SOAP: Structure And Types

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1.1 Module Soap_prim.PBase64Binary

```
module PBase64Binary : sig

val base64Binary_min : int
val base64Binary_max : int
class type base64Binary_s_sig = object  end
```
[1.1.1]

```
class base64Binary_s : base64Binary_s_sig
```
[1.1.2]

```
end
```

1.1.1 Class type Soap_prim.PBase64Binary.base64Binary_s_sig

```
class type base64Binary_s_sig = object

val mutable name : string
val mutable v : string
val mutable length : int
val mutable minLength : int
val mutable maxLength : int
val mutable is_enum : bool
val mutable is_fixed : bool
val mutable is_fixed_minl : bool
val mutable is_fixed_maxl : bool
val mutable enumlist : string list
val mutable whitespace : string
method get_val : unit -> string
method set_obj : string -> unit
method to_string : unit -> string
method set_struct :
  string ->
  ('a Pxp_document.node Pxp_document.extension as 'a) Pxp_document.node ->
  unit
end
```

1.1.2 Class Soap_prim.PBase64Binary.base64Binary_s

```
class base64Binary_s : object
```

```
end
```

1.2 Module Soap_prim.PBoolean

```
module PBoolean : sig

class type boolean_s_sig = object  end
```
[1.2.1]
```
class boolean_s : boolean_s_sig
```
[1.2.2]
```
end
```

1.2.1 Class type Soap_prim.PBoolean.boolean_s_sig

```
class type boolean_s_sig = object

val mutable name : string
val mutable v : bool
val mutable whitespace : string
method get_val : unit -> bool
method set_obj : string -> unit
method to_string : unit -> string
method set_struct :
  string ->
  ('a Pxp_document.node Pxp_document.extension as 'a) Pxp_document.node ->
  unit
end
```

1.2.2 Class Soap_prim.PBoolean.boolean_s

```
class boolean_s : object

end
```

1.3 Module Soap_prim.PDate

```
module PDate : sig

val date_mini : string
val date_mine : string
val date_maxi : string
val date_maxe : string
class type date_s_sig = object  end
```
[1.3.1]
```
class date_s : date_s_sig
```

[1.3.2]

```
end
```

1.3.1 Class type Soap_prim.PDate.date_s_sig

```
class type date_s_sig = object

val mutable name : string
val mutable v : string
val mutable is_enum : bool
val mutable is_fixed_maxi : bool
val mutable is_fixed_maxe : bool
val mutable is_fixed_mini : bool
val mutable is_fixed_mine : bool
val mutable enumlist : string list
val mutable whitespace : string
val mutable maxInclusive : string
val mutable maxExclusive : string
val mutable minInclusive : string
val mutable minExclusive : string
method get_val : unit -> string
method set_obj : string -> unit
method to_string : unit -> string
method set_struct :
  string ->
  ('a Pxp_document.node Pxp_document.extension as 'a) Pxp_document.node ->
  unit
end
```

1.3.2 Class Soap_prim.PDate.date_s

```
class date_s : object

end
```

1.4 Module Soap_prim.PDateTime

```
module PDateTime : sig

val dateTime_mini : string
val dateTime_mine : string
val dateTime_maxi : string
val dateTime_maxe : string
```

```
class type dateTime_s_sig = object  end
```
[1.4.1]

```
class dateTime_s : dateTime_s_sig
```
[1.4.2]

```
end
```

1.4.1 Class type Soap_prim.PDateTime.dateTime_s_sig

```
class type dateTime_s_sig = object

val mutable name : string
val mutable v : string
val mutable is_enum : bool
val mutable is_fixed_maxi : bool
val mutable is_fixed_maxe : bool
val mutable is_fixed_mini : bool
val mutable is_fixed_mine : bool
val mutable enumlist : string list
val mutable whitespace : string
val mutable maxInclusive : string
val mutable maxExclusive : string
val mutable minInclusive : string
val mutable minExclusive : string
method get_val : unit -> string
method set_obj : string -> unit
method to_string : unit -> string
method set_struct :
  string ->
  ('a Pxp_document.node Pxp_document.extension as 'a) Pxp_document.node ->
  unit
end
```

1.4.2 Class Soap_prim.PDateTime.dateTime_s

```
class dateTime_s : object

end
```

1.5 Module Soap_prim.PDecimal

```
module PDecimal : sig

val decimal_mini : float
val decimal_mine : float
```

```
val decimal_maxi : float
val decimal_maxe : float
class type decimal_s_sig = object  end
```
[1.5.1]

```
class decimal_s : decimal_s_sig
```
[1.5.2]

```
end
```

1.5.1 Class type `Soap_prim.PDecimal.decimal_s_sig`

```
class type decimal_s_sig = object

val mutable name : string
val mutable v : float
val mutable totalDigits : int
val mutable fractionDigits : int
val mutable is_enum : bool
val mutable is_fixed_td : bool
val mutable is_fixed_fd : bool
val mutable is_fixed_maxi : bool
val mutable is_fixed_maxe : bool
val mutable is_fixed_mini : bool
val mutable is_fixed_mine : bool
val mutable enumlist : string list
val mutable whitespace : string
val mutable maxInclusive : float
val mutable maxExclusive : float
val mutable minInclusive : float
val mutable minExclusive : float
method get_val : unit -> float
method set_obj : string -> unit
method to_string : unit -> string
method set_struct :
  string ->
  ('a Pxp_document.node Pxp_document.extension as 'a) Pxp_document.node ->
  unit
end
```

