MISTYROBOTICS® EVENTS CHEAT SHEET

data.PropertyTestResults[0].PropertyParent.<your_key>

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”
}
```

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`data.PropertyTestResults[0].PropertyParent.<your_key>`

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: SlamStatus

```
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)

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MISTYROBOTICS® 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]

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]

Navigation: Mapping & Tracking

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

Perception: FaceRecognition

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

Communication: Serial

```
WriteSerial ( Text )
```

Expression: Display

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

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 )
```

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]

Perception: Audio

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

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