

AIS DATA

Introduction

On the server with IP address **62.103.245.63**, we are receiving AIS data in the `!AIVDM` format via **UDP** on port **9094**, as shown below. We are using the `pyais` library version **2.6.2**, which supports decoding all types of AIS messages. We decode the messages we receive using the `UDPReceiver` and the `decode` function.

```
!AIVDM,2,2,3,B,888888888880,2*24
A8u`TFoN2222222222216:P7884w>0;BC821PH888,0*1A

!AIVDM,1,1,,A,1815TgQw@02A9aBB6CrQA9AL0hKk,0*3E
222216<HA>4<w80;AAi0C@0000,0*58

!AIVDM,1,1,,B,3815DRE0?w<tSF014Q@>480v0`jP,0*44
000016000004rm0;m4RD3k2@00,0*0A

!AIVDM,1,1,,B,3815DRE0?w<tSF014Q@>480v0`jP,0*44
222216:P7884w>0;BC821PH888,0*1A

!AIVDM,1,1,,A,15?dQAP01vR>?bHCa;SKaqEN0hKm,0*53
222216:P7884w>0;BC821PH888,0*1A

!AIVDM,1,1,,A,15?dQAP01vR>?bHCa;SKaqEN0hKm,0*53
!AIVDM,1,1,,A,16ecHt00912RNVVCFIRFA99L0Trt,0*0A
222216:P7884w>0;BC821PH888,0*1A
```

AIS Types that we are received

```
{'msg_type': 1, 'repeat': 0, 'mmsi': 212000123, 'status': <NavigationStatus.Undefined: 15>, 'turn':
<TurnRate.NO_TI_DEFAULT: -128.0>, 'speed': 102.3, 'accuracy': False, 'lon': 181.0, 'lat': 91.0, 'course': 360.0,
'heading': 511, 'second': 63, 'maneuver': <ManeuverIndicator.NotAvailable: 0>, 'spare_1': b'\x00', 'raim': False, 'radio':
475199}
```

```
{'msg_type': 3, 'repeat': 0, 'mmsi': 538009390, 'status': <NavigationStatus.UnderWayUsingEngine: 0>, 'turn': 0.0,
'speed': 11.6, 'accuracy': True, 'lon': 29.629933, 'lat': 31.337455, 'course': 163.2, 'heading': 162, 'second': 39, 'maneuver':
<ManeuverIndicator.NotAvailable: 0>, 'spare_1': b'\x00', 'raim': False, 'radio': 131072}
```

```
{'msg_type': 4, 'repeat': 0, 'mmsi': 2717226, 'year': 2004, 'month': 8, 'day': 19, 'hour': 8, 'minute': 25, 'second': 39,
'accuracy': False, 'lon': 33.169583, 'lat': 35.271333, 'epfd': <EpfdType.Surveyed: 7>, 'spare_1': b'\x00\x00', 'raim': False,
'radio': 114756}
```

```
{'msg_type': 5, 'repeat': 0, 'mmsi': 352002374, 'ais_version': 0, 'imo': 9316983, 'callsign': '3E2300', 'shipname':
'LADY JAMILA', 'ship_type': <ShipType.Cargo: 70>, 'to_bow': 154, 'to_stern': 26, 'to_port': 20, 'to_starboard': 8,
'epfd': <EpfdType.GPS: 1>, 'month': 4, 'day': 6, 'hour': 17, 'minute': 0, 'draught': 6.5, 'destination': 'TR IST', 'dte': False,
'spare_1': b'\x00'}
```

```
{'msg_type': 6, 'repeat': 0, 'mmsi': 352002844, 'seqno': 2, 'dest_mmsi': 974601132, 'retransmit': False, 'spare_1': b'\x00', 'dac': 1, 'fid': 0, 'data': b'\x80\x15\x13R\x04\x83X@'}
```

```
{'msg_type': 8, 'repeat': 0, 'mmsi': 212983147, 'spare_1': b'\x00', 'dac': 1, 'fid': 29, 'data': b'\x02\x8f9pO\x18'\x00'}
```

```
{'msg_type': 9, 'repeat': 0, 'mmsi': 2134, 'alt': 4095, 'speed': 1023.0, 'accuracy': False, 'lon': 181.0, 'lat': 91.0, 'course': 360.0, 'second': 63, 'reserved_1': 0, 'dte': True, 'spare_1': b'\x00', 'assigned': False, 'raim': False, 'radio': 213008}
```

```
{'msg_type': 11, 'repeat': 0, 'mmsi': 275542000, 'year': 2024, 'month': 4, 'day': 4, 'hour': 8, 'minute': 29, 'second': 23, 'accuracy': False, 'lon': 31.350997, 'lat': 30.084578, 'epfd': <EpfdType.GPS_GLONASS: 3>, 'spare_1': b'\x00\x00', 'raim': False, 'radio': 0}
```

```
{'msg_type': 15, 'repeat': 0, 'mmsi': 428003005, 'spare_1': b'\x00', 'mmsi1': 538006665, 'type1_1': 3, 'offset1_1': 0, 'spare_2': None, 'type1_2': None, 'offset1_2': None, 'spare_3': None, 'mmsi2': None, 'type2_1': None, 'offset2_1': None, 'spare_4': None}
```

```
{'msg_type': 18, 'repeat': 0, 'mmsi': 232018139, 'reserved_1': 0, 'speed': 0.3, 'accuracy': False, 'lon': 33.167308, 'lat': 34.710368, 'course': 172.4, 'heading': 511, 'second': 40, 'reserved_2': 0, 'cs': True, 'display': False, 'dsc': True, 'band': True, 'msg22': True, 'assigned': False, 'raim': True, 'radio': 917510}
```

```
{'msg_type': 20, 'repeat': 0, 'mmsi': 2129930, 'spare_1': b'\x00', 'offset1': 1125, 'number1': 1, 'timeout1': 1, 'increment1': 1125, 'offset2': 457, 'number2': 1, 'timeout2': 1, 'increment2': 750, 'offset3': 848, 'number3': 5, 'timeout3': 1, 'increment3': 150, 'offset4': 0, 'number4': None, 'timeout4': None, 'increment4': None}
```

```
{'msg_type': 21, 'repeat': 0, 'mmsi': 992170002, 'aid_type': <NavAid.DEFAULT: 0>, 'name': 'RASHPETCO P1 PLATFOR', 'accuracy': False, 'lon': 181.0, 'lat': 91.0, 'to_bow': 24, 'to_stern': 24, 'to_port': 12, 'to_starboard': 12, 'epfd': <EpfdType.Undefined: 0>, 'second': 63, 'off_position': False, 'reserved_1': 225, 'raim': False, 'virtual_aid': False, 'assigned': False, 'spare_1': b'\x00', 'name_ext': 'M'}
```

```
{'msg_type': 24, 'repeat': 0, 'mmsi': 232050536, 'partno': 0, 'shipname': 'AL HAZAA', 'spare_1': None}
```

```
{'msg_type': 24, 'repeat': 0, 'mmsi': 232031853, 'partno': 1, 'ship_type': 37, 'vendorid': 'SRT', 'model': 2, 'serial': 248803, 'callsign': 'MIKQ9', 'to_bow': 8, 'to_stern': 8, 'to_port': 3, 'to_starboard': 2, 'spare_1': b'\xf0'}
```

