

EventName: ActuatorPosition

```
data.PropertyTestResults[0].PropertyParent
{
    Value: 10.0123455678
    SensorId: "___"
}
```

All Sensor Ids:
[Right Arm : ara, Left Arm : ala, Head Pitch : ahp, Head Roll : ahr, Head Yaw : ahy]

EventName: AudioPlayComplete

```
data.PropertyTestResults[0].PropertyParent.MetaData
{
    Name: "s_Awe.wav"
}
```

EventName: BatteryCharge

```
data.PropertyTestResults[0].PropertyParent
{
    ChargePercent: 1
    Voltage: 8.305
    Current: 0.265
    IsCharging: true
}
```

EventName: BumpSensor

```
data.PropertyTestResults[0].PropertyParent
{
    IsContacted: true
    SensorId: "___"
}
```

All Sensor Ids:
[Front Left : bfl, Front Right : bfr, Rear Left : brl, Rear Right : brr]

EventName: ChargePoseMessage

```
data.PropertyTestResults[0].PropertyParent.HomogeneousMatrix
[ 0.1, 0.0, 0.0, 0.0, 0.0, 1.0, 0.0, . . . . . 1.0 ]
```

EventName: DriveEncoders

```
data.PropertyTestResults[0].PropertyParent
{
    LeftDistance: 207
    RightDistance: 197
    LeftVelocity: 0
    RightVelocity: 0
}
```

EventName: FaceRecognition

```
data.PropertyTestResults[0].PropertyParent
{
    Distance: 66
    Bearing: -2
    Elevation: -2
    Label: "cp"
}
```

Range and Units:
Elevation range : [Up -13 to Down +13]
Bearing range : [Right -13 to Left +13]
Distance Units : cm

Requires:
StartFaceDetection() or StartFaceRecognition()

EventName: FaceTraining

```
data.PropertyTestResults[0].PropertyParent
{
    Message: "___"
    IsProcessComplete: false
}
```

All Messages:
Face training is taking pictures, please don't move.
Warning, no faces in camera's vision.
Face training detection phase complete.
Face training embedding phase complete.
Face training completed.
Face training timed out.

EventName: IMU

```
data.PropertyTestResults[0].PropertyParent
{
    Yaw: 5.099
    Pitch: 355.806
    Roll: 359.359
    XAcceleration: -0.11
    YAcceleration: 0.71
    ZAcceleration: -9.78
    PitchVelocity: 0
    RollVelocity: 0
    YawVelocity: -0.11459155902616464
}
```

EventName: KeyPhraseRecognized

```
data.PropertyTestResults[0].PropertyParent
{
    Confidence: 94
    CapturingSpeech: false
}
```

Requires:
StartKeyPhraseRecognition()

EventName: LocomotionCommand

```
data.PropertyTestResults[0].PropertyParent
{
    LinearVelocity: -0.25
    AngularVelocity: 0
    UseTrapezoidalDrive: true
}
```

EventName: SerialMessage

```
data.PropertyTestResults[0].PropertyParent
{
    SerialMessage: "String message"
}
```

EventName: HazardNotification

```
data.PropertyTestResults[0].PropertyParent
{
    CurrentSensorsHazard:      [ {SensorName: "___" , InHazard: false } , {} .. ]
    MotorStallHazard:          [ {SensorName: "___" , InHazard: false } , {} .. ]
    ExcessiveSpeedHazard:      [ {SensorName: "___" , InHazard: false } , {} .. ]
    BumpSensorsHazardState:    [ {SensorName: "___" , InHazard: false } , {} .. ]
    TimeOfFlightSensorsHazardState: [ {SensorName: "___" , InHazard: false } , {} .. ]
    DriveStopped:              [ {SensorName: "___" , InHazard: false } , {} .. ]
}
```

All Sensor Names:

CurrentSensorsHazard : [CurrentSensor_RightTrack, CurrentSensor_LeftTrack, CurrentSensor_RightArm, CurrentSensor_LeftArm, CurrentSensor_HeadPitch, CurrentSensor_HeadRoll, CurrentSensor_HeadYaw]
MotorStallHazard, ExcessiveSpeedHazard : [RightDrive, LeftDrive, RightArm, LeftArm, HeadPitch, HeadRoll, HeadYaw]
BumpSensorsHazardState : [Bump_FrontRight, Bump_FrontLeft, Bump_RearRight, Bump_RearLeft]
TimeOfFlightSensorsHazardState : [TOF_Right, TOF_Center, TOF_Left, TOF_Back, TOF_DownFrontRight, TOF_DownFrontLeft, TOF_DownBackRight, TOF_DownBackLeft]
DriveStopped : [Front right hazard, Front left hazard, Front center hazard, Back right hazard, Back center hazard, Back left hazard]

EventName: TextToSpeechComplete

```
data.PropertyTestResults[0].PropertyParent
{
    UtteranceId: "3352"
    Interrupted: false
    Error: false
}
```

Requires:
Speak([UtteranceId = "yourID"])

EventName: SlamStatue

```
data.PropertyTestResults[0].PropertyParent
{
    StatusList: [ "___", "___", ..]
}
```

All Status Messages:

[Ready, Exploring, Streaming, HasPose, LostPose, Tracking]

EventName: SourceTrackDataMessage

```
data.PropertyTestResults[0].PropertyParent
{
    TimeOffset: 2814
    DegreeOfArrivalNoise: [282]
    DegreeOfArrivalSpeech: 12
    VoiceActivityPolar: [24, 22, 20, ...]
    VoiceActivitySectors: [ true, true, true,  true]
}
```

EventName: TouchSensor

```
data.PropertyTestResults[0].PropertyParent
{
    SensorPosition: "___"
    IsContacted: true
}
```

All Sensor Positions:

