



ADI Time API

Design/Functional Specification

The ADI Time V10 API provides programmatic access to the organization's Time and Attendance information using a simple, powerful and secure application programming interface (API).

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Introduction

The ADI Time V10 API provides programmatic access to the organization's Time and Attendance information using a simple, powerful and secure application programming interface (API).

The API allows the IT staff of an organization using ADI Time to customize, integrate and extend their time and attendance data using the platform of their choice.

Architecture

The API Web Services can be initiated using SOAP consumed using HTTP GET, HTTP POST or simple object access protocol (SOAP). A client program sends a request; the web service processes the request and sends a response. All parameters and return types of the operations supported by the Web service are XML strings. The client application will be required to create or parse these XML strings to call the Web service or to use the data returned from the Web service. ADI recommends utilizing SOAP for any production applications since the SOAP protocol allows access to complex data types, and automatically support the omission of optional arguments.

In the case of the V10 API Web Services, the request header must include the user authentication information which is the session Id. The body of the message specifies the requested operation (such as TimePunch.Create) along with any applicable parameters (such as the data for the punch transaction).

The requests that a web service can process are defined in a web services definition language (WSDL) file in XML. The WSDL file describes the operations that the web service can perform, the required parameters for each operation, and the response for each operation.

For each API call, the client application typically:

- Prepares the request by defining request parameters, if applicable
- Invokes the call, which passes the request with its parameters to the XML Web service for processing
- Receives the response (synchronously) from the XML Web service
- Handles the response, either by processing the returned data (for a successful invocation) or by handling the error (for a failed invocation).

Methods Summary

Call	Summary
AuthenticateUser	Create a client session for use in subsequent API/application calls
CreateClockBioTemplate	Save an employee biometric signature.
CreateEmployee	Add an employee as per the details provided in the XML input. Returns and xml string of errors or GUID.
CreateHierarchy	Create a new hierarchy level.
CreateJob	Create a new job.
CreateLeaveRequest	Create a new leave request.

CreateMiscPay	Add a miscellaneous pay entry for the specified employee.
CreateTimeEventMiscPay	Add a time event miscellaneous pay entry for the specified employee.
CreateTimeEventPunch	Add a time event punch/transfer for the specified employee in the temporary table.
CreateTimePunch	Add a punch/transfer for the specified employee.
CreateUser	Create a new user.
DeleteEmployee	Delete the specified employee.
DeleteMiscPay	Delete a miscellaneous pay entry.
DeleteTimePunch	Delete an existing punch.
Login	Log into the ADI Time application and starts a client session.
Logout	End the session created during login.
RequestPayrollData	Return Payroll Segment data plus the Employee Short Name, ID and EmployeeKey.
ResetClockBioTemplate	Resets biometric templates for an employee
RetrieveAccrualBalances	Retrieve accrual balances for all accrual types and list applicable accrual transactions.
RetrieveAllAccrualTypes	Retrieve accrual type IDs for subsequent usage in UpdateAccrualBalance.
RetrieveAllCodes	Retrieve all active codes of the specified type.
RetrieveAllEmployeeLeaveRequests	Retrieve Leave Requests for All Employees for a particular Date Range.
RetrieveAllEmployeeMessages	Retrieve all active employee messages.
RetrieveAllEmployeeRoles	Retrieve all employee roles.
RetrieveAllEmployeeSchedules	Retrieve all employee schedules.
RetrieveAllEmployeeSchedulesByDateRange	Retrieve all employee schedules for a date range.
RetrieveAllEmployees	Retrieve all employees.
RetrieveAllLevels	Retrieve all accessible hierarchies of the specified level.
RetrieveAllMasterSchedules	Retrieve all master schedules.
RetrieveAllPayCalendar	Retrieve all pay calendars.
RetrieveAllPayGroups	Retrieve all pay groups.
RetrieveAllPayTypes	Retrieve all pay types.
RetrieveAllTimeCardUDF	Retrieve all Time Card UDFs.
RetrieveAllUsers	Retrieve all users.
RetrieveBellSchedule	Retrieve clock bell schedules
RetrieveClockBioTemplates	Retrieve employee biometric signatures for a clock
RetrieveClockUsers	Retrieve clock employees and supervisors

RetrieveEmployee	Retrieve one or more employees.
RetrieveEmployeeLeaveRequest	Retrieve Leave Request for an Employee for a particular Date Range.
RetrieveEmployeeMessages	Retrieve all messages for an employee.
RetrieveEmployeeSchedule	Retrieve schedule of the specified employee.
RetrieveHolidaysAndSpecialDaysByDateRange	Retrieve all Holidays and Special Days for a given date range.
RetrieveMiscPay	Retrieve the miscellaneous pay details for the specified employee on the specified date.
RetrieveMiscPayByPeriod	Retrieve the miscellaneous pay entries during the entire pay period for the specified employee.
RetrieveSettings	Retrieve General and License related Settings.
RetrieveTimePunch	Retrieve the time punch details for the specified employee on the specified date.
RetrieveTimePunchByPeriod	Retrieve the time punches during the entire pay period for the specified employee.
RetrieveTimePunchesByHierarchy	Retrieve the time punch details for the specified hierarchy for the all employees for the specified date range.
RetrieveTimePunchesByJobCodes	Retrieve the time punch details for the specified employee for the specified job code on the specified date.
UpdateAccrualBalance	Earn, expire or set accrual balances for a specified accrual type.
UpdateEmployee	Update the specified fields of an employee record.
UpdateHierarchy	Update the specified hierarchy level.
UpdateJob	Update an existing Job.
UpdateLeaveRequest	Update properties for an existing leave request.
UpdateLeaveRequestStatus	Update the status (approved, denied, submitted, etc.) for an existing leave request.
UpdateTimeCardApproval	Approve or disapprove an employee Time Card.

Security

All API calls can be encrypted with SSL (that is, as HTTPS) to protect the privacy of the XML data. Client applications developed using the API are subject to the same security restrictions that are applicable in the user interface.

User Authentication

Client applications must log in using valid credentials for an ADI Time application login. The ADI Time server authenticates these credentials and, if valid, provides the client application with a Session Id that must be set into the session header so that all subsequent API calls are authenticated. See [login](#) and [logout](#) API for more details.

Security Privileges

Permissions on operations are governed by the privileges assigned to the role to which the user who is currently logged in belongs to. The security role controls the various functions a

user is able to perform on the application objects. Client applications can query or update only those objects and fields to which they have access. All the system calls will be authenticated for the User's privileges. An operation will not be allowed to be performed by the user if the security role assigned to that user does not have proper privileges to perform that operation. For example, suppose a user logs in using the API for login by providing the User Id and Password. Now if the Security Role assigned to the user does not have privileges to create an Employee and the user calls the API for Employee Creation, then an exception will be thrown.

Error Handling

The V10 API will return error data that the client application can use to identify and resolve run time errors. If an error occurs during an API call, the web service returns error xml.

SOAPExceptions cannot be used with HTTP Post. So when an error occurs, error xml string will be returned instead of a SOAPException.

The error xml format will be:

```
<errorxml>
  <error>
    <code>9000006</code>
    <description>A required field is missing.</description>
    <errdetails>
      <fieldname>EmployeeId</fieldname>
    </errdetails>
  </error>
</errorxml>
```

Every API will return the xml in the root node "returnxml". If an error occurs the root node will contain "errorxml" as a child node. For example, if the API user calls the CreateEmployee method possible return values include:

If no errors are encountered:

```
<returnxml>
  <employee>
    <key>GUID</key>
  </employee>
</returnxml>
```

If SSN duplication error occurs:

```
<returnxml>
  <errorxml>
    <error>
      <code>9000017</code>
      <description>Duplicate records found.
      </description>
      <errdetails>
        <fieldname>SSN</fieldname>
      </errdetails>
    </error>
  </errorxml>
</returnxml>
```

Warning XML format

If a warning occurs the root node will contain "warningxml" as a child node. For example,

```
<returnxml>
  <warningxml>
    <warning>
      <description>
      </description>
    </warning>
  </warningxml >
</returnxml>
```

Logging

All the API calls will be recorded as informational messages in the ADI Time application system log.

The message will include the following information:

1. API user name
2. Date/Time of call
3. Name of the API
4. Parameters to the API (truncated to 100 characters)
5. Employee Identifiers (Employee ID Number, Clock Number and Short Name) - Only for calls involving employee data. These identifiers will be a part of the parameters.

Any internal exceptions in the execution of the API will be logged in the system log like all other exceptions in the application. However, handled exceptions (like invalid XML, access denied errors) which are propagated to the client application will not be logged as they are errors in the calls and not necessarily errors with the API.

Standards and Compatibility

The V10 Web services API will be implemented to comply with SOAP 1.1 (Simple Object Access Protocol), and WSDL 1.1 (Web Service Description Language), and WS-I Basic Profile v1.1 specifications.

The API developers would need to download a toolkit that knows how to interpret WSDL files and how to encode and decode XML request and response messages. When a V10 API Web Service receives a request, it sends back the response as an XML message. The web service toolkits know how to parse the response and return a data structure or object back to the caller, as appropriate for the language. The toolkit would depend upon the language you are using.

The API will work with modern SOAP implementations in various development languages (e.g. ASP.NET or Apache Axis).

Getting Started in Visual Studio

API developers using the .NET Framework can utilize Web References to interact with the ADI Time API. These references handle the underlying SOAP implementation and provide Intellisense access to the available API methods. This section describes how to configure web references in Visual Studio 2005 and 2008, and provides sample code snippets for accessing the API.

Web References in Visual Studio 2005:

- To add a web reference, right click on the project name in Solution Explorer and select "Add Web Reference..."
- Enter the URL for the web service
- Enter name for the web reference name
- Click "Add Reference."

Web References in Visual Studio 2008:

Visual Studio 2008 added the concept of a generic service reference. For simplicity this document only covers the backwards-compatible Web References. Follow these instructions to add a web reference in Visual Studio 2008.

- Right click on the project name in Solution Explorer
- Select "Add Service Reference"
- Click the "Advanced" button
- Click "Add Web Reference"
- Follow the instructions for Visual Studio 2005

This screen shot shows the settings dialog:



Once the web reference exists in the project it can be accessed directly from the C# code. IntelliSense will provide a list of available methods and expected arguments.

Sample Code

```
com.aditime.demo.API test = new com.aditime.demo.API();

// Execute the AuthenticateUser call
String response = test.Login("api", "api");

// Read the response
XmlDocument doc = new XmlDocument();
doc.LoadXml(response);

// Use XPath to search for the sessionid response
XmlNode node = doc.SelectSingleNode("//sessionid");

// If the response doesn't contain sessionid then something went wrong
if (node == null)
{
    // Extract the error code and description
    XmlNode code = doc.SelectSingleNode("//error/code");
    XmlNode desc = doc.SelectSingleNode("//error/description");
    string error = string.Format(
        "Failed to log in. Code={0}, Desc={1}",
        code.InnerText, desc.InnerText);
    // Log error or display dialog in GUI app
    // ...
    return;
}
// Extract the session
String session = node.InnerText;

// Call methods to do interesting work (e.g. CreateEmployee)

// Logout when finished
api.Logout(session);
```

API Methods

The following pages detail the methods available in the ADI Time API.

AuthenticateUser

The AuthenticateUser method allows the specified user to log into the application. This method performs identical authentication as using Web UI Login page.

Once a Session ID has been obtained from the AuthenticateUser method the Session ID can be used on re-direct to the UI Site. The Session ID will be valid for use following the same rules configured in the UI for session expiration. If the Session is configured for a valid length of 20 minutes the Session is required to be used within 20 minutes or the Session ID will be considered expired. Upon redirect the UI will consume the Session ID, verify the Session and perform the same action as would occur if the end-user logged in via the UI Login page.

Example: **Error! Hyperlink reference not valid.**>, where <sessionid> is the response from AuthenticateUser.

Signature

```
public string AuthenticateUser(
    string Username,
    string Password
);
```

Parameters

<i>LoginID</i>	Specifies the name of API user
<i>Password</i>	Specifies the password for authentication

Returns

On success, returns the Session Id that will be used by subsequent calls. On failure, returns error xml.

The following is a sample response to a successful call:

```
<returnxml>
  <login>
    <sessionid>bc9cf9a5-5dac-4f3d-9433-a209557a9385</sessionid>
  </login>
</returnxml>
```

Exceptions

Exception Code	Description
INVALID_LOGIN	If a User Id and/or the Password are invalid, the API will return this error code.
MULTIPLE_LOGINS	If another API User has already logged in to the application using the same User Id and Password, this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

CreateClockBioTemplate

This method destroys any existing templates for the specified employee clock number and saves the newly specified template data with the employee clock number.

