

# **FACULTY OF ENGINEERING & TECHNOLOGY**

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# **Topics Covered**

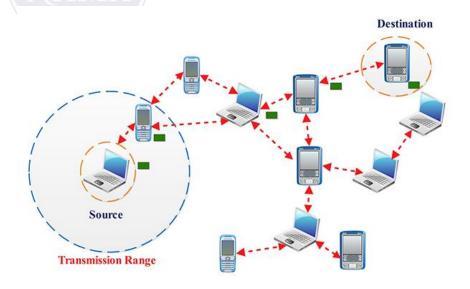
ad-hoc network Mobile Ad hoc Network (MANET) Classifications of Ad Hoc Networks



#### ad-hoc network

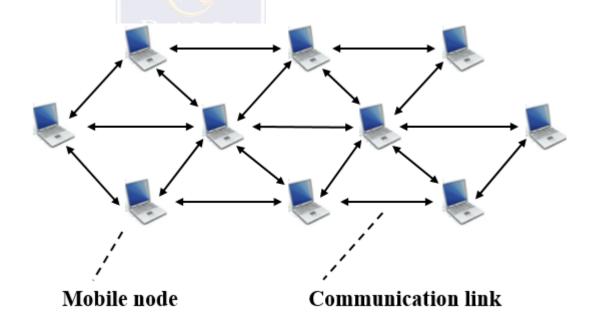
An ad hoc network is one that is spontaneously formed when devices connect and communicate with each other. The term ad hoc is a Latin word that literally means "for this," implying improvised or impromptu.

Ad hoc networks are mostly wireless local area networks (LANs). The devices communicate with each other directly instead of relying on a base station or access points as in wireless LANs for data transfer co-ordination. Each device participates in routing activity, by determining the route using the routing algorithm and forwarding data to other devices via this route.



### Mobile Ad hoc Network (MANET)

MANET stands for Mobile adhoc Network also called as wireless adhoc network or adhoc wireless network that usually has a routable networking environment on top of a Link Layer ad hoc network. They consist of set of mobile nodes connected wirelessly in a self configured, self healing network without having a fixed infrastructure. MANET nodes are free to move randomly as the network topology changes frequently. Each node behaves as a router as they forward traffic to other specified node in the network.



#### **Classifications of Ad Hoc Networks**

Ad hoc networks can be classified into several applications. The most prominent ad hoc networks illustrated in the diagram below –

Mobile ad hoc networks (MANETs)

 This is a self-configuring, self-organising, wireless network of mobile devices.

Vehicular ad hoc networks (VANETs)

 This is network formed by communication between moving vehicles and other roadside devices.

VE Wireles

 The devices connected to these networks forms a wireless mesh, depending upon the mobility patterns, nature of devices and inter-device distances.

Smart phone Ad Hoc Networks (SPANs)  These are peer - to - peer networks created by smartphones within range of each other without requiring any cellular carrier networks, wireless access points etc.

Wireless Sensor Networks (WSN)  Sensors are portable devices that capture specific information from environment like temperature, humidity, traffic volume etc. WSNs form ad hoc networks to capture information on the fly.