1.5.2 Class `Soap_prim.PDecimal.decimal_s`

```
class decimal_s : object

end
```

1.6 Module Soap_prim.PDouble

```
module PDouble : sig

val double_mini : float
val double_mine : float
val double_maxi : float
val double_maxe : float
class type double_s_sig = object  end
```
[1.6.1]
```
class double_s : double_s_sig
```
[1.6.2]
```
end
```

1.6.1 Class type Soap_prim.PDouble.double_s_sig

```
class type double_s_sig = object

val mutable name : string
val mutable v : float
val mutable is_enum : bool
val mutable is_fixed_maxi : bool
val mutable is_fixed_maxe : bool
val mutable is_fixed_mini : bool
val mutable is_fixed_mine : bool
val mutable enumlist : string list
val mutable whitespace : string
val mutable maxInclusive : float
val mutable maxExclusive : float
val mutable minInclusive : float
val mutable minExclusive : float
method get_val : unit -> float
method set_obj : string -> unit
method to_string : unit -> string
method set_struct :
  string ->
  ('a Pxp_document.node Pxp_document.extension as 'a) Pxp_document.node ->
  unit
end
```

1.6.2 Class Soap_prim.PDouble.double_s

```
class double_s : object
```

```
end
```

1.7 Module Soap_prim.PDuration

```
module PDuration : sig

val duration_mini : string
val duration_mine : string
val duration_maxi : string
val duration_maxe : string
class type duration_s_sig = object  end
```
[1.7.1]
```
class duration_s : duration_s_sig
```
[1.7.2]
```
end
```

1.7.1 Class type Soap_prim.PDuration.duration_s_sig

```
class type duration_s_sig = object

val mutable name : string
val mutable v : string
val mutable is_enum : bool
val mutable is_fixed_maxi : bool
val mutable is_fixed_maxe : bool
val mutable is_fixed_mini : bool
val mutable is_fixed_mine : bool
val mutable enumlist : string list
val mutable whitespace : string
val mutable maxInclusive : string
val mutable maxExclusive : string
val mutable minInclusive : string
val mutable minExclusive : string
method get_val : unit -> string
method set_obj : string -> unit
method to_string : unit -> string
method set_struct :
  string ->
  ('a Pxp_document.node Pxp_document.extension as 'a) Pxp_document.node ->
  unit
end
```

1.7.2 Class Soap_prim.PDuration.duration_s

```
class duration_s : object

end
```

1.8 Module Soap_prim.PFloat

```
module PFloat : sig

val float_mini : float
val float_mine : float
val float_maxi : float
val float_maxe : float
class type float_s_sig = object  end
```

[1.8.1]

```
class float_s : float_s_sig
```

[1.8.2]

```
end
```

1.8.1 Class type Soap_prim.PFloat.float_s_sig

```
class type float_s_sig = object

val mutable name : string
val mutable v : float
val mutable is_enum : bool
val mutable is_fixed_maxi : bool
val mutable is_fixed_maxe : bool
val mutable is_fixed_mini : bool
val mutable is_fixed_mine : bool
val mutable enumlist : string list
val mutable whitespace : string
val mutable maxInclusive : float
val mutable maxExclusive : float
val mutable minInclusive : float
val mutable minExclusive : float
method get_val : unit -> float
method set_obj : string -> unit
method to_string : unit -> string
method set_struct :
  string ->
  ('a Pxp_document.node Pxp_document.extension as 'a) Pxp_document.node ->
  unit
```

```
end
```

1.8.2 Class Soap_prim.PFloat.float_s

```
class float_s : object

end
```

1.9 Module Soap_prim.PGDay

```
module PGDay : sig

val gDay_mini : string
val gDay_mine : string
val gDay_maxi : string
val gDay_maxe : string
class type gDay_s_sig = object  end
```
[1.9.1]
```
class gDay_s : gDay_s_sig
```
[1.9.2]
```
end
```

1.9.1 Class type Soap_prim.PGDay.gDay_s_sig

```
class type gDay_s_sig = object

val mutable name : string
val mutable v : string
val mutable is_enum : bool
val mutable is_fixed_maxi : bool
val mutable is_fixed_maxe : bool
val mutable is_fixed_mini : bool
val mutable is_fixed_mine : bool
val mutable enumlist : string list
val mutable whitespace : string
val mutable maxInclusive : string
val mutable maxExclusive : string
val mutable minInclusive : string
val mutable minExclusive : string
method get_val : unit -> string
method set_obj : string -> unit
method to_string : unit -> string
method set_struct :
```

```
  string ->
  ('a Pxp_document.node Pxp_document.extension as 'a) Pxp_document.node ->
  unit
end
```

1.9.2 Class Soap_prim.PGDay.gDay_s

```
class gDay_s : object

end
```

1.10 Module Soap_prim.PGMonthDay

```
module PGMonthDay : sig

val gMonthDay_mini : string
val gMonthDay_mine : string
val gMonthDay_maxi : string
val gMonthDay_maxe : string
class type gMonthDay_s_sig = object  end
```
[1.10.1]
```
class gMonthDay_s : gMonthDay_s_sig
```
[1.10.2]
```
end
```