Signature

```
public string CreateClockBioTemplate(
    string ClockNumber,
    string ClockType,
```


Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
INVALID_FORMAT	If any field is not in the correct format, then this error code will be returned. For example if a date string is not in the UTC format, this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

CreateEmployee

This method creates a new employee using the details specified in the EmployeeXML parameter. The method returns an error if the associated SessionId does not have access to create an employee. CreateEmployee also creates the Hierarchy passed in the EmployeeXML if it does not exist, and assigns the specified supervisor as the supervisor for the newly created Hierarchy.

Signature

```
public string CreateEmployee(
    string EmployeeXML,
    string SessionId
);
```

Usage

Parameters

EmployeeXML	Specifies the XML of the employee defined by the Employee XML Schema
SessionId	Specifies the session id associated with the current API usage session.

Required XML Tags

Tags	Dependency
ssn	
employeeidnumber	
timeclocknumber	
lastname	
firstname	
middleInitial	
shortname	
initials	

paygroup	
positionid	If Multiple Positions are enabled in Hierarchy Settings
departmentid	
companyid	If Multiple Companies are enabled in Hierarchy Settings
divisionid	If Multiple Divisions are enabled in Hierarchy Settings
locationid	If Multiple Locations are enabled in Hierarchy Settings
accrualgroup	If accruals are activated through licensing
pointsgroup	If points are activated through licensing
schedulemode	
iswebenabled	0 = false, 1 = true.
loginid	If iswebenabled is 1.
employeepassword	If iswebenabled is 1.
roles	If iswebenabled is 1.
masterschedule	If schedulemode is 1 (Master Schedule)
rotationschedule	If schedulemode is 2 (Rotation Schedule)
alternatemasterschedule	If alternateschedulemode is 1 (Master Schedule)
alternaterotationschedule	If alternateschedulemode is 2 (Rotation Schedule)
supervisor	If "Use Supervisor" is enabled in System Settings
alternateschedulemode	Alternate Master/Rotation schedule is enabled in System Settings
timeclocknumber	If clocks are activated through licensing.
employeestatus	
province	If "Capture Tax Information" is enabled in System Settings.
addressline2	
city	
state	
phone	
zipcode	
emailaddress	
ispaidholidays	
isrehireable	
isnopay	
issalaried	
salary	
primaryrate	
isautopunchtoschedule	
alternaterate1	
alternaterate2	

employeestatus
hiredate
birthdate
citizenship
agecertificatenum
visanumber
workpermitnumber
visaexpiration
isfulltimestudent
visatype
primarylanguage
secondarylanguage
senioritydate
formername
familymembername
familymemberbirthdate
familymemberssn
familymemberrelation
gender
familymembergender
education
isunionmember
race
unionname
unionlocal
emergencycontactname
alternativecontactphone
emergencycontactaddressline1
emergencycontactaddressline2
emergencycontactaddresscountry
emergencycontactaddresszipcode
emergencycontactaddresscity
emergencycontactaddressphone
phonetype
employeetype
ismarried
isoverrideholidayhours
overriddenholidayhours
dateofchange
lunchbreakminutes
scheduledworkhoursperday
federaltaxmethod
federalexemptions

statetaxmethod	
stateexemptions	
stateadditionalwithholdingamount	
federalmaritalstatus	
statemaritalstatus	
citycounty	
shift	
localhiredate	
reviewdate	
citycountytaxmethod	
citycountyexemptions	
citycountyadditionalwithholdingamount	
federaladditionalwithholdingamount	
citycountymaritalstatus	
terminationdate	If the employee is terminated
terminationreason	If the employee is terminated

Sample XML String

```

<employee>
  <lastname>Smith</lastname>
  <firstname>John</lastname>
  <employeeidnumber>12345</ employeeidnumber >
  <paygroup>ft</paygroup>
  <iswebenabled>1</ iswebenabled>
  <loginid>jsmith</loginid>
  <employeepassword>password</employeepassword>
  <roles>Employee</roles>
  <supervisor>sup1</supervisor>
</employee>

```

Returns

Returns an XML string containing the newly added employees GUID.

The XML string returned is as follows:

```

<returnxml>
  <employee>
    <id>GUID</id>
  </employee>
</returnxml>

```

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session ID specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.

INVALID_FORMAT	If any field is not in the correct format, then this error code will be returned. For example if a date string is not in the UTC format, this error code will be returned.
NO_RECORDS_FOUND	If no record exists for any of the specified fields in the EmployeeXML, this error code will be returned.
DUPLICATE_RECORDS_FOUND	If any field is being duplicated, then this error code will be returned.
ACCESS_DENIED	If the API user does not have create access on employee, an access denied error code will be returned.
INVALID_SHIFT	If the shift specified does not belong to the specified pay group, then this error code will be returned.
INVALID_SUPERVISOR	If the supervisor specified does not belong to the specified level, then this error method will be returned.
INVALID_CITY_COUNTY	If the specified city county does not belong to the specified state, then this error code will be returned.
INVALID_ROLE	If the specified role is not an employee role, then this error code will be returned.
MAX_EMPLOYEE_IN_DATABASE	If the number of employees in the database exceeds the maximum allowed employees in the applied license, then this error code will be returned.

CreateHierarchy

Creates a new hierarchy level.

Signature

```
public string CreateHierarchy(
    string LevelType,
    string LevelXML,
    string SessionID
);
```

Parameters

LevelType	Specifies the level type of the new hierarchy to be created. Allowed level types are: Company = 1 Location = 2 Division = 3 Department = 4
------------------	--

	Position = 5
<i>LevelXML</i>	Specifies the details of the hierarchy level to be created.
<i>SessionID</i>	Specifies the unique token used to authenticate the user.

Returns

Returns success xml containing the key of the hierarchy created.

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
INVALID_ARGUMENTS	If any of the arguments specified is invalid, this error will be thrown.
ACCESS_DENIED	If the API user does not have access for level creation.
INVALID_FORMAT	If the specified Level Type is invalid.
REQUIRED_FIELD_MISSING	If any of the required fields are missing, this error is raised.
HIERARCHY_DISABLED	If the hierarchy level to be created is currently disabled.
NO_RECORDS_FOUND	If no records were found for the given record.
INVALID_ASSOCIATION	If the specified hierarchy does not exist.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

CreateJob

Creates a new Job. The method returns an error if the associated SessionId does not have access to create a job.

Signature

```
public string CreateJob(
    string JobXML,
    string SessionId
);
```

Parameters

<i>JobXML</i>	Specifies the details for the Job.
<i>SessionId</i>	Specifies the unique token used to authenticate the user.

Required XML Tags

Tags	Dependency
Code	
Description	

Sample XML String

```
<job>
  <code>JobCode</code>
  <description>JobCode Description</description>
  <jobstatus>1</jobstatus>
</job>
```

Returns

Returns an XML string containing the GUID of the newly created Job. The XML string returned is as follows:

```
<returnxml>
  <job>
    <id>GUID</id>
  </job>
</returnxml>
```

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
ACCESS_DENIED	If the API User does not have Create access on Job, this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.
DUPLICATE_RECORDS_FOUND	If any field is being duplicated, then this error code will be returned.

CreateLeaveRequest

Create a new leave request.

Signature

```
public string CreateLeaveRequest (
  string SessionId,
  string EmployeeIDXml,
  string LeaveRequestXml
);
```

Parameters

<i>SessionID</i>	Specifies the session id associated with the current API usage session.
<i>EmployeeIdXML</i>	<p>Specifies the XML of the employee identifier. The employee identifier could be any one of the three: SSN, Clock Number and Employee Id. This XML string is in one of the following three formats:</p> <pre><employee><ssn>SSN</ssn></employee> OR <employee><clocknumber>Clock Number</clocknumber></employee> OR <employee><employeeid>Employee Id</employeeid></employee></pre>
<i>LeaveRequestXML</i>	<p>Specifies the XML of the Leave Request. See the New Leave Request screen and help in the web interface for details on the parameters included below.</p> <p><u>Sample XML:</u></p> <pre><leaverequest> <begindate>2010-03-22</begindate> <enddate>2010-03-26</enddate> <paytype>6e19c10a-beba-46dd-92bf-84775458ff3b</paytype> <timeoffreason>69a4b112-82d8-4947-b3ec- f4a1d009b471</timeoffreason> <hours>3</hours> <defaulthoursschflag>0</defaulthoursschflag> <defaulthoursfixflag>0</defaulthoursfixflag> <isspecifictime>1</isspecifictime> <isskipholidays>1</isskipholidays> <isskipweekends>1</isskipweekends> <days>2</days> <comments>Sample Comment</comments> <fromtime>09:00 AM</fromtime> <totime>12:00 PM</totime> <issubmit>1</issubmit> </leaverequest></pre>

Returns

On success, returns success xml. On error, returns the error xml.

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
INVALID_FORMAT	If any field is not in the correct format, then this error code will be returned. For example

	if a date string is not in the UTC format, this error code will be returned.
REQUIRED_FIELD_MISSING	If the required fields for the creation of a miscellaneous pay entry like date, hours/amount are not specified, this error is returned.
ACCESS_DENIED	If the User does not have access to create a leave request then this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

CreateMiscPay

Creates a miscellaneous pay entry for the specified employee

Signature

```
public string CreateMiscPay(
    string EmployeeIdXML,
    string MiscPayXML,
    string SessionId
);
```

Parameters

<i>EmployeeIdXML</i>	<p>Specifies the XML of the employee identifier. The employee identifier could be any one of the three: SSN, Clock Number and Employee Id. This XML string is in one of the following three formats:</p> <pre><employee><ssn>SSN</ssn></employee> OR <employee><clocknumber>Clock Number</clocknumber></employee> OR <employee><employeeid>Employee Id</employeeid></employee></pre>
<i>MiscPayXML</i>	<p>Specifies the XML of the time punch defined by the Miscellaneous Pay XML Schema</p> <p><u>Sample XML:</u></p> <pre><miscpays> <miscpay> <companyid>apicomp1</companyid> <locationid>apilocn</locationid> <divisionid>apidivn</divisionid> <departmentid>apidept</departmentid></pre>

	<pre> <positionid>apipostn</positionid> <day>2005-10-01</day> <amount>2.00</amount> <exceptioncode>LA</exceptioncode> <paytypeid>reg</paytypeid> <jobcode>apijob</jobcode> <reasoncode>ar</reasoncode> <udfs> <udf> <name>tbudf1</name> <value>ADITASK</value> </udf> <udf> <name>ptudf</name> <value>ADIPT</value> </udf> </udfs> </miscpay> </miscpays> </pre>
SessionID	Specifies the session id associated with the current API usage session.

Required XML Tags

Tags	Dependency
day	
hours or amount	

Returns

On success, returns success xml. On error, returns the error xml.

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
INVALID_FORMAT	If any field is not in the correct format, then this error code will be returned. For example if a date string is not in the UTC format, this error code will be returned.
REQUIRED_FIELD_MISSING	If the required fields for the creation of a miscellaneous pay entry like date, hours/amount are not specified, this error is returned.
TIME_CARD_RECALC_FAILED	If an error occurs during the recalc of the time card, then this error code will be returned.
NO_RECORDS_FOUND	If no records exist for the specified employee

	or no records exist for any of the specified fields in the MiscPayXML, this error code will be returned.
PAY_PERIOD_NOT_DEFINED	If the pay period is not defined for the date for which the transaction is made, this error code will be returned
TIMECARD_LOCKED	If the time card of the user is locked, this error code will be returned.
HOURS_NOT_ALLOWED	If the pay type specified with the misc. pay does not allow hours and hours have been specified with the misc. pay, then this error code will be returned.
AMOUNT_NOT_ALLOWED	If the pay type specified with the misc. pay does not allow amount and amount has been specified with the misc. pay, then this error code will be returned.
INVALID_EXCEPTION_CODE	If the time exception code specified with the misc. pay has track set as false, then this error code will be returned.
REASON_REQUIRED	If the pay type specified with the misc. pay requires a reason and a reason code has not been specified, then this error code will be returned.
ACCESS_DENIED	If the User does not have create access on miscellaneous pay, then this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

CreateTimeEventMiscPay

Creates a Time event miscellaneous pay entry for the specified employee

Signature

```
public string CreateTimeEventMiscPay(
    string EmployeeIdXML,
    string MiscPayXML,
    string SessionId
);
```

Parameters

EmployeeIdXML	Specifies the XML of the employee identifier. The employee identifier could be any one of the three: SSN, Clock Number and Employee Id. This XML string is in one of the following three formats:
----------------------	---

```

<employee><ssn>SSN</ssn></employee> OR
<employee><clocknumber>Clock
Number</clocknumber></employee> OR
<employee><employeeid>Employee
Id</employeeid></employee>

```

MiscPayXML Specifies the XML of the time punch defined by the Miscellaneous Pay XML Schema

Sample XML:

```

<miscpays>
  <miscpay>
    <companyid>apicomp1</companyid>
    <locationid>apilocn</locationid>
    <divisionid>apidivn</divisionid>
    <departmentid>apidept</departmentid>
    <positionid>apipostn</positionid>
    <day>2005-10-01</day>
    <amount>2.00</amount>
    <exceptioncode>LA</exceptioncode>
    <paytypeid>reg</paytypeid>
    <jobcode>apijob</jobcode>
    <reasoncode>ar</reasoncode>
    <udfs>
      <udf>
        <name>tbudf1</name>
        <value>ADITASK</value>
      </udf>
      <udf>
        <name>ptudf</name>
        <value>ADIPT</value>
      </udf>
    </udfs>
  </miscpay>
</miscpays>

```

SessionId Specifies the session id associated with the current API usage session.

