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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MISTYROBOTICS® EVENTS CHEAT SHEET

`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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