1.10.1 Class type Soap_prim.PGMonthDay.gMonthDay_s_sig

```
class type gMonthDay_s_sig = object

val mutable name : string
val mutable v : string
val mutable is_enum : bool
val mutable is_fixed_maxi : bool
val mutable is_fixed_maxe : bool
val mutable is_fixed_mini : bool
val mutable is_fixed_mine : bool
val mutable enumlist : string list
val mutable whitespace : string
val mutable maxInclusive : string
val mutable maxExclusive : string
val mutable minInclusive : string
val mutable minExclusive : string
method get_val : unit -> string
method set_obj : string -> unit
```

```
method to_string : unit -> string
method set_struct :
  string ->
  ('a Pxp_document.node Pxp_document.extension as 'a) Pxp_document.node ->
  unit
end
```

1.10.2 Class Soap_prim.PGMonthDay.gMonthDay_s

```
class gMonthDay_s : object

end
```

1.11 Module Soap_prim.PGMonth

```
module PGMonth : sig

val gMonth_mini : string
val gMonth_mine : string
val gMonth_maxi : string
val gMonth_maxe : string
class type gMonth_s_sig = object  end
```

[1.11.1]

```
class gMonth_s : gMonth_s_sig
```

[1.11.2]

```
end
```

1.11.1 Class type Soap_prim.PGMonth.gMonth_s_sig

```
class type gMonth_s_sig = object

val mutable name : string
val mutable v : string
val mutable is_enum : bool
val mutable is_fixed_maxi : bool
val mutable is_fixed_maxe : bool
val mutable is_fixed_mini : bool
val mutable is_fixed_mine : bool
val mutable enumlist : string list
val mutable whitespace : string
val mutable maxInclusive : string
val mutable maxExclusive : string
val mutable minInclusive : string
val mutable minExclusive : string
```

```
method get_val : unit -> string
method set_obj : string -> unit
method to_string : unit -> string
method set_struct :
  string ->
  ('a Pxp_document.node Pxp_document.extension as 'a) Pxp_document.node ->
  unit
end
```

1.11.2 Class Soap_prim.PGMonth.gMonth_s

```
class gMonth_s : object

end
```

1.12 Module Soap_prim.PGYearMonth

```
module PGYearMonth : sig

val gYearMonth_mini : string
val gYearMonth_mine : string
val gYearMonth_maxi : string
val gYearMonth_maxe : string
class type gYearMonth_s_sig = object  end
```
[1.12.1]
```
class gYearMonth_s : gYearMonth_s_sig
```
[1.12.2]
```
end
```

1.12.1 Class type Soap_prim.PGYearMonth.gYearMonth_s_sig

```
class type gYearMonth_s_sig = object

val mutable name : string
val mutable v : string
val mutable is_enum : bool
val mutable is_fixed_maxi : bool
val mutable is_fixed_maxe : bool
val mutable is_fixed_mini : bool
val mutable is_fixed_mine : bool
val mutable enumlist : string list
val mutable whitespace : string
val mutable maxInclusive : string
val mutable maxExclusive : string
```

```
val mutable minInclusive : string
val mutable minExclusive : string
method get_val : unit -> string
method set_obj : string -> unit
method to_string : unit -> string
method set_struct :
  string ->
  ('a Pxp_document.node Pxp_document.extension as 'a) Pxp_document.node ->
  unit
end
```

1.12.2 Class Soap_prim.PGYearMonth.gYearMonth_s

```
class gYearMonth_s : object

end
```

1.13 Module Soap_prim.PGYear

```
module PGYear : sig

val gYear_mini : string
val gYear_mine : string
val gYear_maxi : string
val gYear_maxe : string
class type gYear_s_sig = object  end
```
[1.13.1]
```
class gYear_s : gYear_s_sig
```
[1.13.2]
```
end
```

1.13.1 Class type Soap_prim.PGYear.gYear_s_sig

```
class type gYear_s_sig = object

val mutable name : string
val mutable v : string
val mutable is_enum : bool
val mutable is_fixed_maxi : bool
val mutable is_fixed_maxe : bool
val mutable is_fixed_mini : bool
val mutable is_fixed_mine : bool
val mutable enumlist : string list
val mutable whitespace : string
```

```
val mutable maxInclusive : string
val mutable maxExclusive : string
val mutable minInclusive : string
val mutable minExclusive : string
method get_val : unit -> string
method set_obj : string -> unit
method to_string : unit -> string
method set_struct :
  string ->
  ('a Pxp_document.node Pxp_document.extension as 'a) Pxp_document.node ->
  unit
end
```

1.13.2 Class Soap_prim.PGYear.gYear_s

```
class gYear_s : object

end
```

1.14 Module Soap_prim.PHexBinary

```
module PHexBinary : sig

val hexBinary_min : int
val hexBinary_max : int
class type hexBinary_s_sig = object  end
```
[1.14.1]
```
class hexBinary_s : hexBinary_s_sig
```
[1.14.2]
```
end
```

1.14.1 Class type Soap_prim.PHexBinary.hexBinary_s_sig

```
class type hexBinary_s_sig = object

val mutable name : string
val mutable v : string
val mutable length : int
val mutable minLength : int
val mutable maxLength : int
val mutable is_enum : bool
val mutable is_fixed : bool
val mutable is_fixed_minl : bool
val mutable is_fixed_maxl : bool
```

```
val mutable enumlist : string list
val mutable whitespace : string
method get_val : unit -> string
method set_obj : string -> unit
method to_string : unit -> string
method set_struct :
  string ->
  ('a Pxp_document.node Pxp_document.extension as 'a) Pxp_document.node ->
  unit
end
```

1.14.2 Class Soap_prim.PHexBinary.hexBinary_s

```
class hexBinary_s : object

end
```

1.15 Module Soap_prim.PNotation

```
module PNotation : sig

val notation_min : int
val notation_max : int
class type notation_s_sig = object  end
```
[1.15.1]
```
class notation_s : notation_s_sig
```
[1.15.2]
```
end
```

1.15.1 Class type Soap_prim.PNotation.notation_s_sig

```
class type notation_s_sig = object

val mutable name : string
val mutable v : string
val mutable length : int
val mutable minLength : int
val mutable maxLength : int
val mutable is_enum : bool
val mutable is_fixed : bool
val mutable is_fixed_minl : bool
val mutable is_fixed_maxl : bool
val mutable enumlist : string list
val mutable whitespace : string
```

```
method get_val : unit -> string
method set_obj : string -> unit
method to_string : unit -> string
method set_struct :
  string ->
  ('a Pxp_document.node Pxp_document.extension as 'a) Pxp_document.node ->
  unit
end
```

1.15.2 Class Soap_prim.PNotation.notation_s

```
class notation_s : object

end
```

1.16 Module Soap_prim.PQname

```
module PQname : sig

val qname_min : int
val qname_max : int
class type qname_s_sig = object  end
```
[1.16.1]
```
class qname_s : qname_s_sig
```
[1.16.2]
```
end
```

1.16.1 Class type Soap_prim.PQname.qname_s_sig

```
class type qname_s_sig = object

val mutable name : string
val mutable v : string
val mutable length : int
val mutable minLength : int
val mutable maxLength : int
val mutable is_enum : bool
val mutable is_fixed : bool
val mutable is_fixed_minl : bool
val mutable is_fixed_maxl : bool
val mutable enumlist : string list
val mutable whitespace : string
method get_val : unit -> string
method set_obj : string -> unit
```

```
method to_string : unit -> string
method set_struct :
  string ->
  ('a Pxp_document.node Pxp_document.extension as 'a) Pxp_document.node ->
  unit
end
```

1.16.2 Class Soap_prim.PQname.qname_s

```
class qname_s : object

end
```

1.17 Module Soap_prim.PString

```
module PString : sig

val string_min : int
val string_max : int
class type string_s_sig = object  end
```
[1.17.1]
```
class string_s : string_s_sig
```
[1.17.2]
```
end
```

1.17.1 Class type Soap_prim.PString.string_s_sig

```
class type string_s_sig = object

val mutable name : string
val mutable v : string
val mutable length : int
val mutable minLength : int
val mutable maxLength : int
val mutable is_enum : bool
val mutable is_fixed : bool
val mutable is_fixed_minl : bool
val mutable is_fixed_maxl : bool
val mutable enumlist : string list
val mutable whitespace : string
method get_val : unit -> string
method set_obj : string -> unit
method to_string : unit -> string
method set_struct :
```

```
  string ->
  ('a Pxp_document.node Pxp_document.extension as 'a) Pxp_document.node ->
  unit
end
```

1.17.2 Class Soap_prim.PString.string_s

```
class string_s : object

end
```

1.18 Module Soap_prim.PTime

```
module PTime : sig

val time_mini : string
val time_mine : string
val time_maxi : string
val time_maxe : string
class type time_s_sig = object  end
```
[1.18.1]
```
class time_s : time_s_sig
```
[1.18.2]
```
end
```

1.18.1 Class type Soap_prim.PTime.time_s_sig

```
class type time_s_sig = object

val mutable name : string
val mutable v : string
val mutable is_enum : bool
val mutable is_fixed_maxi : bool
val mutable is_fixed_maxe : bool
val mutable is_fixed_mini : bool
val mutable is_fixed_mine : bool
val mutable enumlist : string list
val mutable whitespace : string
val mutable maxInclusive : string
val mutable maxExclusive : string
val mutable minInclusive : string
val mutable minExclusive : string
method get_val : unit -> string
method set_obj : string -> unit
```

```
method to_string : unit -> string
method set_struct :
  string ->
  ('a Pxp_document.node Pxp_document.extension as 'a) Pxp_document.node ->
  unit
end
```

1.18.2 Class Soap_prim.PTime.time_s

```
class time_s : object

end
```

1.19 Module Soap_prim.PUri

```
module PUri : sig

val uri_min : int
val uri_max : int
class type uri_s_sig = object  end
```
[1.19.1]

```
class uri_s : uri_s_sig
```
[1.19.2]

```
end
```

