







JENNER

User

Salary

MAC\*

Alice

0x4711...

Eve

0xabcd...

...

...

...

10,000 €

2,718 €

**DATA INTEGRITY & ASSOCIATION**











THE CHECKSUMS DON'T MATCH, PROMOTION IS DECLINED

**0X123456...**



3,141€



\*Checksum with a secret: HMAC, AEAAD, public key signatures

**Problem:** Sensitive data can be manipulated.

**Solution:** Use cryptographic checksums with a secret.





## DATA INTEGRITY & ASSOCIATION

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|--|----------|-----------|
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\* Checksum with a secret: hmac, AEAD, public key signatures

# DATA INTEGRITY & ASSOCIATION

0X123456... ✓

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

| User   | Salary  | MAC*      |
|--|---------|-----------|
|  Alice | 3,141€  | 0x4711... |
|  Eve  | 2,718 € | 0xabcd... |
| ...  | ...     | ...       |