Required XML Tags

Tags	Dependency
day	
hours or amount	

Returns

On success, returns success xml. On error, returns the error xml.

Exceptions

Exception Code	Description
----------------	-------------

INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
INVALID_FORMAT	If any field is not in the correct format, then this error code will be returned. For example if a date string is not in the UTC format, this error code will be returned.
REQUIRED_FIELD_MISSING	If the required fields for the creation of a miscellaneous pay entry like date, hours/amount are not specified, this error is returned.
TIME_CARD_RECALC_FAILED	If an error occurs during the recalc of the time card, then this error code will be returned.
NO_RECORDS_FOUND	If no records exist for the specified employee or no records exist for any of the specified fields in the MiscPayXML, this error code will be returned.
PAY_PERIOD_NOT_DEFINED	If the pay period is not defined for the date for which the transaction is made, this error code will be returned
TIMECARD_LOCKED	If the time card of the user is locked, this error code will be returned.
HOURS_NOT_ALLOWED	If the pay type specified with the misc. pay does not allow hours and hours have been specified with the misc. pay, then this error code will be returned.
AMOUNT_NOT_ALLOWED	If the pay type specified with the misc. pay does not allow amount and amount has been specified with the misc. pay, then this error code will be returned.
INVALID_EXCEPTION_CODE	If the time exception code specified with the misc. pay has track set as false, then this error code will be returned.
REASON_REQUIRED	If the pay type specified with the misc. pay requires a reason and a reason code has not been specified, then this error code will be returned.
ACCESS_DENIED	If the User does not have create access on miscellaneous pay, then this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

CreateTimeEventPunch

This call inserts one or more time event punches for the specified employee. The time punch can also be a transfer. This is specified by passing a transfer indicator in the XML. This call does not trigger a re-calculation of the employee's time card for the pay period for which the time punch is inserted. A recalc task is required to have these punches automatically posted at a later point of time.

Also, the CreateTimeEventPunch API does not apply the time zone offset to adjust the punch time. The API assumes that the time being passed to it is the time the calling program wants to have recorded on the time card.

Note: To specify the hierarchy level, the entire parent hierarchy (the IDs) has to be specified in the PunchXML. This will be true for all API calls that would require hierarchy levels to be specified in the parameters. The entire parent hierarchy is required because the position and/or department IDs cannot uniquely identify a hierarchy level. Below is an example of the XML tags for hierarchy,

```
<position>RECEPTIONIST</position>
<department>FRONT-OFFICE</department>
<division>ADMIN</division>
<location>NEW YORK</location>
<company>ABC COMPANY</company>
```

In case multiple levels are disabled for a particular hierarchy level, that level can be omitted from the XML. The API will automatically handle the scenario. Also, the tag names will always have to be the same as above irrespective of the labels used in the ADI Time application.

Signature

```
public string CreateTimeEventPunch (
    string EmployeeIdXML,
    string PunchXML,
    string SessionId
);
```

Parameters

EmployeeIdXML	Specifies the XML of the employee identifier. The employee identifier could be any one of the three: SSN, Clock Number and Employee Id. This XML string is in one of the following three formats:
----------------------	---

```
<employee><ssn>SSN</ssn></employee> OR
<employee><clocknumber>Clock
Number</clocknumber></employee> OR
<employee><employeeid>Employee
Id</employeeid></employee>
```

PunchXML	Specifies the XML of the time punch defined by the Time Punch XML Schema
-----------------	--

SessionId Specifies the session id associated with the current API usage session.

Required XML Tags

Tags	Dependency
punchdatetime	
istransfer	
positionid	If istransfer=1 and Multiple Positions are enabled
departmentid	If istransfer=1
divisionid	If istransfer=1 and Multiple Divisions are enabled
locationid	If istransfer=1 and Multiple Locations are enabled
companyid	If istransfer=1 and Multiple Companies are enabled

Returns

Returns success xml.

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
INVALID_FORMAT	If any field is not in the correct format, then this error code will be returned. For example if a date string is not in the UTC format, this error code will be returned.
NO_RECORDS_FOUND	If the corresponding employee is not found in the database or no records exist for any of the specified fields in the PunchXML, this error code will be returned.
REQUIRED_FIELD_MISSING	If the required fields for the creation of time punch like date and time are not specified, this error is returned.
TIME_CARD_PAY_PERIOD_CLOSED	If the time punch belongs to a closed pay period, then this error code will be returned.
PAY_PERIOD_NOT_DEFINED	If the pay period is not defined for the date for which the transaction is made, this error code will be returned
TIMECARD_LOCKED	If the time card of the user is locked, this error code will be returned.
TIMECARD_MINUTE_BETWEEN_PUNCHES	If a time punch exists within the minimum time between punches from the punch time as configured in Configurations Settings System Settings General Minimum Time Between Punches, then this error code will be returned.
INVALID_EXCEPTION_CODE	If the time exception code specified with the in/out punch does not have punch usage as

	In/Out or Both OR has track set as false, then this error code will be returned.
REASON_REQUIRED	If the pay type specified with the punch requires a reason and a reason code has not been specified, then this error code will be returned.
ACCESS_DENIED	If the API user does not have the create access on time card, then this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

Creating Door Access Using Create Time Event Punch

Notes:

- 1) Note that you must use API CreateTimeEventPunch, **not** the API CreateTimePunch.
- 2) In your punchXML, you need to provide both clocksitenename and clockaddress, and dooraccesstype must equal 2.
- 3) After calling CreateTimeEventPunch, post the punch. Then run door access report and you will be able to see the punches printed out in the report.

For example:

```
<punches>
  <punch>
    <punchdatetime>2007-07-12T08:35:00</punchdatetime>
    <override>0</override>
    <istransfer>0</istransfer>
    <dooraccesstype>2</dooraccesstype>
    <clocksitenename>CMI Default</clocksitenename>
    <clockaddress>0</clockaddress>
  </punch>
</punches>
```

Also make sure that in the configuration of clockaddress, you set up clock usage as both door access and time attendance, or just "Door" if the clock is to be used only for door access.

Door Access Type Codes:

- | | |
|---|----------------|
| 0 | None |
| 1 | TimeAttendance |
| 2 | DoorAccess |
| 3 | Both |

CreateTimePunch

This call inserts one or more time punches for the specified employee. The time punch can also be a transfer. This is specified by passing a transfer indicator in the XML. This call will

trigger a re-calculation of the employee's time card for the pay period for which the time punch is inserted.

Also, the CreateTimePunch API does not apply the time zone offset to adjust the punch time. The API assumes that the time being passed to it is the time the calling program wants to have recorded on the time card.

Note: To specify the hierarchy level, the entire parent hierarchy (the IDs) has to be specified in the *PunchXML*. This will be true for all API calls that would require hierarchy levels to be specified in the parameters. The entire parent hierarchy is required because the position and/or department IDs cannot uniquely identify a hierarchy level. Below is an example of the XML tags for hierarchy,

```
<position>RECEPTIONIST</position>
<department>FRONT-OFFICE</department>
<division>ADMIN</division>
<location>NEW YORK</location>
<company>ABC COMPANY</company>
```

In case multiple levels are disabled for a particular hierarchy level, that level can be omitted from the XML. The API will automatically handle the scenario. Also, the tag names will always have to be the same as above irrespective of the labels used in the ADI Time application.

Signature

```
public string CreateTimePunch(
    string EmployeeIdXML,
    string PunchXML,
    string SessionId
);
```

Parameters

<i>EmployeeIdXML</i>	Specifies the XML of the employee identifier. The employee identifier could be any one of the three: SSN, Clock Number and Employee Id. This XML string is in one of the following three formats: <pre><employee><ssn>SSN</ssn></employee> OR <employee><clocknumber>Clock Number</clocknumber></employee> OR <employee><employeeid>Employee Id</employeeid></employee></pre>
<i>PunchXML</i>	Specifies the XML of the time punch defined by the Time Punch XML Schema
<i>SessionId</i>	Specifies the session id associated with the current API usage session.

Required XML Tags

Tags	Dependency
------	------------

punchdatetime	
istransfer	
positionid	If istransfer=1 and Multiple Positions are enabled
departmentid	If istransfer=1
divisionid	If istransfer=1 and Multiple Divisions are enabled
locationid	If istransfer=1 and Multiple Locations are enabled
companyid	If istransfer=1 and Multiple Companies are enabled

Returns

Returns success xml.

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
INVALID_FORMAT	If any field is not in the correct format, then this error code will be returned. For example if a date string is not in the UTC format, this error code will be returned.
NO_RECORDS_FOUND	If the corresponding employee is not found in the database or no records exist for any of the specified fields in the PunchXML, this error code will be returned.
REQUIRED_FIELD_MISSING	If the required fields for the creation of time punch like date and time are not specified, this error is returned.
TIME_CARD_RECALC_FAILED	If an error occurs during the recalc of the time card, then this error code will be returned. Error details will be provided in the error XML.
TIME_CARD_PAY_PERIOD_CLOSED	If the time punch belongs to a closed pay period, then this error code will be returned.
PAY_PERIOD_NOT_DEFINED	If the pay period is not defined for the date for which the transaction is made, this error code will be returned
TIMECARD_LOCKED	If the time card of the user is locked, this error code will be returned.
TIMECARD_MINUTE_BETWEEN_PUNCHES	If a time punch exists within the minimum time between punches from the punch time as configured in Configurations Settings System Settings General Minimum Time Between Punches, then this error code will be returned.
INVALID_EXCEPTION_CODE	If the time exception code specified with the in/out punch does not have punch usage as In/Out or Both OR has track set as false, then this error code will be returned.

REASON_REQUIRED	If the pay type specified with the punch requires a reason and a reason code has not been specified, then this error code will be returned.
ACCESS_DENIED	If the API user does not have the create access on time card, then this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

CreateUser

The CreateUser call creates a new User. The method returns an error if the associated SessionId does not have access to create a user.

Signature

```
public string CreateUser(
    string UserXML,
    string SessionId
);
```

Parameters

<i>UserXML</i>	Specifies the details for the User.
<i>SessionId</i>	Specifies the unique token used to authenticate the user.

Required XML Tags

Tags	Dependency
userid	
username	
supervisortype	
supervisorid	If the supervisortype is Supervisor or Manager
loginid	If iswebenabled is true.
password	If iswebenabled is true.
supervisors	If supervisortype is Manager.
accesslevel	
levels	If accesslevel is By Level (2).
employees	If accesslevel is By Employee (3).
associatedemployee	If isemployeeenabled is true.
levels	If accesslevel is Level.
employees	If accesslevel is Employee.

Returns

Returns an XML string containing the GUID of the newly created User.
The XML string returned is as follows:

```
<returnxml>
  <user>
    <id>GUID</id>
  </user>
</returnxml>
```

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
ACCESS_DENIED	If the API User does not have Create access on User, this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.
INVALID_ASSOCIATION	This error code will be returned in the following cases: The roles specified by the user are not User roles The assignable levels are not accessible to the user. The levels specified in the accessible levels are not accessible to the user. The employees specified are not accessible to the user. Supervisors specified are not users of the type supervisor.

DeleteEmployee

Delete the specified employee. The method returns an error if the associated SessionId does not have access to delete an employee.

Signature

```
public string DeleteEmployee (
    string EmployeeIdXML,
    string SessionId
);
```

Parameters

<i>EmployeeIdXML</i>	Specifies the XML of the employee identifier. The employee identifier could be any one of the three: SSN, Clock Number and Employee Id. This XML string is in one of the following three formats:
----------------------	---

	<pre><employee><ssn>SSN</ssn></employee> OR <employee><clocknumber>Clock Number</clocknumber></employee> OR <employee><employeeid>Employee Id</employeeid></employee></pre>
<i>SessionId</i>	Specifies the session id associated with the current API usage session.

Returns

On success, returns success xml. On error, returns the error xml.

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
NO_RECORDS_FOUND	If no record exists for any of the specified Employee Id, then this error code will be returned.
ACCESS_DENIED	If the API user does not have delete access on employee, an access denied error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

DeleteMiscPay

This call deletes the miscellaneous pay entry identified by the *MiscPayKey* parameter, which is the GUID of the miscellaneous pay entry. If no miscellaneous pay entry exists for the GUID specified, an exception is thrown as it is an invalid delete operation. The client application will have to explicitly handle this scenario. This call will trigger a re-calculation of the employee's time card for the pay period for which the time punch is deleted.