1.19.1 Class type Soap_prim.PUri.uri_s_sig

```
class type uri_s_sig = object

val mutable name : string
val mutable v : string
val mutable length : int
val mutable minLength : int
val mutable maxLength : int
val mutable is_enum : bool
val mutable is_fixed : bool
val mutable is_fixed_minl : bool
val mutable is_fixed_maxl : bool
val mutable enumlist : string list
val mutable whitespace : string
method get_val : unit -> string
method set_obj : string -> unit
method to_string : unit -> string
method set_struct :
```

```
  string ->
  ('a Pxp_document.node Pxp_document.extension as 'a) Pxp_document.node ->
  unit
end
```

1.19.2 Class Soap_prim.PUri.uri_s

```
class uri_s : object

end
```

1.20 Module Soap_prim.PTypes : This module contains the basic definition of various types that have been implemented.

```
module PTypes : sig
```

Apart from definitions, some other functions are also defined which enable interoperability between OCAML and SOAP-Types.

```
type  soapst = (string, ty) Hashtbl.t
```

This type contains the *Primitive Datatypes* as defined in **XML Schema Part2: Datatypes** specification. Moreover, `array` and `struct` types are also defined

```
type  ty =
  | Unit
  | String of String_s.string_s
  | Boolean of Boolean_s.boolean_s
  | Decimal of Decimal_s.decimal_s
  | Float of Float_s.float_s
  | Double of Double_s.double_s
  | Duration of Duration_s.duration_s
  | DateTime of DateTime_s.dateTime_s
  | Time of Time_s.time_s
  | Date of Date_s.date_s
  | GYearMonth of GYearMonth_s.gYearMonth_s
  | GYear of GYear_s.gYear_s
  | GMonthDay of GMonthDay_s.gMonthDay_s
  | GDay of GDay_s.gDay_s
  | GMonth of GMonth_s.gMonth_s
  | HexBinary of HexBinary_s.hexBinary_s
  | Base64Binary of Base64Binary_s.base64Binary_s
  | Uri of Uri_s.uri_s
  | Qname of Qname_s.qname_s
  | Notation of Notation_s.notation_s
  | Array of ty array
  | Struct of (string, ty) Hashtbl.t
exception Bad_type
```

This exception is thrown when there has been a type error `val make_struct : unit -> soapst`

This creates a new `soapst` struct

```
val add_elem :
  soapst -> string -> ty -> unit
```

Insert a new key/data pair into the struct

`val find_elem : soapst -> string -> ty`

Return the data for a key

1.21 Convert ML Types to SOAP - types

`val sp_of_string : String_s.string_s -> ty`

Converts a ML string, represented as a `string_s` object into a SOAP object

`val sp_of_boolean : Boolean_s.boolean_s -> ty`

Converts a ML bool, represented as a `boolean_s` object into a SOAP object

`val sp_of_decimal : Decimal_s.decimal_s -> ty`

Converts a ML decimal, represented as a `decimal_s` object into a SOAP object

`val sp_of_float : Float_s.float_s -> ty`

Converts a ML float, represented as a `float_s` object into a SOAP object

`val sp_of_double : Double_s.double_s -> ty`

Converts a ML double, represented as a `double_s` object into a SOAP object

`val sp_of_duration : Duration_s.duration_s -> ty`

Converts a ML duration, represented as a `duration_s` object into a SOAP object

`val sp_of_dateTime : DateTime_s.dateTime_s -> ty`

Converts a ML dateTime, represented as a `dateTime_s` object into a SOAP object

`val sp_of_time : Time_s.time_s -> ty`

Converts a ML time, represented as a `time_s` object into a SOAP object

`val sp_of_date : Date_s.date_s -> ty`

Converts a ML date, represented as a `date_s` object into a SOAP object

`val sp_of_gYearMonth : GYearMonth_s.gYearMonth_s -> ty`

Converts a ML gYearMonth, represented as a `gYearMonth_s` object into a SOAP object

`val sp_of_gYear : GYear_s.gYear_s -> ty`

Converts a ML gYear, represented as a `gYear_s` object into a SOAP object

`val sp_of_gMonthDay : GMonthDay_s.gMonthDay_s -> ty`

Converts a ML gMonthDay, represented as a `gMonthDay_s` object into a SOAP object

`val sp_of_gDay : GDay_s.gDay_s -> ty`
Converts a ML gDay, represented as a `gDay_s` object into a SOAP object

`val sp_of_gMonth : GMonth_s.gMonth_s -> ty`
Converts a ML gMonth, represented as a `gMonth_s` object into a SOAP object

`val sp_of_hexBinary : HexBinary_s.hexBinary_s -> ty`
Converts a ML hexBinary, represented as a `hexBinary_s` object into a SOAP object

`val sp_of_base64Binary : Base64Binary_s.base64Binary_s -> ty`
Converts a ML base64Binary, represented as a `base64Binary_s` object into a SOAP object

`val sp_of_uri : Uri_s.uri_s -> ty`
Converts a ML uri, represented as a `uri_s` object into a SOAP object

`val sp_of_qname : Qname_s.qname_s -> ty`
Converts a ML qname, represented as a `qname_s` object into a SOAP object

`val sp_of_notation : Notation_s.notation_s -> ty`
Converts a ML notation, represented as a `notation_s` object into a SOAP object

`val sp_of_array : ty array -> ty`
Converts a ML array, into a SOAP object

`val sp_of_struct : soapst -> ty`
Converts a ML struct, represented as `soapst`, into a SOAP object

