ADVANCED COMPUTER NETWORK

PRACTICAL NO 7

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Practical 7:

Aim: Create Simple Adhoc Network.

Source Code:

<u>**Scenario.ned**</u>

```
package inet.examples.adhoc.hostautoconf;

import inet.world.radio.ChannelControl;


network Scenario
{
    parameters:
        double hosts;

    submodules:
        channelControl: ChannelControl;
        host[hosts]: Host;
}
```

<u>**omnetpp.ini**</u>

```
[General]
debug-on-errors = true

network = Scenario
sim-time-limit = 60min

cmdenv-express-mode = true

*.hosts = 3

**.constraintAreaMinX = 0m
**.constraintAreaMinY = 0m
**.constraintAreaMinZ = 0m
**.constraintAreaMaxX = 600m
**.constraintAreaMaxY = 400m
**.constraintAreaMaxZ = 0m
**.debug = true
**.coreDebug = false
**.host*.**.channelNumber = 0

# channel physical parameters
*.channelControl.carrierFrequency = 2.4GHz
```

```
*.channelControl.pMax = 2.0mW
*.channelControl.sat = -110dBm
*.channelControl.alpha = 2
*.channelControl.numChannels = 1

# mobility
**.host*.mobilityType = "MassMobility"
**.host*.mobility.initFromDisplayString = false
**.host*.mobility.changeInterval = truncnormal(2s, 0.5s)
**.host*.mobility.changeAngleBy = normal(0deg, 30deg)
**.host*.mobility.speed = truncnormal(20mps, 8mps)
**.host*.mobility.updateInterval = 100ms
**.host*.ac_wlan.interfaces = "wlan0"

# UDPBasicApp / UDPSink
**.numUdpApps = 1
**.udpApp[0].typename = "UDPBasicApp"
**.udpApp[0].destAddresses = "host[0]"
**.udpApp[0].localPort = 9001
**.udpApp[0].destPort = 9001
**.udpApp[0].messageLength = 100B
**.udpApp[0].startTime = uniform(10s, 30s)
**.udpApp[0].sendInterval = uniform(10s, 30s)

# nic settings
**.wlan[*].mgmtType = "Ieee80211MgmtAdhoc"
**.wlan[*].bitrate = 2Mbps

**.wlan[*].mgmt.frameCapacity = 10
**.wlan[*].mac.address = "auto"
**.wlan[*].mac.maxQueueSize = 14
**.wlan[*].mac.rtsThresholdBytes = 3000B
**.wlan[*].mac.retryLimit = 7
**.wlan[*].mac.cwMinData = 7
**.wlan[*].mac.cwMinBroadcast = 31

**.wlan[*].radio.transmitterPower = 2mW
**.wlan[*].radio.thermalNoise = -110dBm
**.wlan[*].radio.sensitivity = -85dBm
**.wlan[*].radio.pathLossAlpha = 2
**.wlan[*].radio.snirThreshold = 4dB

**.udpapp.*.vector-recording = true
**.vector-recording = true
```

Output: