SQL Injection Attacks: A Quick Primer

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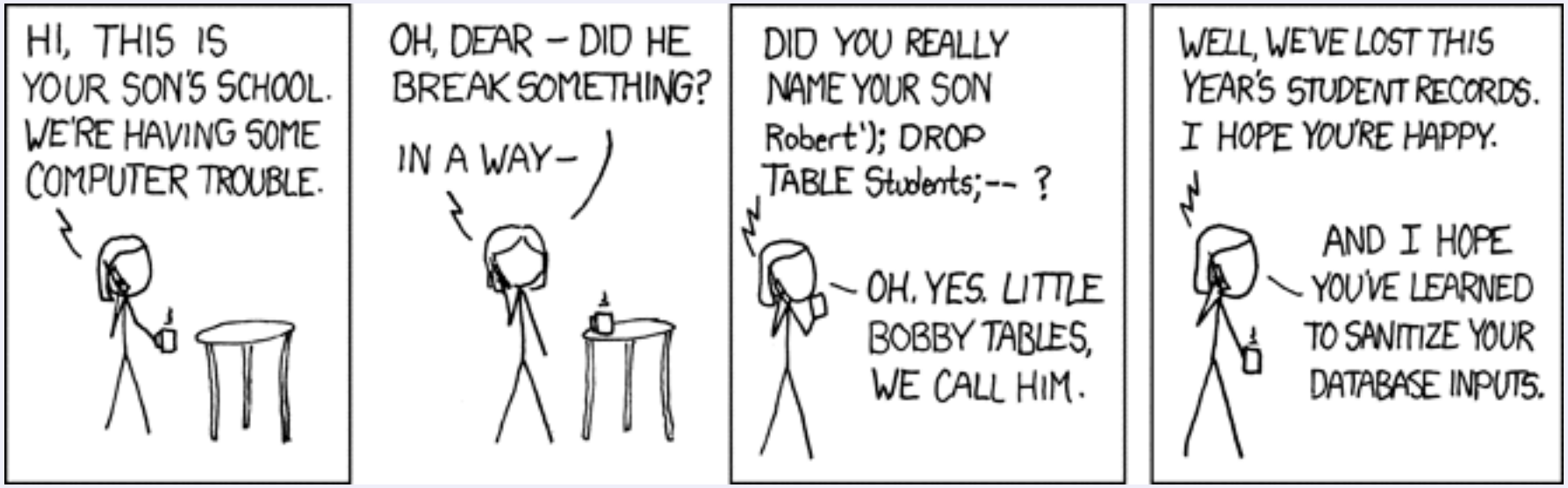
OWASP Top 10 Vulnerabilities - 2017

Rank	Name
1	Injection
2	Broken Authentication
3	Sensitive Data Exposure
4	XML External Entities
5	Broken Access Control
6	Security Misconfiguration
7	Cross-Site Scripting
8	Insecure Deserialization
9	Using Components with Known Vulnerabilities
10	Insufficient Logging & Monitoring

Injection Attacks

An important lesson: Trust nobody



Explanation

Suppose user makes a modified HTTP request
› https://www.store.com/orders?year=0%20OR%201%3D1

SELECT date, item FROM orders

WHERE user=126 AND year=0 ***OR 1=1***

Effect
› sets year variable to 0 OR 1=1
› shows all orders in the database

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Price List for Stolen Data

Address	*$0.50*
Phone number	*$0.25*
Unpublished phone	*$17.50*
Cell phone number	*$10*
Date of birth	*$2*
Social Security number	*$8*
Drivers's License	*$3*
Education	*$12*
Credit History	*$9*
Bankruptcy details	*$26.50*
Lawsuit information	*$2.95*