`val skip : ty`
SOAP representation of UNIT

1.22 Convert SOAP Types to ML Types

`val ml_of_string : ty -> String_s.string_s`
Converts a SOAP string into a ML string value

`val ml_of_boolean : ty -> Boolean_s.boolean_s`
Converts a SOAP boolean into a ML boolean value

`val ml_of_decimal : ty -> Decimal_s.decimal_s`
Converts a SOAP decimal into a ML decimal value

`val ml_of_float : ty -> Float_s.float_s`
Converts a SOAP float into a ML float value

val ml_of_double : ty -> Double_s.double_s
Converts a SOAP double into a ML double value

val ml_of_duration : ty -> Duration_s.duration_s
Converts a SOAP duration into a ML duration value

val ml_of_dateTime : ty -> DateTime_s.dateTime_s
Converts a SOAP dateTime into a ML dateTime value

val ml_of_time : ty -> Time_s.time_s
Converts a SOAP time into a ML time value

val ml_of_date : ty -> Date_s.date_s
Converts a SOAP date into a ML date value

val ml_of_gYearMonth : ty -> GYearMonth_s.gYearMonth_s
Converts a SOAP gYearMonth into a ML gYearMonth value

val ml_of_gYear : ty -> GYear_s.gYear_s
Converts a SOAP gYear into a ML gYear value

val ml_of_gMonthDay : ty -> GMonthDay_s.gMonthDay_s
Converts a SOAP gMonthDay into a ML gMonthDay value

val ml_of_gDay : ty -> GDay_s.gDay_s
Converts a SOAP gDay into a ML gDay value

val ml_of_gMonth : ty -> GMonth_s.gMonth_s
Converts a SOAP gMonth into a ML gMonth value

val ml_of_hexBinary : ty -> HexBinary_s.hexBinary_s
Converts a SOAP hexBinary into a ML hexBinary value

val ml_of_base64Binary : ty -> Base64Binary_s.base64Binary_s
Converts a SOAP base64Binary into a ML base64Binary value

val ml_of_uri : ty -> Uri_s.uri_s
Converts a SOAP uri into a ML uri value

val ml_of_qname : ty -> Qname_s.qname_s
Converts a SOAP qname into a ML qname value

val ml_of_notation : ty -> Notation_s.notation_s
Converts a SOAP notation into a ML notation value

val ml_of_array : ty -> ty array

Converts a SOAP array into a ML array value

```
val ml_of_struct : ty -> soapst
```
Converts a SOAP struct into a ML struct value

```
val ml_of_stringarray : ty -> String_s.string_s array
```
Converts a SOAP string array into a ML string array value

```
val ml_of_booleanarray : ty -> Boolean_s.boolean_s array
```
Converts a SOAP boolean array into a ML boolean array value

```
val ml_of_decimalarray : ty -> Decimal_s.decimal_s array
```
Converts a SOAP decimal array into a ML decimal array value

```
val ml_of_floatarray : ty -> Float_s.float_s array
```
Converts a SOAP float array into a ML float array value

```
val ml_of_doublearray : ty -> Double_s.double_s array
```
Converts a SOAP double array into a ML double array value

```
val ml_of_durationarray : ty -> Duration_s.duration_s array
```
Converts a SOAP duration array into a ML duration array value

```
val ml_of_dateTimearray : ty -> DateTime_s.dateTime_s array
```
Converts a SOAP dateTime array into a ML dateTime array value

```
val ml_of_timearray : ty -> Time_s.time_s array
```
Converts a SOAP time array into a ML time array value

```
val ml_of_datearray : ty -> Date_s.date_s array
```
Converts a SOAP date array into a ML date array value

```
val ml_of_gYearMontharray :
  ty -> GYearMonth_s.gYearMonth_s array
```
Converts a SOAP gYearMonth array into a ML gYearMonth array value

```
val ml_of_gYeararray : ty -> GYear_s.gYear_s array
```
Converts a SOAP gYear array into a ML gYear array value

```
val ml_of_gMonthDayarray :
  ty -> GMonthDay_s.gMonthDay_s array
```
Converts a SOAP gMonthDay array into a ML gMonthDay array value

```
val ml_of_gDayarray : ty -> GDay_s.gDay_s array
```
Converts a SOAP gDay into a ML gDay value

```
val ml_of_gMontharray : ty -> GMonth_s.gMonth_s array
```

Converts a SOAP gMonth into a ML gMonth value

```
val ml_of_structarray : ty -> soapst array
```

Converts a SOAP struct array into a ML struct array value

1.23 Other

```
val parse_value :
  ('a Pxp_document.node Pxp_document.extension as 'a) Pxp_document.node ->
  'a Pxp_document.node Pxp_document.extension Pxp_document.node ->
  string -> ty
```

This function takes as argument, a schema, a Pxp document node (containing the input whose SOAP value is to be determined, and a string which contains its type description. The resultant SOAP value is returned

```
val print_value : ty -> string
```

Prints the SOAP object into a string

```
end
```

1.24 Module `Soap_prim.PStructure` : This module gives a description of the OCAML structure, which represents a standard soap message

```
module PStructure : sig
```

```
type  qname =
  | QName of string
```

The attributes are named under the `qname` type

```
type  table = (qname, string) Hashtbl.t
```

All the attributes of the `attributehandler` are stored into a structure of type `table`

```
exception Bad_argument
```

