**Detection and Prevention of Security Attacks in VANET**

**Step 1.** To Run our project, following Software needs to be installed

* **UBUNTU 18.0.0 +**
* **Eclipse**
  + <https://linoxide.com/linux-how-to/learn-how-install-latest-eclipse-ubuntu/>
* **MVN**
  + *sudo apt-get install mvn*
  + *set MVN\_HOME Path Variable*
* **JAVA** 
  + *sudo apt-get install java*
  + *set JAVA\_HOME Path variable*
* **Open JDK 8**
  + *sudo apt-get install openjdk-8-jdk*
  + sudo update-alternatives --set java/usr/lib/jvm/jdk1.8.0\_**version**/bin/java

**Step 2.** To Run the App, follow the following steps

* **Step 1: Certificate Generation**
  + Generate the new certificate by running the command
    - ***./gen-cert.sh <vehicle1> <vehicle2>*** ..., new keys will also be generated for ca and RSU in the process.
* **Step 2: Install the App**
  + Install All the dependencies required for the project, run the command:
    - ***sudo apt-get ./mvn-script.sh install***
* **Step 3: Detection of Attack**
  + Run the commands to detect and prevent attacks
    - ***Method 1: sudo ./mvn-script.sh <entity> [arguments]***
      * entity: (VIN8 vehicle8 10,5 0,0 BAD\_SIGNATURES)
        + BAD\_POSITIONS: for Sybil Attack Detection
        + BAD\_SIGNATURES: for Bad signature detection
        + BAD\_CERTIFICATE: for bad certification detection
        + BAD\_TIMESTAMPS: for Replay Attack Detection
        + BEACON\_DOS: for DOS attack detection
      * arguments: (example)
        + VIN1 vehicle1 750,850 0,0 Sample Massage
        + VIN8 vehicle8 10,5 0,0 BAD\_SIGNATURES
        + VIN21 invalidCACert1 5,5 0,0 BAD\_CERTIFICATE
        + VIN4 vehicle4 10,5 0,0 BAD\_SIGNATURES
        + VIN6 vehicle6 10,5 0,0 BEACON\_DOS
    - ***Method 2:*** use the launcher to launch predefined profiles in: profiles\_\*.txt with: (if name is omited default profile\_default.txt is assumed
      * ***sudo ./launcher <any-profile-file>***

**Step 3: Follow the command instruction and execute the Proposed System.**