Note: For a miscellaneous pay entry, we cannot identify a unique entry by using the date, hours/amount, pay type, department combination as there can be more than one entry with the same transaction details. Hence a unique GUID is used to specify the delete operation. Since this call expects the miscellaneous pay identifier as a GUID, the client application will first have to retrieve all the miscellaneous pay entries on that particular day. The miscellaneous pay entries will have the GUID associated with them. The client application can then use this GUID to specify the miscellaneous pay entry that it wishes to delete.

Signature

```
public string DeleteMiscPay(
    string MiscPayKey,
    string SessionId
);
```

Parameters

<i>MiscPayKey</i>	Specifies the GUID of the miscellaneous pay entry that needs to be deleted.
<i>SessionId</i>	Specifies the session Id associated with the current API usage session.

Returns

On success, returns success xml. On error, returns the error xml.

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
NO_RECORDS_FOUND	If no miscellaneous pay record exists with the specified GUID, this error code will be returned.
TIME_CARD_RECALC_FAILED	If an error occurs during the recalc of the time card, then this error code will be returned.
TIME_CARD_PAY_PERIOD_CLOSED	If the pay period for which the transaction is being performed is closed, then this error code will be returned.
PAY_PERIOD_NOT_DEFINED	If the pay period is not defined for the date for which the transaction is made, this error code will be returned.
TIMECARD_LOCKED	If the time card of the user is locked, this error code will be returned.
ACCESS_DENIED	If the User does not have the delete access on miscellaneous pay, then this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

DeleteTimePunch

This call deletes a time punch at the given date and time for the employee. If no punch exists that satisfies the specific date and time, an exception is thrown as it is an invalid delete operation. The client application will have to explicitly handle this scenario. If more than one punch exists with the same date and time, all punches except the first one entered into the database are deleted. If the first punch is a transfer punch, it is the one that is deleted and the subsequent one is retained.

This call triggers a re-calculation of the employee's time card for the pay period for which the time punch is deleted.

Signature

```
public string DeleteTimePunch(
    string EmployeeIdXML,
    string PunchTime,
    string SessionId
```

);

Parameters

<i>EmployeeIdXML</i>	<p>Specifies the XML of the employee identifier. The employee identifier could be any one of the three: SSN, Clock Number and Employee Id. This XML string is in one of the following three formats:</p> <pre><employee><ssn>SSN</ssn></employee> OR <employee><clocknumber>Clock Number</clocknumber></employee> OR <employee><employeeid>Employee Id</employeeid></employee></pre>
<i>PunchTime</i>	Specifies the date and time of the time punch. The date time has to be in the UTC format.
<i>SessionId</i>	Specifies the session id associated with the current API usage session.

Returns

On success, returns success xml. On error, returns the error xml.

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_FORMAT	If any field is not in the correct format, then this error code will be returned. For example if a date string is not in the UTC format, this error code will be returned.
NO_RECORDS_FOUND	If no time punch exists on the given date and time or no record exists for the specified employee, this error code will be returned.
TIME_CARD_RECALC_FAILED	If an error occurs during the recalc of the time card, then this error code will be returned.
TIME_CARD_PAY_PERIOD_CLOSED	If the pay period for which the transaction is being performed is closed, then this error code will be returned.
PAY_PERIOD_NOT_DEFINED	If the pay period is not defined for the date for which the transaction is made, this error code will be returned.
TIMECARD_LOCKED	If the time card of the user is locked, this error code will be returned.
ACCESS_DENIED	If the User does not have the delete access on the time card, then this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be

returned.

Login

The login call is used to log into the ADI Time application server to start a client session. A client application *must* login to the application and obtain a Session ID before making any other ADI Time API calls.

When the client application invokes the login call, it passes in a user name and password. Upon invocation, the ADI Time web service authenticates the login and returns the Session ID for the session to use in all subsequent API calls.

To successfully retrieve a session ID from the Login call, the specified user account must have the following attributes in ADI Time:

1. User type of API User. This is set from the User Manager screen of the application.
2. Member of a role that has *at least* view access under "API Access".

There can be multiple API users in the application. If a client application (calling program) is already logged in using a certain API user credentials, and another subsequent login call is made using the same API user credentials, the second user will be denied access. The client application would have to be programmed to retry until the login is successful. The client application would logout of the session; the API would then be open to receive another login request.

Data transmission security is provided by using an SSL connection (https). This will provide security for login and XML data streams.

Signature

```
public string Login(
    string UserName,
    string Password
);
```

Usage

Parameters

<i>LoginID</i>	Name of the API user.
<i>Password</i>	Password for the specified LoginID.

Returns

On success returns the Session Id that will be used by subsequent calls.

Exceptions

Exception Code	Description
INVALID_LOGIN	If a User Id and/or the Password are invalid, the API will return this error code.

API_ACCESS_DENIED	If the user does not have access to use the API (through the associated role) or is not a member of the API user, an access denied error will be returned.
MULTIPLE_LOGINS	If another API User has already logged in to the application using the same User Id and Password, this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

Logout

The Logout ends the session created during the Login call. This call deletes the session from the ADI Time application.

Client applications do not need to explicitly log out to end the session. Sessions expire automatically after a predetermined length of time, which can be configured from **Configurations | Settings | System Settings | General | Session Length (Minutes)**.

Signature

```
public string Logout(
    string SessionId
);
```

Parameters

SessionId Specifies the session id associated with the current API usage session.

Returns

On success, returns success xml. On error, returns the error xml.

Exceptions

Exception Code	Description
INVALID_SESSION	If the session which the user is trying to end does not exist, API will return this error code.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RequestPayrollData

RequestPayrollData returns the calculated payroll segment data for the employee(s) specified in the RequestXML. The request XML must include a date range and may optionally include hierarchy and pay group information for filtering.

Signature

```
public string RequestPayrollData(  
    string RequestXML  
    string SessionId  
);
```

Parameters

RequestXML

SessionId Specifies the session id associated with the current API usage session.

Output

API output will include at a minimum the following fields:

1. Employee ID
2. Report Date
3. Pay Type
4. Hours
5. Amount
6. Department Worked
7. Position Worked

Example Request

```
<request type='PayrollSegment'>  
  <filters>  
    <filter type='Employee'>  
      <employeekey>0295f622-52e1-4a30-ab32-  
f4b1c2a5c2ce</employeekey>  
    </filter>  
    <filter type='PayrollSegment'>  
      <startdate>08/15/2007</startdate>  
      <enddate>08/15/2007</enddate>  
      <workdepartmentkey>2c006b83-a7aa-405b-bf47-  
edfa28106a7f</workdepartmentkey>  
    </filter>  
  </filters>  
</request>
```

Example Response

```
<response>  
  <payrollsegments>  
    <payrollsegment reportdate="08/15/2007" utcdate="08/15/2007">
```

```

    <payrollsegmentkey>0295f622-52e1-4a30-ab32-f4b1c2a5c2ce
    </payrollsegmentkey>
    <employeekey id="581054" name="Apple, George">c39ca065-ea86-
    4584-ba3b-a79974229174</employeekey>
    <startdatetime date="08/15/2007" time="08:00 AM">2007-08-
    15T08:00:00</startdatetime>
    <enddatetime date="08/15/2007" time="04:00 PM">2007-08-
    15T16:00:00</enddatetime>
    <hours>9.00</hours>
    <amount>145.44</amount>
    <payrate>16.16</payrate>
    <companykey id="LP1">806857da-883a-41de-bc2e-
    fd750b8b7cad</companykey>
    <locationkey id="01">a8011df2-becf-42c7-8466-
    163b48270d0e</locationkey>
    <divisionkey id="01">4c9e0fcf-ccee-4637-ab3c-
    feb1a1a49fc0</divisionkey>
    <departmentkey id="011">4088c882-bada-4e5e-9d89-
    b6f47f1ea8bf</ departmentkey >
    <positionkey id="011">31c0de21-34da-4bd6-b131-
    c66028b6eba7</positionkey>
    <comments />
    <paytypekey id="REG">eea87dce-8781-4bda-9f3b-
    e87c6a7ee961</paytypekey>
    <jobkey id="testjob">41e431f9-e9ed-4d14-973c-
    59890b5adf57</jobkey>
  </payrollsegment>
</payrollsegments>
</response>

```

Retrieving PayrollSegment Data

XML Request Doc:

```
<request type = 'PayrollSegment'></request>
```

Available Filters:

1. Employee
2. PayrollSegment

Notes:

1. If no filtering is specified, data will be returned for all employees with Payroll Segment records in the current pay period.
2. If no date filtering is specified, data will be returned for the current pay period.
3. The "request type" and "filter type" values are case-sensitive. E.g., filter type = 'Employee'; not filter type = 'employee'.
4. For each filter, multiple values may be specified. The values are separated by semi-colons. See Employee Filter Example 2 below for an example.

Employee Filter Example 1:

Filtering Payroll Segment Data for a single Employee Selection

```
<request type = 'PayrollSegment'>
  <filters>
```

```
<filter type = 'Employee'>
  <employeekey>0295f622-52e1-4a30-ab32-f4b1c2a5c2ce</employeekey>
</filter>
</filters>
</request>
```

Result: The returned result set would include any payroll data for the specified employee for the Current Period.

Employee Filter Example 2:

Filtering Payroll Segment Data by Multiple Employees using a semi-colon delimited list

```
<request type = 'PayrollSegment'>
  <filters>
    <filter type = 'Employee'>
      <employeekey>0295f622-52e1-4a30-ab32-f4b1c2a5c2ce;029192-0201-
        0204-2010-20303030</employeekey>
    </filter>
  </filters>
</request>
```

Result: The returned result set would include payroll data for both employees specified for the Current Period.

Employee Filter Example 3:

Filtering Payroll Segment Data by Employee Home Hierarchy by specifying a hierarchy value

```
<request type = 'PayrollSegment'>
  <filters>
    <filter type = 'Employee'>
      <departmentkey>0295f622-52e1-4a30-ab32-
        f4b1c2a5c2ce</departmentkey>
    </filter>
  </filters>
</request>
```

Result: The returned result set would include payroll data for any employees matching the hierarchy value specified for the Current Period.

Employee Filter Example 4:

Filtering Payroll Segment Data using multiple filter criteria

```
<request type = 'PayrollSegment'>
  <filters>
    <filter type = 'Employee'>
      <departmentkey>0295f622-52e1-4a30-ab32-
        f4b1c2a5c2ce</departmentkey>
      <paygroupkey>0295f622-52e1-4a30-ab32-
        f4b1c2a5c2ce</paygroupkey>
    </filter>
  </filters>
</request>
```

Result: The returned result set would include payroll data for any employee matching both the Hierarchy specification and Pay Group specification for the current period.

Payroll Segment Filter Example 1:

Filtering Payroll Segment Data by dates:

- A. Specified date range

```
<request type = 'PayrollSegment'>
  <filters>
    <filter type = 'PayrollSegment'>
      <startdate>10/27/2007</startdate>
      <enddate>11/05/2007</enddate>
    </filter>
  </filters>
</request>
```

Result: The returned result set would include payroll data for the date range between the requested start and end date.

- B. Period into which a specified date falls

```
<request type = 'PayrollSegment'>
  <filters>
    <filter type = 'PayrollSegment'>
      <startdate>09/10/2007</startdate>
    </filter>
  </filters>
</request>
```

Result: The returned result set would include payroll data for the Period based off the date provided.

Payroll Segment Filter Example 2:

Filter Payroll Segment Data by Worked Department.

```
<request type = 'PayrollSegment'>
  <filters>
    <filter type = 'PayrollSegment'>
      <workdepartmentkey>0295f622-52e1-4a30-ab32-
f4b1c2a5c2ce</workdepartmentkey>
    </filter>
  </filters>
</request>
```

Result: The returned result set would include payroll data for all employees for the current period in which the employee worked in the specified department.

Combined Filter Example 1:

Filter Payroll Segment Data by multiple selection criteria.

```
<request type = 'PayrollSegment'>
  <filters>
```

```
<filter type = 'Employee'>
  <departmentkey>0295f622-52e1-4a30-ab32-
f4b1c2a5c2ce</departmentkey>
</filter>
<filter type = 'PayrollSegment'>
  <startdate>10/27/2007</startdate>
  <enddate>11/05/2007</enddate>
  <workdepartmentkey>0295f622-52e1-4a30-ab32-f4b1c-
xxskd</workdepartmentkey>
</filter>
</filters>
</request>
```

Result: The returned result set would include payroll data for employees belonging to the specified home department and worked in the specified department between the date range specified.