`Bad_argument` is raised when there is an erroneous parameter passing going on in the program

```
exception No_header_present
```

`No_header_present` is raised when the header field of a soap message is being accessed and the message does not have any

```
class type attributehandler = object  end
```

[1.24.1]

```
class type header_entry = object  end
```

[1.24.2]

```
class type header = object  end
```
[1.24.3]

```
class type body_entry = object  end
```
[1.24.4]

```
class type body = object  end
```
[1.24.5]

```
class type envelope = object  end
```
[1.24.6]

```
class type fault = object  end
```
[1.24.7]

```
val get_obj :
  envelope -> string -> envelope
```
Given an XML document and an envelope object containing the attributes, this function returns an `envelope` object

```
val get_obj_struct : string -> envelope
```
Given an XML document containing a soap schema, this function returns an `envelope` object

```
val get_string : envelope -> string
```
Given an `envelope` object, this function returns the corresponding XML document

```
end
```

1.24.1 Class type `Soap_prim.PStructure.attributehandler` : This class handles the various attributes and namespaces of different elements

```
class type attributehandler = object
```

```
val attributes : Soap_prim.PStructure.table
```
The storehouse of all the attributes present

```
val namespace_list : (string * string) list Pervasives.ref
```
The storehouse of all the declared namespaces

```
method set_attr : Soap_prim.PStructure.qname -> string -> unit
```
Adds/changes an attribute

```
method get_attr : Soap_prim.PStructure.qname -> string
```
Returns the value of an attribute

```
method rem_attr : Soap_prim.PStructure.qname -> unit
```
Removes the attribute from the `attributes` structure

```
method declareNS : string -> string -> unit
```

Declares a new namespace in the element

`method ns_to_string : unit -> string`

Prints all the namespaces into a string

`method att_to_string : unit -> string`

Prints all the attributes into a string

`method to_string : unit -> string`

Prints all the attributes and namespaces into a string

`end`

1.24.2 Class type `Soap_prim.PStructure.header_entry` : This class encapsulates the entries of the header class

```
class type header_entry = object
```

`val entry_name : string`

This is the name of the corresponding element

```
val v : SoapTypes.ty
val sch :
  ('a Pxp_document.node Pxp_document.extension as 'a) Pxp_document.node
```

This will be the schema node of the type of value that the entry contains

`val attr_handl : Soap_prim.PStructure.attributehandler`

This is the handler of all the attributes and namespaces of the `header` object

`method setname : string -> unit`

Assigns the element name to the `header_entry` object

`method getname : unit -> string`

Returns the corresponding element name of the `header_entry` object

`method setval : SoapTypes.ty -> unit`

Assigns the element value to the `header_entry` object

`method getval : unit -> SoapTypes.ty`

Returns the corresponding element value of the `header_entry` object

```
method set_sch :
  'a Pxp_document.node Pxp_document.extension Pxp_document.node -> unit
```

Sets the `sch` field of the object

```
method get_sch :
  unit -> 'a Pxp_document.node Pxp_document.extension Pxp_document.node
```

Returns the `sch` field of the object

```
method set_attr : Soap_prim.PStructure.qname -> string -> unit
```
Adds/changes an attribute

```
method get_attr : Soap_prim.PStructure.qname -> string
```
Returns the value of an attribute

```
method rem_attr : Soap_prim.PStructure.qname -> unit
```
Removes the attribute from the `header` structure

```
method declareNS : string -> string -> unit
```
Declares a namespace in the `header` structure

```
method to_string : unit -> string
```
Prints the header portion of the soap message into a string

```
end
```

1.24.3 Class type `Soap_prim.PStructure.header` : This class encapsulates the header portion of the soap message

```
class type header = object
```

```
val entry_list : Soap_prim.PStructure.header_entry list
```
This is the storehouse of all the entries of the `header` structure

```
method add_entry : Soap_prim.PStructure.header_entry -> unit
```
Adds a new entry to the `header` structure

```
method rem_entry :
  Soap_prim.PStructure.header_entry ->
  Soap_prim.PStructure.header_entry list ->
  Soap_prim.PStructure.header_entry list
```
Removes a `header_entry` from a list

```
method get_entrylist : unit -> Soap_prim.PStructure.header_entry list
```
Returns the list of header entries

```
method to_string : unit -> string
```
Prints the header portion of the soap message into a string

```
end
```

1.24.4 Class type `Soap_prim.PStructure.body_entry` : This class encapsulates the entries of the body class

```
class type body_entry = object
```

```
val entry_name : string
```

This is the name of the corresponding element

```
val v : SoapTypes.ty
val sch :
  ('a Pxp_document.node Pxp_document.extension as 'a) Pxp_document.node
```

This will be the schema node of the type of value that the entry contains

```
val attr_handl : Soap_prim.PStructure.attributehandler
```

This is the handler of all the attributes and namespaces of the `body` object

```
method setname : string -> unit
```

Assigns the element name to the `body_entry` object

```
method getname : unit -> string
```

Returns the corresponding element name of the `body_entry` object

```
method setval : SoapTypes.ty -> unit
```

Assigns the element value to the `body_entry` object

```
method getval : unit -> SoapTypes.ty
```

