

Class	Utility description	Example								
		functions	function description	Syntax	Input (arguments)	Output	Comments	Input	Source code	output
Coercions		<a href="#">toArray</a>	Splits a String value into an Array of characters.	toArray(@StreamCapable text: String): Array<String>	string or number or boolean	Array of (characters as string)	can be used for Date as well. example: toArray(payload.message as Date)	{ "message": "Hello" }	%dw 2.0 import * from dw::util::Coercions output application/json --- toArray(payload.message)	[ "H", "e", "l", "l", "o" ]
		<a href="#">toBinary</a>	Transform a String value into a Binary value using the specified encoding.	toBinary(str: String, encoding: String): Binary	string or number or boolean and encoding scheme	Binary value	Accepts encodings that are supported by your JDK. Use output type application/dw and then decode the value of output in online base64 decoder with same encoding scheme - you will get the input string	{ "a": "hello" }	%dw 2.0 import * from dw::util::Coercions output application/dw --- toBinary(payload.a, "UTF-16")	"\v8AaABIAGwAbABv" as Binary {base: "64"}
		<a href="#">toBoolean</a>	Transform a String value into a Boolean value.	toBoolean(str: String): Boolean	string(true or false - case insensitive e.g "tRuE") or condition	Boolean	argument can be condition as well e.g toBoolean(payload == "hello") . We cannot pass any function or lambda as a input argument	{ "message": "trUE" }	%dw 2.0 import * from dw::util::Coercions output application/dw --- toBoolean(payload.message)	TRUE
		<a href="#">toDate</a>	Transforms a String value into a Date value and accepts a format and locale.	toDate(str: String, format: String   Null = null, locale: String   Null = null): Date	date as string(any format), format(optional or null), locale(optional - country code as string e. g "US", "UK", "EU")	Date (yyyy-MM-dd)	whatever the format of the date string you are sending as the first argument needs to be added as a second argument. refer example for the same	{ "message": "2022/09/03" }	%dw 2.0 import * from dw::util::Coercions output application/java --- toDate(payload.message, "uuuu/MM/dd" ,"UK")	2022-09-03
			Transforms a Number value into a DateTime value using milliseconds or seconds as the unit.	toDateTime(number: Number, unit: MillisOrSecs   Null = null): DateTime	Number(epochTime) and unit as string ("milliseconds" or "seconds")	DateTime	get the epoch time - now() as Number ....you will get the time in seconds...if you have a Epoch time in milliseconds (toNumber() can be used to get time in ms)..then you can convert it to Date Time as given in example	{ "message": "1643459378000" }	%dw 2.0 import * from dw::util::Coercions output application/json --- //now() as Number toDateTime(payload.message, "milliseconds")	"2022-01-29T12:29:38Z"
		<a href="#">toDateTime</a>	Transforms a String value into a DateTime value and accepts a format and locale.	toDateTime(str: String, format: String   Null = null, locale: String   Null = null): DateTime	date as string(any format), format(optional or null), locale(optional - country code as string e. g "US", "UK", "EU")	DateTime	format of datetime will remain same in output if output type. But the typeOf(data) will be DateTime	{ "message": "2022-1-29 23:57:59Z" }	%dw 2.4 import * from dw::util::Coercions output application/json --- toDateTime(payload.message,"uuuu-MM-dd HH:mm:ssz")	"2022-01-29 23:57:59Z"
		<a href="#">toLocalDateTime</a>	Transforms a String value into a LocalDateTime value and accepts a format and locale.	toLocalDateTime(str: String, format: String   Null = null, locale: String   Null = null): LocalDateTime	dateTime as String	LocalDateTime			%dw 2.0 import * from dw::util::Coercions output application/json --- { "LocalDateTime": toLocalDateTime(now() as String), "LocalTime": toLocalTime(now() as String) }	{ "LocalDateTime": "2022-01-30T15:37:27.210781", "LocalTime": "15:37:27.210866" }