Available Employee Filters:

1. EmployeeKey
2. EmployeeId
3. CompanyKey
4. CompanyId
5. LocationKey
6. LocationId
7. DivisionKey
8. DivisionID
9. DepartmentKey
10. DepartmentId
11. PositionKey
12. PositionID
13. PayGroupKey
14. PayGroupId

Available Payroll Segment Filters:

1. StartDate and EndDate
2. StartDate (retrieves data for the pay period into which the date falls)
3. WorkCompanyKey
4. WorkCompanyID
5. WorkLocationKey
6. WorkLocationID
7. WorkDivisionKey
8. WorkDivisionID
9. WorkDepartmentKey
10. WorkDepartmentId
11. WorkPositionKey
12. WorkPositionId
13. PayTypeKey
14. PayTypeId
15. JobKey
16. JobId

Usage Note: When filtering on hierarchy and the organization does not use unique codes, the KEY value may need to be used as the filter value instead of the ID values. The Key value would be obtained through a separate API call before calling the RequestPayrollData API.

Example: Department 100 has Positions ABC and XYZ. Department 200 also has Positions ABC and XYZ. If data for Positions ABC and XYZ are to be returned regardless of Department, a filter by PositionID is used. If data for Positions ABC and XYZ in Department 100 is to be returned, filters for DepartmentID and PositionID are used. If data is to be returned for Position ABC in Department 100 and Position XYZ in Department 200, then the PositionKey must be used as the filter because there is no option to combine the DepartmentID/PositionID codes.

ResetClockBioTemplate

Resets biometric templates for an employee

Signature

```
public string ResetClockBioTemplate (
    string EmployeeClockNumber,
    string ClockType,
    string SessionId
);
```

Parameters

<i>EmployeeClockNumber</i>	Specifies the employee clock number.
<i>ClockType</i>	Integer identifies type of clock.
<i>SessionId</i>	Specifies the session id associated with the current API session.

Returns

On success, removes biometric templates from the database.

Example

Parameter/Value:

EmployeeClockNumber: 305
ClockType: 4
SessionId: <sessionid>

Return Results

<Result>Success</Result>

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
INVALID_FORMAT	If any field is not in the correct format, then this error code will be returned. For example if a date string is not in the UTC format, this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RetrieveAccrualBalances

Provides the accrual balance for all accrual types, and includes a list of accrual transactions between the specified start and end date.

Signature

```
public string RetrieveAccrualBalances (
    string SessionId,
    string EmployeeIDXml,
    string StartDate,
    string EndDate
);
```

Parameters

<i>SessionID</i>	Specifies the session id associated with the current API usage session.
<i>EmployeeIdXML</i>	Specifies the XML of the employee identifier. The employee identifier could be any one of the three: SSN, Clock Number and Employee Id. This XML string is in one of the following three formats: <pre><employee><ssn>SSN</ssn></employee> OR <employee><clocknumber>Clock Number</clocknumber></employee> OR <employee><employeeid>Employee Id</employeeid></employee></pre>
<i>StartDate</i>	Beginning date for accrual calculations in the form yyyy-mm-dd.
<i>EndDate</i>	Ending date for accrual calculations in the form yyyy-mm-dd.

Returns

Upon success, returns balances for all accrual types through the specified end date, and all accrual transactions between the specified start and end date, inclusive.

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
INVALID_FORMAT	If any field is not in the correct format, then this error code will be returned. For example if a date string is not in the UTC format, this error code will be returned.
REQUIRED_FIELD_MISSING	If the required fields for the creation of a miscellaneous pay entry like date, hours/amount are not specified, this error is

	returned.
ACCESS_DENIED	If the User does not have access to create a leave request then this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RetrieveAllAccrualTypes

Provides the accrual balance for all accrual types, and includes a list of accrual transactions between the specified start and end date.

Signature

```
public string RetrieveAllAccrualTypes (
    string SessionId,
    string FieldSetXml
);
```

Parameters

<i>SessionID</i>	Specifies the session id associated with the current API usage session.
<i>FieldSetXml</i>	FieldSet XML can include any combination of four supported fields: id, name, accrualtypeid, and isactive depending on the data required. <pre><fieldset> <field>id</field> <field>name</field> <field>accrualtypeid</field> <field>isactive</field> </fieldset></pre>

Returns

Upon success, returns the requested fields for each accrual type. Otherwise, returns one of the exceptions listed below.

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
INVALID_FORMAT	If any field is not in the correct format, then this error code will be returned. For example if a date string is not in the UTC format, this error code will be returned.

REQUIRED_FIELD_MISSING	If the required fields for the creation of a miscellaneous pay entry like date, hours/amount are not specified, this error is returned.
ACCESS_DENIED	If the User does not have access to create a leave request then this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RetrieveAllCodes

Retrieve all codes based on the specified code typ.

Signature

```
public string RetrieveAllCodes(
    string Type,
    string FieldSetXML,
    string SessionId
);
```

Parameters

<i>Type</i>	Specifies the type of code which needs to be retrieved. Various code types will be: Time Exception Code = 1 Time Edit Reason Code = 2 Job Code = 3 Country Code = 4 Race Code = 5 Employee Status Code = 6 State Master = 7 Termination Reason = 8 Time Off Reason Code = 9
<i>FieldSetXML</i>	Specifies the code fields that are required by the client application. It uses the Field Set XML schema. If the client application needs to retrieve all the fields pass an empty (or null) string as the parameter.
<i>SessionId</i>	Specifies the unique token used to authenticate the user.

Returns

Returns an XML string containing all the codes of the specified type. The fields that are returned depend on what fields are specified in the FieldSetXML parameter. This XML string is in the format:

```
<codename> + code...N + </codename>
```

Where codename can be timeexception, timeeditreason, job etc depending upon the code type

The XML schema for each code is specified by Code XML Schema

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
ACCESS_DENIED	If the API user does not have view access on codes and specifies fields other than Code and Description as part of the Field Set XML, an access denied error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RetrieveAllEmployeeLeaveRequest

Retrieves pending and approved leave requests for all employees during the specified date range.

Signature

```
public string RetrieveAllEmployeeLeaveRequest (
    string StartDate,
    string EndDate,
    string SessionID
);
```

Parameters

<i>StartDate</i>	Specifies the start date from which to retrieve Employee Leave Requests.
<i>EndDate</i>	Specifies the end date till which Employee Leave Requests will be retrieved.
<i>SessionId</i>	Specifies the unique token used to authenticate the user.

Returns

Returns an XML string containing details of Leave Requests within a specified date range for all the Employees.

This XML string is in the format:

```
<employeeleaverequest>
```

```

<leaverequest>
  <id/>
  <employeeidnumber/>
  <name/>
  <company name=""/>
  <location name=""/>
  <division name=""/>
  <department name=""/>
  <position name=""/>
  <dayleaverequest>
    <weekday date=""/>
    <segments>
      <segment>
        <id/>
        <starttime time=""/>
        <stoptime time=""/>
        <paytype name=""/>
        <status/>
      </segment>
    </segments>
  </dayleaverequest>
</leaverequest>
</employeeleaverequest>

```

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_ARGUMENTS	If the specified Arguments are not in the right format.
NO_RECORDS_FOUND	If no records were found for the given record.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RetrieveAllEmployeeRoles

Retrieve all employee roles.

Signature

```
public string RetrieveAllEmployeeRoles (
    string SessionId
);
```

Parameters

SessionId Specifies the unique token used to authenticate the user.

Returns

Returns an XML string containing all the employee roles. This XML string is in the format:

```
<roles> + role1...N + </roles>
```

Sample return XML:

```
<roles morerecords="1">
  <role>
    <id>5e597ac6-a2c8-421b-8ca2-215eadca118c</id>
    <rolename>EmpRole1</rolename>
    <roledescription>Employee Role 1</roledescription>
  </role>
  <role>
    <id>19a38d2e-c33f-4788-9693-566244a5984a</id>
    <rolename>EmpRole2</rolename>
    <roledescription>Employee Role 2</roledescription>
  </role>
  <role>
    <id>28cf8b71-2061-40d4-be0d-8d93ed2156ed</id>
    <rolename>EmpRole3</rolename>
    <roledescription>Employee Role 3</roledescription>
  </role>
</roles>
```

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RetrieveAllEmployeeSchedules

Retrieve all employee schedules for the specified date. Results can optionally be filtered by clock (defined by the combination of ClockSiteId and ClockId).

Signature

```
public string RetrieveAllEmployeeSchedules (
    string PayPeriodDate,
    string SessionId,
    string ClockSiteId,
    string ClockId
);
```

Parameters

<i>PayPeriodDate</i>	Specifies the Pay Period Date for which the schedule is to be displayed.
<i>SessionId</i>	Specifies the unique token used to authenticate the user.
<i>ClockSiteId</i>	ID for the clock site. This is an optional argument to filter results for a specific clock. Must be used in conjunction with the ClockId argument.
<i>ClockId</i>	ID for the clock. This is an optional argument to filter results for a specific clock. Must be used in conjunction with the ClockSiteId argument.

Returns

Returns an XML string containing all the employee schedules
This XML string is in the format:

```
<employeeschedules> + employeeschedule...N + </ employeeschedules >
```

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
ACCESS_DENIED	If the API user does not have view access on pay types and specifies fields other than Id and Description as part of the Field Set XML, an access denied error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.
INVALID_CLOCK_SITE	If the specified ClockSiteId does not exist.

RetrieveAllEmployeeSchedulesByDateRange

Retrieve all employee Schedules for the specified date range. Results can optionally be filtered by clock (defined by the combination of ClockSiteId and ClockId).

Signature

```
public string RetrieveAllEmployeeSchedulesByDateRange (
```

```

string StartDate,
string EndDate,
string SessionId,
string ClockSiteId,
string ClockId
);

```

Parameters

StartDate	Specifies the Start Date of the date range for which the schedule is to be displayed. Date must be in the format yyyy-mm-dd
EndDate	Specifies the End Date of the date range for which the schedule is to be displayed. Date must be in the format yyyy-mm-dd
SessionId	Specifies the unique token used to authenticate the user.
ClockSiteId	ID for the clock site. This is an optional argument to filter results for a specific clock. Must be used in conjunction with the ClockId argument.
ClockId	ID for the clock. This is an optional argument to filter results for a specific clock. Must be used in conjunction with the ClockSiteId argument.

Returns

Returns an XML string containing all the employee schedules
This XML string is in the format:

```
<employeeschedules> + employeeschedule...N + </ employeeschedules >
```

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
ACCESS_DENIED	If the API user does not have view access on pay types and specifies fields other than Id and Description as part of the Field Set XML, an access denied error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.
INVALID_CLOCK_SITE	If the specified ClockSiteId does not exist.

RetrieveAllEmployees

Retrieve all employees and the system codes (Pay Groups, Roles, Accrual Groups, Point Groups, Supervisors, Master Schedules and Rotation Schedules). The method returns an error if the associated SessionId does not have access to view employees.

Signature

```
public string RetrieveAllEmployees (
    string FieldSetXML,
    string SessionId
);
```

Parameters

<i>FieldSetXML</i>	Specifies the employee fields that are required by the client application. It uses the Field Set XML schema. If the client application needs to retrieve all the fields, pass an empty (or null) string as the parameter. If the FieldSetXML contains the tag 'codes', the return XML contains system codes ((Pay Groups, Roles, Accrual Groups, Point Groups, Supervisors, Master Schedules and Rotation Schedules).
<i>SessionId</i>	Specifies the session id associated with the current API usage session.

Returns

Returns an XML string containing all the employees. The fields that are returned depend on what fields are specified in the FieldSetXML parameter. Where the XML schema for each employee is specified by Employee XML Schema. The method will return codes (Pay Groups, Roles, Accrual Groups, Point Groups, Supervisors, Master Schedules and Rotation Schedules) if tag 'codes' is specified in the FieldSetXML.

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
NO_RECORDS_FOUND	If no record exists for any of the specified EmployeeId, this error code will be returned.
ACCESS_DENIED	If the API user does not have view access on employee, an access denied error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RetrieveAllEmployeeMessages

Retrieve all active employee messages

Signature

```
public string RetrieveAllEmployeeMessages (
    string SessionId,
```

```
string FieldSetXml
);
```

Parameters

<i>SessionID</i>	Specifies the session id associated with the current API usage session.
<i>FieldSetXml</i>	FieldSet XML can include any combination of four supported fields: id, messagename, messagetext, and datecreated depending on the data required. <pre><fieldset> <field>id</field> <field>messagename</field> <field>messagetext</field> <field>datecreated</field> </fieldset></pre>

Returns

Upon success, returns the requested fields for each active message. Otherwise, returns one of the exceptions listed below.

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
INVALID_FORMAT	If any field is not in the correct format, then this error code will be returned. For example if a date string is not in the UTC format, this error code will be returned.
REQUIRED_FIELD_MISSING	If the required fields for the creation of a miscellaneous pay entry like date, hours/amount are not specified, this error is returned.
ACCESS_DENIED	If the User does not have access to create a leave request then this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RetrieveAllLevels

This method retrieves all accessible hierarchies of the specified level type.