Returns the corresponding element value of the `body_entry` object

```
method set_sch :
  'a Pxp_document.node Pxp_document.extension Pxp_document.node -> unit
```

Sets the `sch` field of the object

```
method get_sch :
  unit -> 'a Pxp_document.node Pxp_document.extension Pxp_document.node
```

Returns the `sch` field of the object

```
method set_attr : Soap_prim.PStructure.qname -> string -> unit
```

Adds/changes an attribute

```
method get_attr : Soap_prim.PStructure.qname -> string
```

Returns the value of an attribute

```
method rem_attr : Soap_prim.PStructure.qname -> unit
```

Removes the attribute from the `body` structure

```
method declareNS : string -> string -> unit
```

Declares a namespace in the `body` structure

`method to_string : unit -> string`

Prints the body portion of the soap message into a string

`end`

1.24.5 Class type `Soap_prim.PStructure.body` : This class encapsulates the body portion of the soap message

`class type body = object`

`val entry_list : Soap_prim.PStructure.body_entry list`

This is the storehouse of all the entries of the `body` structure

`method add_entry : Soap_prim.PStructure.body_entry -> unit`

Adds a new entry to the `body` structure

```
method rem_entry :
  Soap_prim.PStructure.body_entry ->
  Soap_prim.PStructure.body_entry list ->
  Soap_prim.PStructure.body_entry list
```

Removes a `body_entry` from a list

`method get_entrylist : unit -> Soap_prim.PStructure.body_entry list`

Returns the list of body entries

`method to_string : unit -> string`

Prints the body portion of the soap message into a string

`end`

1.24.6 Class type `Soap_prim.PStructure.envelope` : This class encapsulates the envelope portion of the soap message.

`class type envelope = object`

In fact, a soap message is essentially an `envelope` object which itself consists of a `body`, an *optional* `header` etc.

`val header : Soap_prim.PStructure.header option Pervasives.ref`

This is the header part of the soap message. Since it can be optional, it is declared as a `option header`

`val body : Soap_prim.PStructure.body Pervasives.ref`

This is the body part of the soap message

`val env_entries : string list Pervasives.ref`

This is the storehouse of all the entries of the `envelope` structure

`val attr_handl : Soap_prim.PStructure.attributehandler`
This is the handler of all the attributes and namespaces of the `envelope` object

`method init : unit -> unit`
This function initializes an envelope with the default namespaces and uris

`method set_attr : Soap_prim.PStructure.qname -> string -> unit`
Adds/changes an attribute

`method get_attr : Soap_prim.PStructure.qname -> string`
Returns the value of an attribute

`method rem_attr : Soap_prim.PStructure.qname -> unit`
Removes the attribute from the `envelope` structure

`method declareNS : string -> string -> unit`
Declares a namespace in the `envelope` structure

`method set_header : Soap_prim.PStructure.header option -> unit`
Sets the `header` of the message

`method get_header : unit -> Soap_prim.PStructure.header`
Returns the `header` of the message

`method set_body : Soap_prim.PStructure.body -> unit`
Sets the `body` of the message

`method get_body : unit -> Soap_prim.PStructure.body`
Returns the body of the message

`method set_env_entr : string list -> unit`
Adds new entries in the `envelope` structure

`method get_env_entr : unit -> string list`
Returns the envelope entries

`method conv_string : unit -> string`
Prints the envelope portion of the soap message into a string

`end`

1.24.7 Class type `Soap_prim.PStructure.fault` : This class encapsulates the fault portion of the soap message.

`class type fault = object`

Actually, it is a special type of soap body. But because of difference in structure and meaning, it has been treated separately.

`val faultCode : string Pervasives.ref`

This contains the fault code of the fault message

`val faultString : string Pervasives.ref`

This contains the fault string of the fault message

`val faultActorUri : string Pervasives.ref`

This contains the URI of the fault causing node

`val detail_entries : string list Pervasives.ref`

This is the storehouse of all the detail entries of the `fault` structure

`val fault_entries : string list Pervasives.ref`

This is the storehouse of all the fault entries of the `fault` structure

`val attr_handl : Soap_prim.PStructure.attributehandler`

This is the handler of all the attributes and namespaces of the `fault` object

`method set_attr : Soap_prim.PStructure.qname -> string -> unit`

Adds/changes an attribute

`method get_attr : Soap_prim.PStructure.qname -> string`

Returns the value of an attribute

`method rem_attr : Soap_prim.PStructure.qname -> unit`

Removes the attribute from the `fault` structure

`method declareNS : string -> string -> unit`

Declares a namespace in the `fault` structure

`method set_fault_code : string -> unit`

Sets the fault code of the `fault` structure

`method get_fault_code : unit -> string`

Returns the fault code of the `fault` structure

`method set_fault_string : string -> unit`

Sets the fault string of the `fault` structure

`method get_fault_string : unit -> string`

Returns the fault string of the `fault` structure

`method set_faultactor_uri : string -> unit`

Sets the URI of the fault actor of the `fault`

`method get_faultactor_uri : unit -> string`

Returns the URI of the fault actor of the `fault`

`method set_fault_entr : string list -> unit`

Adds new entries in the `fault` structure

`method get_fault_entr : unit -> string list`

Returns the fault entries

`method to_string : unit -> string`

Prints the fault portion of the soap message into a string

`end`