman	543
…..	….	….

SQL: Standard Query Language



A field or Column

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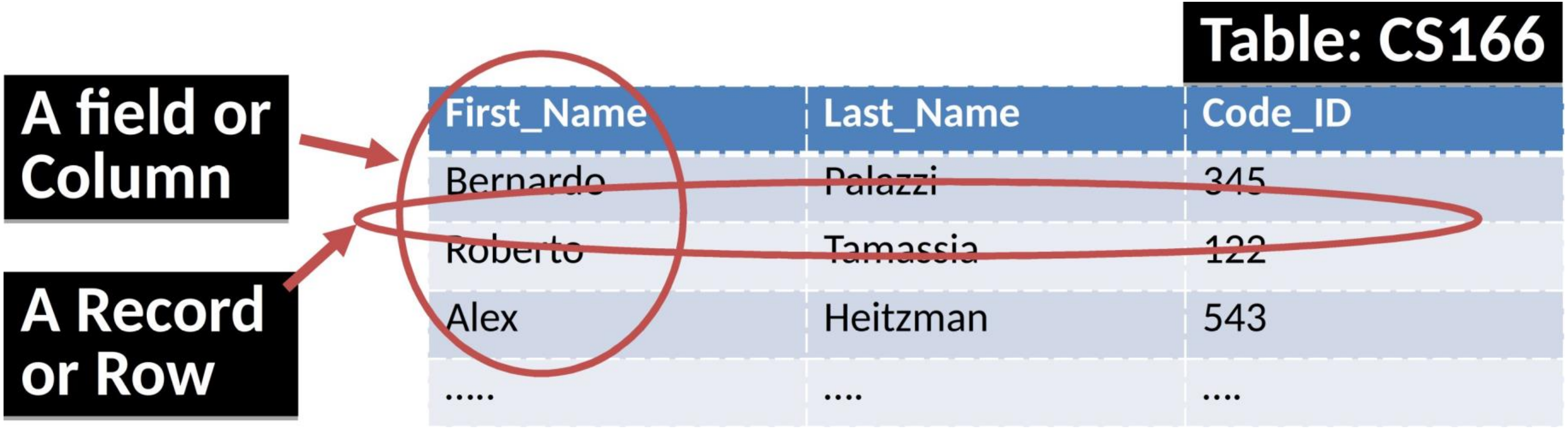

A field or Column

A Record or Row

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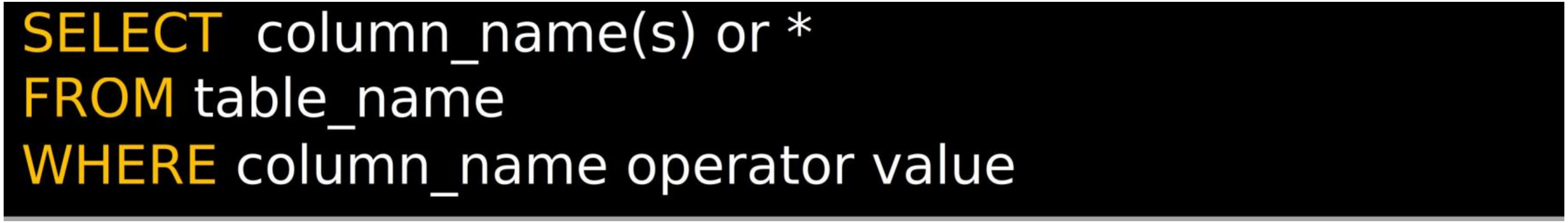
SQL Syntax



```
SELECT  column_name(s) or *
FROM table_name
WHERE column_name operator value
```

- SELECT statement is used to select data FROM one or more tables in a database

•WHERE clause is used to filter records

Result-set is stored in a result table

- ;is statement terminator and --is remark beginning

What did we learn today?