AD-HOC ON DEMAND DISTANCE VECTOR
Ad Hoc On-Demand Distance Vector Routing (AODV)

- Note: this and the following slides are provided here because AODV is used in the hands-on exercises. We will come back to this topic in a later module of the course.
AODV : Route discovery (1)
Note: if one of the intermediate nodes (e.g., A) knows a route to D, it responds immediately to S
AODV : Route discovery (3)

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: represents a **link** on the **reverse path**
AODV : Route discovery (4)
AODV: Route discovery (5)
AODV : Route discovery (6)
AODV : Route discovery (7)
AODV: Route reply and setup of the forward path

Link over which the RREP is transmitted
Forward path
Route reply in AODV

• In case it knows a path more recent than the one previously known to sender S, an intermediate node may also send a route reply (RREP)
• The freshness of a path is assessed by means of destination sequence numbers
• Both reverse and forward paths are purged at the expiration of appropriately chosen timeout intervals
AODV: Data delivery

The route is not included in the packet header
AODV: Route maintenance (1)
When receiving the Route Error message (RERR), S removes the broken link from its cache. It then initializes a new route discovery.
AODV (unicast) : Conclusion

- Nodes maintain routing information only for routes that are in active use
- Unused routes expire even when the topology does not change
- Each node maintains at most one next-hop per destination