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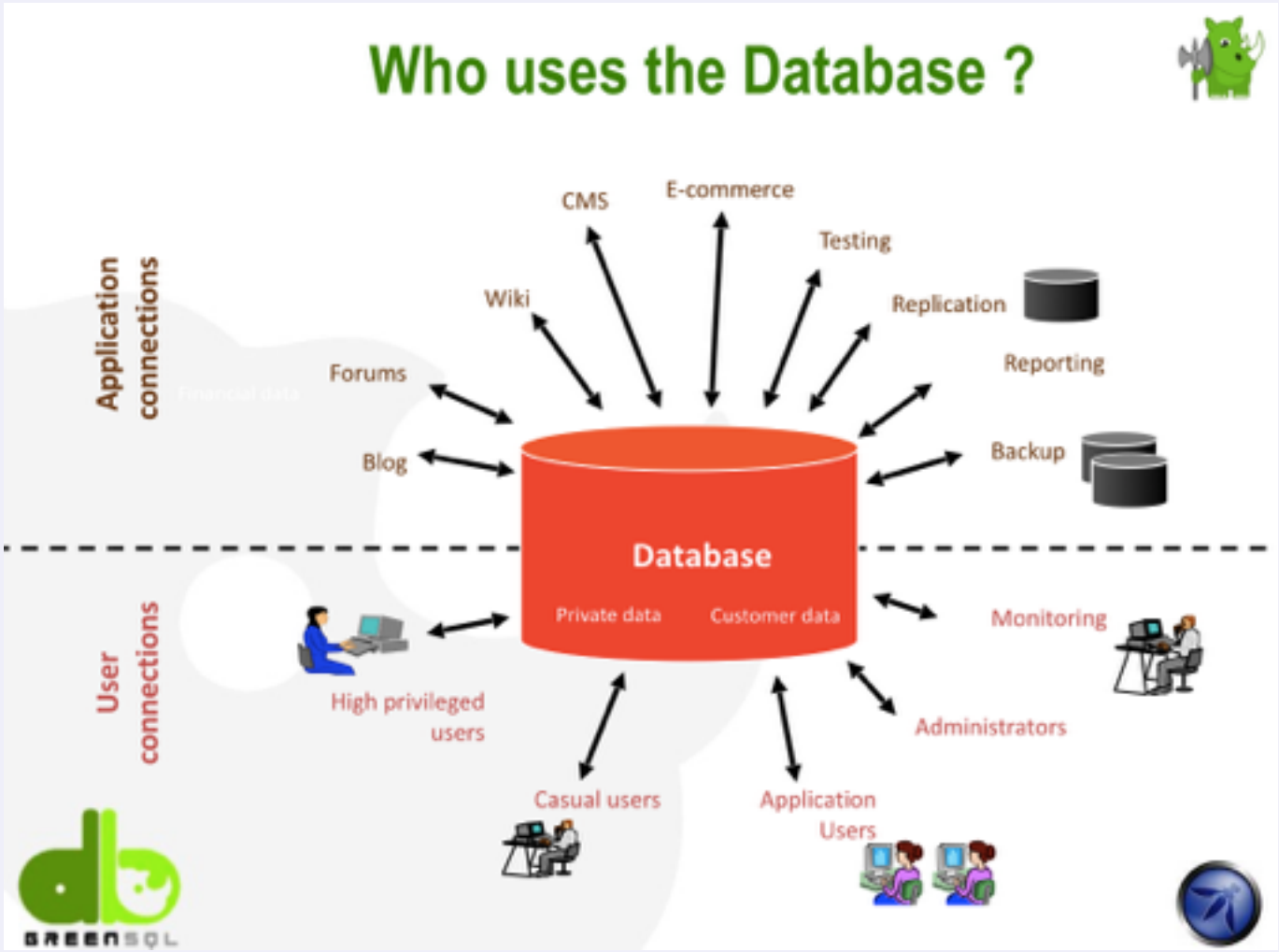
Solution

Use parameterized queries, and don’t sweat it!

```
// PHP - PDO

$stmt = $dbh->prepare("INSERT INTO REGISTRY (name, value) VALUES (:name, :value)");
$stmt->bindParam(':name', $name);
$stmt->bindParam(':value', $value);
```


Who uses the Database ?
Application connections
CMS
E-commerce
Testing
Wiki
Replication
Forums
Reporting
Blog
Backup
Database
Private data
Customer data
User connections
Monitoring
High privileged users
Administrators
Casual users
Application Users

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Thanks for your attention! :-)

(Easy) Questions?