		<a href="#">toLocalTime</a>	Transforms a String value into a LocalTime value and accepts a format and locale.	toLocalTime(str: String, format: String   Null = null, locale: String   Null = null): LocalTime	dateTime as String	LocalTime			%dw 2.4 import * from dw::util::Coercions output application/json --- toNumber(payload.message as DateTime, "milliseconds")	1643463160545
		<a href="#">toNumber</a>	A variant of toNumber that transforms a DateTime value into a number of seconds or milliseconds, depending on the selected unit.	toNumber(dateTime: DateTime, unit: MillisOrSecs   Null = null): Number	DateTime or a number as string	Number	you can also convert a number having string type to number type. eg: toNumber("67")	{ "message": "2022-01-29T13:32:40.545348Z" }	%dw 2.0 import * from dw::util::Coercions output application/dw --- { "(typeOf(toPeriod("PT1H1M")))" : toPeriod("PT1H1M") }	{ Period:  PT1H1M  }
		<a href="#">toPeriod</a>	Transform a String value into a Period value.	toPeriod(str: String): Period	period as string	Period			%dw 2.0 import * from dw::util::Coercions output application/dw --- { "(typeOf(toRegex("a-z")))" : toRegex("a-z"), }	{ Regex: /a-z/ }
		<a href="#">toRegex</a>	Transforms a String value into a Regex value.	toRegex(str: String): Regex	string	regex			%dw 2.0 import * from dw::util::Coercions output application/json --- { "Number_Eg1" : toString(payload.testnumber), "Number_Eg2": toString(payload.testnumber, "0"), "Number_Eg3": toString(payload.testnumber, ".##"), "Boolean_Eg4": toString(true), }	{ "Number_Eg1": "5.951", "Number_Eg2": "6", }
		<a href="#">toString</a>	A variant of toString that transforms a Number value (whole or decimal) into a String value and accepts a format, locale, and rounding mode value.	toString(number: Number, format: String   Null = null, locale: String   Null = null, roundMode: RoundingMode   Null = null): String  toString(date: Date   DateTime   LocalDateTime   LocalTime   Time, format: String   Null = null, locale: String   Null = null): String  toString(binary: Binary, encoding: String): String	number,format, roundingmode  date,format(optional), locale(optional)  binary,encoding	string  string  string	you can use 0 or # for rounding off			



Math	provides mathematical functions. Introduced in DataWeave version 2.4.0.	<a href="#">atan</a>	Returns an arc tangent value that can range from -pi/2 through pi/2.	atan(angle: Number): Number	angle - Number to convert into its arc tangent value.	arc tangent value.		{ "radian": 2, "degree": 90, "valueForArc" : 0.5, "logOpn": 10 }	%dw 2.4 import * from dw::util::Math output application/json --- { "acos": acos(payload.valueForArc), "asin": asin(payload.valueForArc), "atan": atan(payload.valueForArc), "cos": cos(payload.radian), "log10": log10(payload.logOpn), "logn": logn(payload.logOpn), "sin": sin(payload.radian), "tan": tan(payload.radian), "toDegrees": toDegrees(payload.radian), "toRadians": toRadians(payload.degree) }	{ "acos": 1.0471975511965979, "asin": 0.5235987755982989, "atan": 0.4636476090008061, "cos": -0.4161468365471424, "log10": 1.0, "logn": 2.302585092994046, "sin": 0.9092974268256817, "tan": -2.185039863261519, "toDegrees": 114.5915590261646417536927286883822, "toRadians": 1.570796326794896619230 }
		<a href="#">cos</a>	Returns the trigonometric cosine of an angle from a given number of radians.	cos(angle: Number): Number	angle - Number of radians in an angle.	cosine of angle				
		<a href="#">log10</a>	Returns the logarithm base 10 of a number.	log10(a: Number): Number   NaN	Number	logarithm base 10 of a number.				