Signature

```
public string RetrieveAllLevels(
    string LevelType,
    string FieldSetXML,
    string SessionId
);
```

Parameters

<i>LevelType</i>	Specifies the type of level which has to be retrieved. Various level types will be: Company = 1 Location = 2 Division = 3 Department = 4 Position = 5
<i>FieldSetXML</i>	Specifies the level fields that are required by the client application. It uses the Field Set XML schema. If the client application needs to retrieve all the fields pass an empty (or null) string as the parameter.
<i>SessionId</i>	Specifies the unique token used to authenticate the user.

Returns

Returns an XML string containing all the levels of the specified Level Type. The fields that are returned depend on what fields are specified in the *FieldSetXML* parameter.

This XML string is in the format:

```
<levelname> + level...N + </levelname>
```

Where levelname can be companies, locations, divisions, departments or positions based upon the level type

The XML schema for each level is specified by Level XML Schema

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
ACCESS_DENIED	If the API user does not have view access on the specified level and specifies fields other than Level Id and Description as part of the Field Set XML, an access denied error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RetrieveAllMasterSchedules

Retrieves all Master Schedules

Signature

```
public string RetrieveAllMasterSchedules (
    string FieldSetXML,
    string SessionId
);
```

Parameters

<i>FieldSetXML</i>	Specifies the Master Schedule fields that are required by the client application. It uses the Field Set XML schema. If the client application needs to retrieve all the fields pass an empty (or null) string as the parameter.
<i>SessionId</i>	Specifies the unique token used to authenticate the user.

Returns

Returns an XML string containing all the master schedules. The fields that are returned depend on what fields are specified in the FieldSetXML parameter. This XML string is in the format:

```
<masterschedules> + masterschedule...N + </ masterschedules>
```

Where the XML schema for each pay type is specified by Pay Type XML Schema

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
ACCESS_DENIED	If the API user does not have view access on pay types and specifies fields other than Id and Description as part of the Field Set XML, an access denied error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RetrieveAllPayCalendars

Retrieves all pay Calendars.

Signature

```
public string RetrieveAllPayCalendars(
    string Year,
    string FieldSetXML,
    string SessionId
);
```

Parameters

<i>Year</i>	Specifies the Year for which the Pay Calendar Period is required.
<i>FieldSetXML</i>	Specifies the pay calendar fields that are required by the client application. It uses the Field Set XML schema. If the client application needs to retrieve all the fields pass an empty (or null) string as the parameter.
<i>SessionId</i>	Specifies the unique token used to authenticate the user.

Returns

Returns an XML string containing all the pay calendars. The fields that are returned depend on what fields are specified in the FieldSetXML parameter. This XML string is in the format:

```
<payCalendars> + paycalendar1..N + </paycalendars>
```

Where the XML schema for each pay type is specified by Pay Calendar XML Schema

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
ACCESS_DENIED	If the API user does not have view access on pay types and specifies fields other than Id and Description as part of the Field Set XML, an access denied error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RetrieveAllPayGroups

Retrieve all pay groups.

Signature

```
public string RetrieveAllPayGroups(
    string FieldSetXML,
    string SessionId
```

```
);
```

Parameters

<i>FieldSetXML</i>	Specifies the pay group fields that are required by the client application. It uses the Field Set XML schema. If the client application needs to retrieve all the fields pass an empty (or null) string as the parameter.
<i>SessionId</i>	Specifies the unique token used to authenticate the user.

Returns

Returns an XML string containing all the pay groups. The fields that are returned depend on what fields are specified in the FieldSetXML parameter.

This XML string is in the format:

```
<paygroups> + paygroup1...N + </paygroups>
```

Where the XML schema for each pay type is specified by Pay Group XML Schema

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
ACCESS_DENIED	If the API user does not have view access on pay types and specifies fields other than Id and Description as part of the Field Set XML, an access denied error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RetrieveAllPayTypes

Retrieves all the pay types

Signature

```
public string RetrieveAllPayTypes(
    string FieldSetXML,
    string SessionId
);
```

Parameters

<i>FieldSetXML</i>	Specifies the pay type fields that are required by the client application. It uses the Field Set XML schema. If the client application needs to retrieve all the fields pass an empty (or null) string as the parameter.
--------------------	--

SessionId Specifies the unique token used to authenticate the user.

Returns

Returns an XML string containing all the pay types. The fields that are returned depend on what fields are specified in the FieldSetXML parameter. This XML string is in the format:

```
<paytypes> + paytype1...N + </paytypes>
```

Where the XML schema for each pay type is specified by Pay Type XML Schema

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
ACCESS_DENIED	If the API user does not have view access on pay types and specifies fields other than Id and Description as part of the Field Set XML, an access denied error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RetrieveAllTimeCardUDF

This method retrieves all the user defined time fields.

Signature

```
public string RetrieveAllTimeCardUDF(
    string SessionId
);
```

Parameters

SessionId Specifies the unique token used to authenticate the user.

Returns

Returns an XML string containing all the Time Card UDFs.

```
<timecardudfs>
  <timecardudf>
  </timecardudf>...N
</timecardudfs>
```

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
ACCESS_DENIED	If the API user does not have view access on time card, an access denied error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RetrieveAllUsers

This method retrieves all users.

Signature

```
public string RetrieveAllUsers(
    string FieldSetXML,
    string SessionId
);
```

Parameters

<i>FieldSetXML</i>	Specifies the User fields that are required by the client application. It uses the Field Set XML schema. If the client application needs to retrieve all the fields pass an empty (or null) string as the parameter.
<i>SessionId</i>	Specifies the unique token used to authenticate the user.

Returns

Returns an XML string containing all the Users. The fields that are returned depend on what fields are specified in the FieldSetXML parameter. This XML string is in the format:

```
<users> + user1...N + </users>
```

Where the XML schema for each pay type is specified by User XML Schema

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
ACCESS_DENIED	If the API user does not have view access on pay types and specifies fields other than Id and Description as part of the Field Set XML, an access

	denied error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RetrieveBellSchedule

Retrieves clock bell schedules.

Signature

```
public string RetrieveBellSchedule (
    string BellScheduleName,
    string SessionId
);
```

Parameters

<i>BellScheduleName</i>	Specifies name of bell schedule. If BellScheduleName is empty, all bell schedules are returned.
<i>SessionId</i>	Specifies the session id associated with the current API session.

Returns

On success, returns bell schedules.

Example

Parameter/Value:

BellScheduleName: test
SessionID: <sessionid>

Return Results:

```
<bellschedule>
  <id>bfef0dff-ef96-4843-a448-613d74aa305b</id>
  <name>Test</name>
  <isactive name="Active">1</isactive>
  <clocktype name="CMI">4</clocktype>
  <schedules>
    <schedule>
      <timeofday>08:00 AM</timeofday>
      <duration>3</duration>
      <days>
        <sunday>0</sunday>
        <monday>1</monday>
        <tuesday>0</tuesday>
        <wednesday>0</wednesday>
        <thursday>0</thursday>
      </days>
    </schedule>
  </schedules>
</bellschedule>
```

```

        <friday>1</friday>
        <saturday>1</saturday>
    </days>
</schedule>
<schedule>
    <timeofday>05:00 PM</timeofday>
    <duration>3</duration>
    <days>
        <sunday>0</sunday>
        <monday>1</monday>
        <tuesday>0</tuesday>
        <wednesday>0</wednesday>
        <thursday>0</thursday>
        <friday>1</friday>
        <saturday>1</saturday>
    </days>
</schedule>
</schedules>
<issystemschedule>0</issystemschedule>
<issameduration>1</issameduration>
<defaultduration>3</defaultduration>
</bellschedule>

```

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
INVALID_FORMAT	If any field is not in the correct format, then this error code will be returned. For example if a date string is not in the UTC format, this error code will be returned.
NO_RECORDS_FOUND	If no records exist for any of the specified fields, this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RetrieveClockBioTemplates

Retrieve biometric templates for the specified clock. Results can optionally be filtered by time.

Signature

```

public string RetrieveClockBioTemplates (
    string ClockSiteId,
    string ClockId,
    string SessionId,

```


Signature

```
public string RetrieveClockUsers (
    string ClockSiteId,
    string ClockNumber,
    string SessionId
);
```

Parameters

<i>ClockSiteId</i>	Specifies the clock site.
<i>ClockNumber</i>	Specifies the clock number within the clock site.
<i>SessionId</i>	Specifies the session id associated with the current API session.

Returns

On success, returns employees and supervisors.

Example

Parameter/Value:

ClockSiteId: "CMI Default"
ClockNumber: "305"

Return Results

```
<users>
  <Employees>
    <Employee>
      <TimeClockNumber>61</TimeClockNumber>
      <LastName>Repsold</LastName>
      <FirstName>Brad</FirstName>
    </Employee>
  </Employees>
  <supervisors>
    <supervisor>
      <TimeClockNumber>56</TimeClockNumber>
      <Name>Post, Emily</Name>
      <UserId>epost</UserId>
    </supervisor>
  </supervisors>
```

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.

INVALID_FORMAT	If any field is not in the correct format, then this error code will be returned. For example if a date string is not in the UTC format, this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RetrieveEmployee

RetrieveEmployee returns details about the specified employee. The method returns an error if the associated SessionId does not have access to view the specified employee.

Signature

```
public string RetrieveEmployee (
    string EmployeeIdXML,
    string FieldSetXML,
    string SessionId
);
```

Parameters

<i>EmployeeIdXML</i>	Specifies the XML of the employee identifier. The employee identifier could be any one of the three: SSN, Clock Number and Employee Id. This XML string is in one of the following three formats: <pre><employee><ssn>SSN</ssn></employee> OR <employee><clocknumber>Clock Number</clocknumber></employee> OR <employee><employeeid>Employee Id</employeeid></employee></pre>
<i>FieldSetXML</i>	Specifies the employee fields that are required by the client application. It uses the Field Set XML schema. If the client application needs to retrieve all the fields, pass an empty (or null) string as the parameter. If 'codes' is specified in the FieldSetXML, the return XML contains system codes (Pay Groups, Roles, Accrual Groups, Point Groups, Supervisors, Master Schedules and Rotation Schedules) as well.
<i>SessionId</i>	Specifies the session id associated with the current API usage session.

Returns

Returns an XML string containing the specified employee. The fields that are returned depend on what fields are specified in the FieldSetXML parameter.
Where the XML schema for each employee is specified by Employee XML Schema

The method will return codes (Pay Groups, Roles, Accrual Groups, Point Groups, Supervisors, Master Schedules and Rotation Schedules) if tag 'codes' is specified in the FieldSetXML.

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
NO_RECORDS_FOUND	If no record exists for any of the specified EmployeeId, this error code will be returned.
ACCESS_DENIED	If the API user does not have view access on employee, an access denied error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RetrieveEmployeeLeaveRequest

The RetrieveEmployeeLeaveRequest returns pending and approved leave requests for a particular Employee during the specified date range.

Signature

```
public string RetrieveEmployeeLeaveRequest(
    string EmployeeIDXML,
    string StartDate,
    string EndDate,
    string SessionID
);
```

Parameters

<i>EmployeeIDXML</i>	Specifies the Employee for which the Leave Requests have to be retrieved.
<i>StartDate</i>	Specifies the start date from which to retrieve Employee Leave Requests.
<i>EndDate</i>	Specifies the end date till which Employee Leave Requests will be retrieved.
<i>SessionId</i>	Specifies the unique token used to authenticate the user.

Returns

Returns an XML string containing details of Leave Requests for the Employee that fall in the given Date Range.

This XML string is in the format:

```
<employeeleaverequest>
  <leaverequest>
    <id/>
    <employeeidnumber/>
    <name/>
    <company name=""/>
    <location name=""/>
    <division name=""/>
    <department name=""/>
    <position name=""/>
    <dayleaverequest>
      <weekday date=""/>
      <segments>
        <segment>
          <id/>
          <starttime time=""/>
          <stoptime time=""/>
          <paytype name=""/>
          <status/>
        </segment>
      </segments>
    </dayleaverequest>
  </leaverequest>
</employeeleaverequest>
```

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_ARGUMENTS	If the specified Arguments are not in the right format.
NO_RECORDS_FOUND	If no records were found for the given record.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RetrieveEmployeeMessages

This method retrieves all active messages for the specified employee.

Signature

```
public string RetrieveEmployeeMessages (
    string EmployeeIDXML,
    string FieldSetXML,
    string SessionID
);
```

Parameters

<i>EmployeeIDXML</i>	Specifies the Id of the employee for whom messages are to be retrieved.
<i>FieldSetXML</i>	Specifies the message fields that are required by the client application. It uses the Field Set XML schema. If the client application needs to retrieve all the fields pass an empty (or null) string as the parameter.
<i>SessionId</i>	Specifies the unique token used to authenticate the user.

Returns

Returns an XML string containing all the messages for the employee. The fields that are returned depend on what fields are specified in the FieldSetXML parameter. This XML string is in the format:

```
<messages>
  <message>
    <id></id>
    <messagename></messagename>
    <messagetext></messagetext>
    <datecreated></datecreated>
  </message>
</messages>
```

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
NO_RECORDS_FOUND	If no records were found for the given record.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected

error, this error code will be returned.

