







JENNER HALL FEN

User

Salary

MAC\*

Alice

0x4711...

Eve

0xabcd...

...

...

...

3,141€

2,718 €



**DATA INTEGRITY & ASSOCIATION**









EVER GETS AN INSTANT PROMOTION

**0X123456...**





**Problem: Protected data can be “replayed”.**

0x4711...

# DATA INTEGRITY & ASSOCIATION

0X123456... ✓

**Problem:** Protected data can be “replayed”.



User		Salary	MAC*
	Alice	3,141€	0x4711...
	Eve	3,141€	0x4711...
...		EVE GETS AN INSTANT PROMOTION	
...			...

## DATA INTEGRITY & ASSOCIATION

0X123456... ✓

**Problem:** Protected data can be “replayed”.

**Solution:** Cryptographically bind data to context.

User	Salary	MAC*
 Alice	3,141€	0xabcd...
 Eve	2,718€	0x9876...
...	...	...

\* including the username in the hash/hmac