		<a href="#">logn</a>	Returns the natural logarithm (base e) of a number.	logn(a: Number): Number   NaN	Number	natural logarithm (base e) of a number				
		<a href="#">sin</a>	Returns the trigonometric sine of an angle from a given number of radians.	sin(angle: Number): Number	Number of radians in an angle.	sine of angle				
		<a href="#">tan</a>	Returns the trigonometric tangent of an angle from a given number of radians.	tan(angle: Number): Number	Number of radians in an angle.	tangent of angle				
		<a href="#">toDegrees</a>	Converts an angle measured in radians to an approximately equivalent number of degrees.	toDegrees(angrad: Number): Number	Number of radians	number of degrees.				
		<a href="#">toRadians</a>	Converts a given number of degrees in an angle to an approximately equivalent number of radians.	toRadians(angdeg: Number): Number	number of degrees.	Number of radians				
Timer	contains functions for measuring time.	<a href="#">currentMilliseconds</a>	Returns the current time in milliseconds.	currentMilliseconds(): Number	no argument	time in milliseconds.		{ "message" : "hello" }	%dw 2.4 import * from dw::util::Timer import * from dw::Runtime output application/json  fun timeCheck() = (payload dw::Runtime::wait 1000) --- { "test" : "hello" wait 400, "currentMilliseconds": currentMilliseconds(), "duration":duration()->timeCheck(), "time": time()->timeCheck(), "toMilliseconds": toMilliseconds(now()), }	{ "test": "hello", "currentMilliseconds": 1643469942105, "duration": { "time": 1000, "result": { "message": "hello" } }, "time": { "start": "2022-01-29T15:25:43.105264Z", "result": { "message": "hello" } }, "end": "2022-01-29T15:25:44.105391Z" }, "toMilliseconds": 1643469944105 }
		<a href="#">duration</a>	Executes the input function and returns an object with execution time in milliseconds and result of that function.	duration<T>(valueToMeasure: () -> T): DurationMeasurement<T>	lambda	execution time of function/lambda in milliseconds	This gives the execution time of lambda not for the whole code			
		<a href="#">time</a>	Executes the input function and returns a TimeMeasurement object that contains the start and end time for the execution of that function, as well the result of the function.	time<T>(valueToMeasure: () -> T): TimeMeasurement<T>	lambda	object that contains the start and end time for the execution of that function, as well the result of the function.				
		<a href="#">toMilliseconds</a>	Returns the representation of a specified date-time in milliseconds.	toMilliseconds(date: DateTime): Number	DateTime	epoch in milliseconds				
		<a href="#">asExpressionString</a>	Transforms a Path value into a string representation of the path.	asExpressionString(path: Path): String	Path = Array<PathElement = { kind: "Object"   "Attribute"   "Array", selector: String   Number, namespace: Namespace   Null }>	string representation of the path		[ { "kind": "Object", "selector": "customer", "namespace": null }, { "kind": "Attribute", "selector": "name", "namespace": null }]	%dw 2.4 import * from dw::util::Tree output application/json --- asExpressionString(payload)	".customer.@name"
		<a href="#">filterArrayLeafs</a>	Applies a filtering expression to leaf or Path values of an array.	filterArrayLeafs(value: Any, criteria: (value: Any, path: Path) -> Boolean): Any	value (Any type - string, number, object, array, etc), lambda with 2 arguments- value and path	filtered data	filtration will be applied only on the values inside array...others will remain same...here in the example for "conditiononPath" we are filtering data to get all the values inside array which have type object	{ "k1": [ "", true, {"k2": "test"}, {"k3": 0} , "hello"], "k4": "val", "k5": [3,8] }		

provides functions for handling values as tree-data structures. Introduced in DataWeave version 2.2.2.									<pre>{   "conditionOnValue": {     "k1": [       "",       true,       {         "k3": 0       },       "hello"     ],     "k5": [       3,       8     ]   },   "conditionOnPath": {     "k1": [       "",       true,       {         "k3": 0       },       "hello"     ],     "k5": [       3,       8     ]   } }</pre>