RetrieveEmployeeSchedule

This method returns the schedule for the specified employee.

Signature

```
public string RetrieveEmployeeSchedule (
    string EmployeeIDXML,
    string StartDate,
    string EndDate,
    string SessionId
);
```

Parameters

<i>EmployeeIDXML</i>	Specifies the Id of the employee for whom the schedule is to be retrieved.
<i>StartDate</i>	Specifies the Start Date of the date range for which the schedule is to be displayed. Date must be in the format yyyy-mm-dd
<i>EndDate</i>	Specifies the End Date of the date range for which the schedule is to be displayed. Date must be in the format yyyy-mm-dd
<i>SessionId</i>	Specifies the unique token used to authenticate the user.

Returns

Returns an XML string containing the employee schedule.
This XML string is in the format:

```
<employeeschedule>
  <id></id>
  <employeeidnumber></employeeidnumber>
  <name></name>
  <statusclass></statusclass>
  <days>
    <dayschedule>
      <weekday date=""></weekday>
      <istimeoff hours=""></istimeoff>
      <segments>
        <segment>
          </segment>...N
      </segments>
    </dayschedule>
  </days>
</employeeschedule>
```

```

        <holidayid></holidayid>
        <holidaydescription></holidaydescription>
        <timeoffreason></timeoffreason>
        <weekdate></weekdate>
    </dayschedule>
</days>
</schedule>
</employeeschedule>

```

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
ACCESS_DENIED	If the API user does not have view access on schedule, an access denied error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RetrieveHolidaysAndSpecialDaysByDateRange

This call returns holidays and special days for specified date range.

Signature

```

public string RetrieveHolidaysAndSpecialDaysByDateRange (
    string StartDate,
    string EndDate,
    string SessionId
);

```

Parameters

StartDate	Specifies the start date from which special days are to be retrieved. Date must be in the format yyyy-mm-dd.
EndDate	Specifies the end date till which special days are retrieved. Date must be in the format yyyy-mm-dd.
SessionId	Specifies the unique token used to authenticate the user.

Returns

Returns an XML string containing all the holidays and special days. This XML string is in the format:

```

< holidays>
  <holiday>
    <id></id>
    <name></name>
    <holidaytype name="Special Day">1</holidaytype>
    <observance name="ABC"></observance>
    <datethisyear date=""></datethisyear>
    <hours></hours>
    <holidaygroupdates></holidaygroupdates>
    <holidaydays>
      <date></date>...N
    </holidaydays>
  </holiday>
  <holiday>
    <id></id>
    <name></name>
    <holidaytype name="Holiday">0</holidaytype>
    <observance name="ABC"></observance>
    <datethisyear date=""></datethisyear>
    <hours></hours>
    <holidaygroupdates></holidaygroupdates>
    <holidaydays>
      <date></date>...N
    </holidaydays>
  </holiday>...N
</holidays>

```

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
ACCESS_DENIED	If the API user does not have view access on time card, an access denied error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

INVALID_FORMAT	If the StartDate and EndDate are not in the correct format
----------------	--

RetrieveMiscPay

RetrieveMiscPay returns the miscellaneous pay entries for a specified employee on the specified date. If no entries exist on that day, an exception is thrown as it is an invalid retrieve operation.

Signature

```
public string RetrieveMiscPay(
    string EmployeeIdXML,
    string MiscPayDate,
    string SessionId
);
```

Parameters

<i>EmployeeIdXML</i>	Specifies the XML of the employee identifier. The employee identifier could be any one of the three: SSN, Clock Number and Employee Id. This XML string is in one of the following three formats: <pre><employee><ssn>SSN</ssn></employee> OR <employee><clocknumber>Clock Number</clocknumber></employee> OR <employee><employeeid>Employee Id</employeeid></employee></pre>
<i>MiscPayDate</i>	Specifies the date on which the miscellaneous pay entries need to be retrieved. The date has to be in the UTC format.
<i>SessionId</i>	Specifies the session id associated with the current API usage session.

Returns

Returns the XML of the miscellaneous pay defined by the Miscellaneous XML Schema. Multiple entries may be retrieved.

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_FORMAT	If any field is not in the correct format, then this error code will be returned. For example if a date string is not in the UTC format, this error code will be returned.

NO_RECORDS_FOUND	If no miscellaneous pay entries exist on the given date or no records exist for the specified employee, this error code will be returned.
TIME_CARD_PAY_PERIOD_CLOSED	If the pay period for which the transaction is being performed is closed, then this error code will be returned.
PAY_PERIOD_NOT_DEFINED	If the pay period is not defined for the date for which the transaction is made, this error code will be returned
ACCESS_DENIED	If the User does not have the appropriate access, then this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RetrieveMiscPayByPeriod

Retrieves the misc. pay details for the specified employee for the entire pay period during which the specified date falls. If no entries exist in that pay period, an exception is thrown as it is an invalid retrieve operation.

Signature

```
public string RetrieveMiscPayByPeriod(
    string EmployeeIdXML,
    string MiscPayDate,
    string SessionId
);
```

Parameters

<i>EmployeeIdXML</i>	Specifies the XML of the employee identifier. The employee identifier could be any one of the three: SSN, Clock Number and Employee Id. This XML string is in one of the following three formats: <pre><employee><ssn>SSN</ssn></employee> OR <employee><clocknumber>Clock Number</clocknumber></employee> OR <employee><employeeid>Employee Id</employeeid></employee></pre>
<i>MiscPayDate</i>	Specifies the date on which the miscellaneous pay entries need to be retrieved. The date has to be in the UTC format.
<i>SessionId</i>	Specifies the session id associated with the current API usage session.

Returns

Returns the XML of the miscellaneous pay defined by the Miscellaneous XML Schema. Multiple entries may be retrieved.

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_FORMAT	If any field is not in the correct format, then this error code will be returned. For example if a date string is not in the UTC format, this error code will be returned.
NO_RECORDS_FOUND	If no miscellaneous pay entries exist on the given date or no records exist for the specified employee, then this error code will be returned.
TIME_CARD_PAY_PERIOD_CLOSED	If the pay period for which the transaction is being performed is closed, then this error code will be returned.
PAY_PERIOD_NOT_DEFINED	If the pay period is not defined for the date for which the transaction is made, this error code will be returned.
ACCESS_DENIED	If the User does not have the appropriate access, then this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RetrieveSettings

The RetrieveSettings call returns system and license settings (isaccrualsenabled, ispointsenabled, isleaverequestenabled, isdatacollectionterminalenabled, enablesupervisor).

Signature

```
public string RetrieveSettings (
    string FieldSetXML,
    string SessionID
);
```

Parameters

<i>FieldSetXML</i>	Specifies the 'setting' fields that are required by the client application. It uses the Field Set XML schema. If the client application needs to retrieve all the fields pass an empty (or null) string as the parameter.
<i>SessionId</i>	Specifies the unique token used to authenticate the user.

Returns

Returns an XML string containing all the settings to be retrieved. The fields that are returned depend on what fields are specified in the FieldSetXML parameter. This XML string is in the format:

```
<settings>
<isaccrualsenabled />
<ispointsenabled />
<isleaverequestenabled />
<isdatacollectionterminalenabled />
<enablesupervisor />
</settings>
```

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
NO_RECORDS_FOUND	If no records were found for the given record.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RetrieveTimePunch

This call will retrieve time punch entries on a given date for the employee. If no punch exists on that day, an exception is thrown as it is an invalid retrieve operation. The client application will have to explicitly handle this scenario.

Signature

```
public string RetrieveTimePunch (
    string EmployeeIdXML,
    string PunchDate,
    string SessionId
);
```

Parameters

<i>EmployeeIdXML</i>	Specifies the XML of the employee identifier. The employee identifier could be any one of the three: SSN, Clock Number and Employee Id. This XML string is in one of the following three formats:
----------------------	---

```

<employee><ssn>SSN</ssn></employee> OR
<employee><clocknumber>Clock
Number</clocknumber></employee> OR
<employee><employeeid>Employee
Id</employeeid></employee>

```

<i>PunchDate</i>	Specifies the date for which the time punches need to be retrieved. The date has to be in the UTC format.
<i>SessionId</i>	Specifies the session id associated with the current API usage session.

Returns

Returns the XML of the time punch defined by the Time Punch XML Schema. Multiple punch entries may be retrieved.

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_FORMAT	If any field is not in the correct format, then this error code will be returned. For example if a date string is not in the UTC format, this error code will be returned.
NO_RECORDS_FOUND	If no time punch exists on the given date or no record exists for the specified employee, this error code will be returned.
TIME_CARD_PAY_PERIOD_CLOSED	If the pay period for which the transaction is being performed is closed, then this error code will be returned.
PAY_PERIOD_NOT_DEFINED	If the pay period is not defined for the date for which the transaction is made, this error code will be returned.
ACCESS_DENIED	If the User does not have the appropriate access, then this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RetrieveTimePunchByPeriod

This call retrieves time punch entries for the entire pay period in which the specified date falls for the employee. The pay period can be weekly, biweekly, or custom as defined in the pay calendar configurations. If no punches exist during the pay period, an exception is thrown as it is an invalid retrieve operation. The client application will have to explicitly handle this scenario.

Signature

```
public string RetrieveTimePunchByPeriod(
```

```

string EmployeeIdXML,
string PunchDate,
string SessionId
);

```

Parameters

EmployeeIdXML	Specifies the XML of the employee identifier. The employee identifier could be any one of the three: SSN, Clock Number and Employee Id. This XML string is in one of the following three formats: <pre> <employee><ssn>SSN</ssn></employee> OR <employee><clocknumber>Clock Number</clocknumber></employee> OR <employee><employeeid>Employee Id</employeeid></employee> </pre>
PunchDate	Specifies the date which falls under the pay period for which the time punches need to be retrieved. The date has to be in the UTC format.
SessionId	Specifies the session id associated with the current API usage session.

Returns

Returns the XML of the time punches in the pay period range. The schema for the time punch details returned is defined by the Time Punch XML Schema. The following additional tags will be retrieved to provide the information about the pay period.

1. payperiodstartdate
2. payperiodenddate

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_FORMAT	If any field is not in the correct format, then this error code will be returned. For example if a date string is not in the UTC format, this error code will be returned.
NO_RECORDS_FOUND	If no time punch exists on the given date or no record exists for the specified employee, this error code will be returned.
TIME_CARD_PAY_PERIOD_CLOSED	If the pay period for which the transaction is being performed is closed, then this error code will be returned.
PAY_PERIOD_NOT_DEFINED	If the pay period is not defined for the date for which the transaction is made, this error code will be returned.
ACCESS_DENIED	If the User does not have the appropriate access, then this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RetrieveTimePunchesByHierarchy

The method returns time punches for all employees within the specified hierarchy and within the specified date range.

Signature

```
public string RetrieveTimePunchesByHierarchy (
    string HierarchyXML,
    string PunchStartDate,
    string PunchEndDate,
    string SessionID
);
```

Parameters

HierarchyXML	Specifies the Level identifier XML for the Hierarchy Level for which punches are to be retrieved.
PunchStartDate	Specifies the start date from which punches are to be retrieved. Date must be in the format yyyy-mm-dd
PunchEndDate	Specifies the end date till which punches are retrieved. Date must be in the format yyyy-mm-dd
SessionID	Specifies the unique token used to authenticate the user.

Returns

This method returns an XML string containing all the punches for the specified date range and hierarchy. This XML string is in the format:

```
<punchsets>
  <employee>
    <day>
      <punchset>    </punchset>...N
    </day>...N
  </employee>...N
</punchsets>
```

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
ACCESS_DENIED	If the API user does not have view access on hierarchy, an access denied error code will be returned.

INVALID_ARGUMENTS	If any of the arguments specified is invalid, this error will be thrown.
NO_RECORDS_FOUND	If no records were found for the given record.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

RetrieveTimePunchesByJobCodes

This method retrieves time punches for employees for specified jobs for the date range given.

Signature

```
public string RetrieveTimePunchesByJobCodes (
    string JobIdsXML,
    string EmployeeIdsXML,
    string PunchStartDate,
    string PunchEndDate,
    string DetailsRequired,
    string SessionId
);
```

Parameters

JobIdsXML	Specifies the Job Ids for which punches are to be retrieved.
EmployeeIdsXML	Specifies employees whose punches are to be retrieved. If empty then time punches of all the employees will be retrieved.
PunchStartDate	Specifies the start date from which punches are to be retrieved. Date must be in the format yyyy-mm-dd
PunchEndDate	Specifies the end date till which punches are retrieved. Date must be in the format yyyy-mm-dd
DetailsRequired	Specifies whether details of the punches are required or only the total hours worked are required.
SessionId	Specifies the unique token used to authenticate the user.