[HeadFront, HeadBack, HeadRight, HeadLeft, Chin, Scruff]

EventName: TimeOfFlight

```
data.PropertyTestResults[0].PropertyParent
{
    DistanceInMeters: 0.025
    SensorId: "___"
    Status: 0
    AverageTimeMs: 31
    Signal: 12515
    Sigma: null
    InHazard: false
}
```

All Sensor Ids:

Range : [Front Right : toffr, Front Left : toffl, Front Center : toffc, Back : tofr]
Downward : [Front Right : tofdfr, Front Left : tofdfl, Rear Right : tofdrr, Rear Left : tofdrl]

EventName: PRUMessage

```
data.PropertyTestResults[0].PropertyParent
{
    Active: true
    Alignment: 98
    Vrect: 21655
    Vout: 9454
    Iout: 2136
    Temperature: 28
    CurrentChargeTime: 12
    PruOverVrect: false
    PruOverPower: false
    PruOverTemperature: false
    PruLowVout: false
}
```

EventName: VoiceRecord

```
data.PropertyTestResults[0].PropertyParent
{
    Filename: "capture_Dialogue.wav"
    ErrorMessage: "___"
    ErrorCode: 0
    Success: true
}
```

All Error Messages:

Detected end of voice command.
Silence timeout elapsed without hearing any voice activity.

Requires:

CaptureSpeech() or StartKeyPhraseRecognition(true)

[MISTY] ROBOTICS® COMMANDS CHEAT SHEET

This is only a subset of all the commands available at
<http://sdk.mistyrobotics.com/api-explorer/index.html>

Movement: Drive

```
Drive      ( LinearVelocity, AngularVelocity )
DriveTime  ( LinearVelocity, AngularVelocity, TimeMS )
DriveTrack ( LeftTrackSpeed, RightTrackSpeed )
DriveHeading ( Heading = 0, DistanceInMeter, TimeMS, Reverse )
DriveArc   ( ToHeading, RadiusInMeter, TimeMS, Reverse )
Stop       ()
```

Range:

LinearVelocity, AngularVelocity : [-100 to +100]
LeftTrackSpeed, RightTrackSpeed : [0 to 100]
DistanceInMeter : [> 0]
Reverse : [true, false]

Movement: Head

```
MoveHead ( Pitch, Roll, Yaw, Velocity, DurationInSeconds )
```

Range:

Pitch : [-40 up to +26 down]
Roll : [-40 left to +40 right]
Yaw : [-81 right to +81 left]
Velocity : [null, 0 to 100]
DurationInSeconds : [null, > 0]

Expression: Display

```
DisplayImage ( FileName, Alpha, Layer, IsURL )
DisplayText  ( Text, Layer )
DisplayVideo ( FileName, Layer, IsURL )
DisplayWebView ( URL, Layer )
```

Options:

Alpha : [0.0 to 1.0, Default : 1.0]
Layer : [Default : DefaultImageLayer, DefaultTextLayer, DefaultVideoLayer, DefaultWebViewLayer]
IsUrl : [true, false, Default : false]

Also Available:

```
SetImageDisplaySettings()
SetTextDisplaySettings()
SetVideoDisplaySettings()
SetWebViewDisplaySettings()
```

Expression: LED

```
ChangeLed ( Red, Green, Blue )
TransitionLED ( Red, Green, Blue, Red, Green, Blue, TransitionType, TimeMS )
```

Range:

Red, Green, Blue : [0 to 255]
TransitionType : [Blink, Breathe, TransitOnce]

Movement: Arms

```
MoveArm ( Arm, Position, Velocity, DurationInSeconds )
MoveArms ( LeftArmPosition, RightArmPosition, LeftArmVelocity, RightArmVelocity, DurationInSeconds )
```

Range:

Arm : [left, right, both]
Position, LeftArmPosition, RightArmPosition : [-90 down to +90 up]
Velocity, LeftArmVelocity, RightArmVelocity : [null, 0 to 100]
DurationInSeconds : [null, > 0]

Expression: Audio

```
PlayAudio      ( FileName, Volume = DefaultVolume )
PauseAudio     ( )
StopAudio      ( )
Speak          ( Text, Flush, UtteranceId )
StopSpeaking   ( )
SetDefaultVolume ( Volume )
```

Range:

Volume : [0 to 100]

Communication: Serial

```
WriteSerial ( Text )
```

Navigation: Mapping & Tracking

```
SetCurrentSlamMap ( Key )
StartMapping      ( )
StopMapping       ( )
StartTracking     ( )
StopTracking      ( )
FollowPath        ( Path )
```

Perception: FaceRecognition

```
StartFaceDetection ( )
StopFaceDetection  ( )
StartFaceRecognition ( )
StopFaceRecognition ( )
```

Perception: Image

```
TakePicture ( ReturnBase64, FileName, Width, Height, Display, Overwrite )
TakeDepthPicture ( )
TakeFishEyePicture ( ReturnBase64 )
```

Perception: Video

```
StartRecordingVideo ( FileName, Mute, Duration, Width, Height )
StopRecordingVideo  ( )
StartAvStreaming    ( URL, Width, Height )
StopAvStreaming     ( )
EnableAvStreamingService ( )
DisableAvStreamingService ( )
```

System: Hazard UpdateHazardSettings (RevertToDefault, DisableToF, DisableBumpSensors)

Perception: Audio

```
StartKeyPhraseRecognition ( Overwrite, SilenceTimeout, MaxSpeechLength, CaptureSpeech )
StopKeyPhraseRecognition  ( )
StartRecordingAudio        ( FileName )
StopRecordingAudio         ( )
CaptureSpeech              ( OnKeyPhrase, Overwrite, MaxSpeechLength, SilenceTimeout )
```