	<a href="#">filterObjectLeafs</a>	Applies a filtering expression to leaf or Path values of keys in an object.	filterObjectLeafs(value: Any, criteria: (value: Any, path: Path) -> Boolean): Any	value (Any type - string, number, object, array, etc), lambda with 2 arguments- value and path	filtered data	filtration will be applied only on the values inside object...others will remain same...here in the example for "conditiononPath" we are filtering data to get all the values inside object which have type array	{   "k1": ["", true, {"k2": "test"}, {"k3": 0}, "hello"],   "k4": "val",   "k5": [3,8] }	%dw 2.4 import * from dw::util::Tree output application/json --- {   "conditionOnValue":payload filterObjectLeafs ((value, path) -> ! (value is String)),   "conditionOnPath":payload filterObjectLeafs ((value, path) -> isArrayType(path)) }	
	<a href="#">filterTree</a>	Filters the value or path of nodes in an input based on a specified criteria.	filterTree(value: Any, criteria: (value: Any, path: Path) -> Boolean): Any	value (Any type - string, number, object, array, etc), lambda with 2 arguments- value and path	filtered data	filtration will be applied whole input (array+object) ...others will remain same...here in the example for "conditiononPath" we are filtering data to get all the values which have kind - Object type	{   "k1": ["", true, {"k2": "test"}, {"k3": 0}, "hello"],   "k4": "val",   "k5": [3,8] }	%dw 2.4 import * from dw::util::Tree output application/json --- {   "conditionOnValue":payload filterTree ((value, path) -> !(value is String)),   "conditionOnPath":payload filterTree ((value, path) -> isObjectType(path)) }	
	<a href="#">isArrayType</a>	Returns true if the provided Path value is an ARRAY_TYPE expression.	isArrayType(path: Path): Boolean	path = Array<PathElement> = [{   kind: "Object"   "Attribute"   "Array",   selector: String   Number, namespace: Namespace   Null }]>	boolean	the true or false value will be based on 'kind' of last pathElement in path		%dw 2.4 import * from dw::util::Tree output application/json --- {   "checkArray1": isArrayType({{kind: "Object", selector: "user", namespace: null}},     {kind: "Attribute", selector: "name", namespace: null})),   "checkArray2": isArrayType({{kind: "Object", selector: "user", namespace: null}},     {kind: "Array", selector: "name", namespace: null})),    "checkObject1": isObjectType({{kind: "Object", selector: "user", namespace: null}},     {kind: "Attribute", selector: "name", namespace: null})),   "checkObject2" : isObjectType({{kind: "Array", selector: "user", namespace: null}},     {kind: "Object", selector: "name", namespace: null})),    "checkAttribute1": isAttributeType({{kind: "Object", selector: "user", namespace: null}},     {kind: "Attribute", selector: "name", namespace: null})) }	
	<a href="#">isAttributeType</a>	Returns true if the provided Path value is an ATTRIBUTE_TYPE expression.	isAttributeType(path: Path): Boolean	path = Array<PathElement> = [{   kind: "Object"   "Attribute"   "Array",   selector: String   Number, namespace: Namespace   Null }]>	boolean	the true or false value will be based on 'kind' of last pathElement in path			
	<a href="#">isObjectType</a>	Returns true if the provided Path value is an OBJECT_TYPE expression.	isObjectType(path: Path): Boolean	path = Array<PathElement> = [{   kind: "Object"   "Attribute"   "Array",   selector: String   Number, namespace: Namespace   Null }]>	boolean	the true or false value will be based on 'kind' of last pathElement in path			

Tree		<a href="#">mapLeafValues</a>	Maps the terminal (leaf) nodes in the tree.	mapLeafValues(value: Any, callback: (value: Any, path: Path) -> Any): Any	value (Any type - string, number, object, array, etc), lambda with 2 arguments- value and path	mapped value	We can modify the values of object/Array by mapping it to new value	{ "key1": ["", true, "key2": "test", "hello", "key3": "val" }	%dw 2.4 import * from dw::util::Tree output application/json --- payload mapLeafValues (value, path) -> upper(value)	{ "key1": [ " ", "TRUE", { "key2": "TEST" }, "HELLO" ], "key3": "VAL" }