You can find their meaning and more information at the following [link](#).

AIS Types that we store in database

Database Dynamic Data	AIS Data
<pre>{ "ais_type": 1, or 2, or 3 "cog": 78.7, "heading": 79, "latitude": 35.521432, "longitude": 32.081318, "mmsi": 538010117, "nav_status": 15, "sog": 15.8, "timestamp": is the time that we receive the ais data in UTC} we received only 1 and 3 but we have code for 2 too.</pre>	<pre>we have more informations but we keep the following: { "msg_type": 1, or 2, or 3 "course": 78.7, "heading": 79, "lat": 35.521432, "lon": 32.081318, "mmsi": 538010117, "status": 15, "speed": 15.8 }</pre>

<pre>{ "ais_type": 9, "cog": 78.7, "heading": null, "latitude": 35.521432, "longitude": 32.081318, "mmsi": 538010117, "nav_status": null, "sog": 15.8, "timestamp": is the time that we receive the ais data in UTC}</pre>	<p>we have more informations but we keep the following:</p> <pre>{ "msg_type": 9, "course": 78.7, "lat": 35.521432, "lon": 32.081318, "mmsi": 538010117, "speed": 15.8 }</pre>
<pre>{ "ais_type": 18, "cog": 78.7, "heading": 79, "latitude": 35.521432, "longitude": 32.081318, "mmsi": 538010117, "nav_status": null, "sog": 15.8, "timestamp": is the time that we receive the ais data in UTC}</pre>	<p>we have more informations but we keep the following:</p> <pre>{ "msg_type": 18, "course": 78.7, "heading": 79, "lat": 35.521432, "lon": 32.081318, "mmsi": 538010117, "speed": 15.8 }</pre>
Database Static Data	AIS Data
<pre>{ "ais_type": 5, "bow": 115, "call_sign": "CQEC8", "destination": "GRSKG", "draught": 5.7, "imo": 9440588, "mmsi": 255806347, "port": 10, "ship_name": "PENGALIA", "ship_type": 70, "starboard": 10, "stern": 14, "timestamp": is the time that we receive the ais data in UTC}</pre>	<p>we have more informations but we keep the following:</p> <pre>{ "msg_type": 5, "to_bow": 115, "callsign": "CQEC8", "destination": "GRSKG", "draught": 5.7, "imo": 9440588, "mmsi": 255806347, "to_port": 10, "shipname": "PENGALIA", "ship_type": 70, "to_starboard": 10, "to_stern": 14}</pre>
<pre>{ "ais_type": 24, "bow": 10, "call_sign": "MODD9", "destination": null, "draught": null, "imo": null, "mmsi": 232049571, "port": 3,</pre>	<p>we have more informations but we keep the following: (Type 24 A)</p> <pre>{ "msg_type": 5, "to_bow": 115, "callsign": "CQEC8", "mmsi": 255806347, "to_port": 10, "ship_type": 70,</pre>

<pre>"ship_name": null, "ship_type": 90, "starboard": 2, "stern": 6, "timestamp": is the time that we receive the ais data in UTC}</pre>	<pre>"to_starboard": 10, "to_stern": 14}</pre>
<pre>{ "ais_type": 24, "bow": null, "call_sign": null, "destination": null, "draught": null, "imo": null, "mmsi": 209928000, "port": null, "ship_name": "LEA", "ship_type": null, "starboard": null, "stern": null, "timestamp": is the time that we receive the ais data in UTC}</pre>	<p>we have more informations but we keep the following: (Type 24 B)</p> <pre>{ "msg_type": 5, "mmsi": 255806347, "shipname": "PENGALIA" }</pre>