		<a href="#">nodeExists</a>	Returns true if any node in a given tree validates against the specified criteria.	nodeExists(value: Any, callback: (value: Any, path: Path) -> Boolean): Boolean	value (Any type - string, number, object, array, etc), lambda with 2 arguments- value and path	boolean	you can either use path[0] or path[-1] as in example	{ "username": "mehak", "password": "8836t5" }	%dw 2.0 import * from dw::util::Tree output application/json --- payload nodeExists ((value, path) -> path[-1].selector == "password")	TRUE
		<a href="#">attr</a>	This function creates a PathElement to use for selecting an XML attribute and populates the type's selector field with the given string.	attr(namespace: Namespace   Null = null, name: String): PathElement	namespace(optional), string	PathElement = {  kind: "Attribute", selector: String   Number, namespace: Namespace   Null  }	create Attribute kind PathElement		%dw 2.0 import * from dw::util::Values output application/json --- { "attr" : attr(null, "user"), "field" : field(null, "user"), "index" : index(2) }	{ "attr": { "kind": "Attribute", "namespace": null, "selector": "user" }, "field": { "kind": "Object", "namespace": null, "selector": "user" }, "index": { "kind": "Array", "namespace": null, "selector": 2 } }
		<a href="#">field</a>	This function creates a PathElement data type to use for selecting an object field and populates the type's selector field with the given string.	field(namespace: Namespace   Null = null, name: String): PathElement	namespace(optional), string	PathElement = {  kind: "Object" , selector: String   Number, namespace: Namespace   Null  }	create Object kind PathElement			
		<a href="#">index</a>	This function creates a PathElement data type to use for selecting an array element and populates the type's selector field with the specified index.	index(index: Number): PathElement	Number	PathElement = {  kind: "Array", selector: String   Number, namespace: Namespace   Null  }	create Array kind PathElement with index value as a selector			
		<a href="#">mask</a>	This mask function replaces all simple elements that match the specified criteria.	mask(value: Null, fieldName: String   Number   PathElement): (newValueProvider: (oldValue: Any, path: Path) -> Any) -> Null	value, fieldname(having null value) with "value to be replaced with"	updated data with masked values	"with" keyword needs to be used	{ "username": "mehak", "password": "8836t5", "testArray": [1,2], "testNull": null }	%dw 2.0 import * from dw::util::Values output application/json --- { "maskNull" : payload mask "testNull" with "I am null value", "maskEg1" : payload mask field("password") with "*****", "maskEg2": payload mask "password" with "*****", "maskEg3": payload mask 1 with "" }	{ "maskNull": { "username": "mehak", "password": "8836t5", "testArray": [ 1, 2 ], "testNull": "I am null value" }, "maskEg1": { "username": "mehak", "password": "*****", "testArray": [ 1, 2 ], "testNull": null }, "maskEg2": { "username": "mehak", "password": "*****", "testArray": [ 1, 2 ], "testNull": null }, "maskEg3": { "username": "mehak", "password": "8836t5", "testArray": [ 1, "" ], "testNull": null } }
				mask(value: Any, selector: PathElement): (newValueProvider: (oldValue: Any, path: Path) -> Any) -> Any	value, pathElement with "value to be replaced with"					
				mask(value: Any, fieldName: String): (newValueProvider: (oldValue: Any, path: Path) -> Any) -> Any	value, fieldname with "value to be replaced with"					
				mask(value: Any, i: Number): (newValueProvider: (oldValue: Any, path: Path) -> Any) -> Any	value, index with "value to be replaced with"					
				update(objectValue: Object, fieldName: String): UpdaterValueProvider<Object>	Object, fieldname(String)					{ "updateEg1": { "username": "mehak", "password": "****", "testArray": [ 1, 2, {
				update(objectValue: Object, fieldName: PathElement): UpdaterValueProvider<Object>	Object, fieldname (PathElement - field ("fieldname"))					

Values	This utility module simplifies changes to values. Introduced in DataWeave version 2.2.2.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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