Returns

If Details are required, returns an XML string containing all the punches. This XML string is in the format:

```
< punchsets>
  <job>
    <employee>
      <day>
        <punchset></punchset>
```

```

        <totalhours></totalhours>
    </day>
</employee>....N
</job>...N
</punchsets>

```

If totals are required, returns an XML string containing all the totals. This XML string is in the format:

```

< punchsets>
  <job>
    <employee>
      <day>
        <totalhours></totalhours>
      </day>
    </employee>....N
  </job>...N
</punchsets>

```

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
ACCESS_DENIED	If the API user does not have view access on time card, an access denied error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

UpdateAccrualBalance

Earn, Expire or Set To the accrual amount for the specified accrual type.

Signature

```

public string UpdateAccrualBalance (
    string SessionId,
    string EmployeeIDXml,
    string AccrualXML

```

);

Parameters

<i>SessionID</i>	Specifies the session id associated with the current API usage session.
<i>EmployeeIdXML</i>	<p>Specifies the XML of the employee identifier. The employee identifier could be any one of the three: SSN, Clock Number and Employee Id. This XML string is in one of the following three formats:</p> <pre data-bbox="464 426 1433 621"> <employee><ssn>SSN</ssn></employee> OR <employee><clocknumber>Clock Number</clocknumber></employee> OR <employee><employeeid>Employee Id</employeeid></employee> </pre>
<i>AccrualXML</i>	<p>Specifies the XML for the accrual transaction. The XML includes: activity, accruedamount, recorddate, comment, accrualtypekey and actiontype.</p> <p>Allowed values for activity are 2 (expire), 3 (use) or 4 (set to). Activity should be excluded when creating new or earn transactions.</p> <p>New accrual (accrued only). Mirrors the Accruals\ Action\New Accrual screen in the web interface with the Accrued option enabled. This scenario only applies if the allow accrued/not earn setting is enabled.</p> <pre data-bbox="464 1031 1433 1360"> <accrual> <accruedamount>3.00</accruedamount> <recorddate>2010-04-12</recorddate> <comment>New Accrued</comment> <accrualtypekey>9853c336-b506-491c-8e77- d38746e264d2</accrualtypekey> <employeekey>086c8913-ac08-4038-b527- 016b80546a41</employeekey> <actiontype>NewAccrual</actiontype> </accrual> </pre> <p>Earn without requiring a pending balance. Mirrors the Accruals\ Action\New Accrual screen in the web interface with the Earned option enabled. This scenario only applies if the allow accrued/not earn setting is enabled.</p> <pre data-bbox="464 1560 1433 1885"> <accrual> <accruedto>2</accruedto> <accruedamount>4.00</accruedamount> <recorddate>2010-04-12</recorddate> <comment>Earn directly</comment> <accrualtypekey>9853c336-b506-491c-8e77- d38746e264d2</accrualtypekey> <employeekey>086c8913-ac08-4038-b527- 016b80546a41</employeekey> <actiontype>NewAccrual</actiontype> </pre>

	<p><code></accrual></code></p> <p>Earn requiring a pending balance. Mirrors the Accruals\Action\Accrual Transaction screen in the web interface with the Earn Hours option enabled. This scenario only applies if the allow accrued/not earn setting is enabled. Note: This call will fail if the accrual balance is not sufficient.</p> <p><code><accrual></code> <code><accruedamount>2.00</accruedamount></code> <code><recorddate>2010-04-12</recorddate></code> <code><comment>Earn Accrued</comment></code> <code><accrualtypekey>9853c336-b506-491c-8e77-d38746e264d2</accrualtypekey></code> <code><employeekey>086c8913-ac08-4038-b527-016b80546a41</employeekey></code> <code><actiontype>AccrualTransaction</actiontype></code> <code></accrual></code></p> <p>If the allow accrued/not earn setting is disabled, the following is the only applicable sample: Earn directly without requiring a pending balance. Mirrors the Accruals\Action\New Accrual screen in the web interface with the Earned option enabled (Earned is the only choice for this configuration).</p> <p><code><accrual></code> <code><accruedamount>3.00</accruedamount></code> <code><recorddate>2010-04-12</recorddate></code> <code><comment>Sample Comment</comment></code> <code><accrualtypekey>9853c336-b506-491c-8e77-d38746e264d2</accrualtypekey></code> <code><employeekey>086c8913-ac08-4038-b527-016b80546a41</employeekey></code> <code><actiontype>NewAccrual</actiontype></code> <code></accrual></code></p>
--	---

Returns

On success, returns success xml. On error, returns the error xml.

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
INVALID_FORMAT	If any field is not in the correct format, then this error code will be returned. For example

	if a date string is not in the UTC format, this error code will be returned.
REQUIRED_FIELD_MISSING	If the required fields for the creation of a miscellaneous pay entry like date, hours/amount are not specified, this error is returned.
ACCESS_DENIED	If the User does not have access to create a leave request then this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

UpdateEmployee

UpdateEmployee updates the specified employee as per the specified *EmployeeXML*. This API will create a non-existing employee if the value of tag 'canbecreated' is set to '1'.

Signature

```
public string UpdateEmployee (
    string EmployeeIdXML,
    string EmployeeXML,
    string SessionId
);
```

Usage

This call will update an existing employee. The employee details will be specified using the *EmployeeXML* parameter. If the API User does not have edit access on employee, then this operation will not be allowed.

Note: For null values, you are required to pass blank tags to the xml. For example, if you want to set addresslin2 as blank, you will have to pass the following XML:

```
<employee><addressline1></addressline1></employee>
```

This API will create a non existing Hierarchy passed in the EmployeeXML. It also assigns the supervisor specified in the EmployeeXML as the supervisor for the newly created Hierarchy.

Also, this creates a non existing employee if the value of tag 'canbecreated' is set to '1'.

Parameters

<i>EmployeeIdXML</i>	Specifies the XML of the employee identifier. The employee identifier could be any one of the three: SSN, Clock Number and Employee Id. This XML string is in one of the following three formats: <pre><employee><ssn>SSN</ssn></employee></pre> OR
----------------------	--

	<pre><employee><clocknumber>Clock Number</clocknumber></employee> OR <employee><employeeid>Employee Id</employeeid></employee></pre>
<i>EmployeeXML</i>	Specifies the XML of the employee defined by the Employee XML Schema.
<i>SessionId</i>	Specifies the session id associated with the current API usage session.

Returns

The GUID of the updated/created employee.

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
INVALID_FORMAT	If any field is not in the correct format, then this error code will be returned. For example if a date string is not in the UTC format, this error code will be returned.
REQUIRED_FIELD_MISSING	If any required fields specified in the Employee XML is invalid or is not specified in the Employee XML parameter, this error code will be returned along with the missing required field name in the details section of the error XML.
INVALID_SHIFT	If the shift specified does not belong to the employee's pay group, then this error code will be returned.
INVALID_SUPERVISOR	If the supervisor specified does not belong to the employee's level, then this error method will be returned.
INVALID_CITY_COUNTY	If the specified city county does not belong to the employee's state, then this error code will be returned.
INVALID_ROLE	If the specified role is not an employee role, then this error code will be returned.
NO_RECORDS_FOUND	If no record exists for the specified Employee Id, then this error code will be returned.
DUPLICATE_RECORDS_FOUND	If any field is being duplicated, then this error code will be returned, along with the duplicate required field name in the details section of the error XML.
ACCESS_DENIED	If the API user does not have edit access on employee, an access denied error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected

error, this error code will be returned.

UpdateHierarchy

Updates an existing hierarchy level.

Signature

```
public string UpdateHierarchy(
    string LevelType,
    string LevelIDXML,
    string LevelXML,
    string SessionID
);
```

Parameters

<i>LevelType</i>	Specifies the level type of the hierarchy to be updated. Various level types will be: Company = 1 Location = 2 Division = 3 Department = 4 Position = 5
<i>LevelIDXML</i>	Specifies the level identifier XML for the Hierarchy level to be updated.
<i>LevelXML</i>	Specifies the details of the hierarchy level to be updated.
<i>SessionID</i>	Specifies the unique token used to authenticate the user.

Returns

Returns success xml containing the key of the hierarchy created.

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
INVALID_ARGUMENTS	If any of the arguments specified is invalid, this error will be thrown.
ACCESS_DENIED	If the API user does not have access for level creation.
INVALID_FORMAT	If the specified Level Type is invalid.
REQUIRED_FIELD_MISSING	If any of the required fields are missing, this error is raised.
HIERARCHY_DISABLED	If the hierarchy level to be created is currently

	disabled.
NO_RECORDS_FOUND	If no records were found for the given record.
INVALID_ASSOCIATION	If the specified hierarchy does not exist.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

UpdateJob

Updates a Job. The method returns an error if the associated SessionId does not have access to edit a job.

Signature

```
public string UpdateJob(
    string JobIdXml,
    string JobXML,
    string SessionId
);
```

Parameters

<i>JobIdXml</i>	Specifies the Id of the Job to be updated.
<i>JobXml</i>	Specifies the update details for the Job.
<i>SessionId</i>	Specifies the unique token used to authenticate the user.

Returns

Returns an XML string containing the GUID of the newly updated Job. The XML string returned is as follows:

```
<returnxml>
  <job>
    <id>GUID</id>
  </job>
</returnxml>
```

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
ACCESS_DENIED	If the API User does not have Edit access on Job, this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

UpdateLeaveRequest

Update an existing leave request.

Signature

```
public string UpdateLeaveRequest (
    string SessionId,
    string EmployeeIDXml,
    string UpdateLeaveRequestXml
);
```

Parameters

<i>SessionID</i>	Specifies the session id associated with the current API usage session.
<i>EmployeeIdXML</i>	<p>Specifies the XML of the employee identifier. The employee identifier could be any one of the three: SSN, Clock Number and Employee Id. This XML string is in one of the following three formats:</p> <pre><employee><ssn>SSN</ssn></employee> OR <employee><clocknumber>Clock Number</clocknumber></employee> OR <employee><employeeid>Employee Id</employeeid></employee></pre>
<i>LeaveRequestXML</i>	<p>Specifies the XML of the Leave Request</p> <p><u>Sample XML:</u></p> <pre><leaverequest> <begindate>2010-03-22</begindate> <paytype>6e19c10a-beba-46dd-92bf-84775458ff3b</paytype> <timeoffreason>69a4b112-82d8-4947-b3ec- f4a1d009b471</timeoffreason> <hours>3</hours> <defaulthoursschflag>0</defaulthoursschflag> <defaulthoursfixflag>0</defaulthoursfixflag> <comments>Sample Comment</comments> <isspecifictime>1</isspecifictime> <fromtime>09:00 AM</fromtime> <totime>12:00 PM</totime> </leaverequest></pre>

Returns

On success, returns success xml. On error, returns the error xml.

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
INVALID_FORMAT	If any field is not in the correct format, then this error code will be returned. For example if a date string is not in the UTC format, this error code will be returned.
REQUIRED_FIELD_MISSING	If the required fields for the creation of a miscellaneous pay entry like date, hours/amount are not specified, this error is returned.
ACCESS_DENIED	If the User does not have access to create a leave request then this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

UpdateLeaveRequestStatus

Update the status for an existing leave request. Requests can be approved, denied, deleted or submitted.

Signature

```
public string UpdateLeaveRequestStatus (
    string SessionId,
    string EmployeeIDXml,
    string UpdateLeaveRequestXml
);
```

Parameters

<i>SessionID</i>	Specifies the session id associated with the current API usage session.
<i>LeaveRequestStatusXML</i>	Specifies the XML of the Leave Request Status Sample XML: <pre><performaction> <action>Approve</action> <supervisornote>Sample note</supervisornote> <viewtype>Supervisor</viewtype> <ids>f591003c-0d8a-4a41-927c-3c37dc842daa</ids> </performaction></pre>

Returns

On success, returns success xml. On error, returns the error xml.

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
INVALID_FORMAT	If any field is not in the correct format, then this error code will be returned. For example if a date string is not in the UTC format, this error code will be returned.
REQUIRED_FIELD_MISSING	If the required fields for the creation of a miscellaneous pay entry like date, hours/amount are not specified, this error is returned.
ACCESS_DENIED	If the User does not have access to create a leave request then this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

UpdateTimecardApproval

Approve or disapprove an employee Time Card.

Signature

```
public string UpdateTimecardApproval (
    string SessionId,
    string EmployeeIDXml,
    string TimeCardApprovalXml
);
```

Parameters

<i>SessionID</i>	Specifies the session id associated with the current API usage session.
<i>LeaveRequestStatusXML</i>	Specifies the XML of the Leave Request Status Sample XML: <pre><approvals> <approval date="2010-04-01T00:00:00"> <filter> <specifieddatatype>1</specifieddatatype></pre>

```

</filter>
<employeeapproval>
  <isapproved>1</isapproved>
</employeeapproval>
<supervisorapproval>
  <isapproved>0</isapproved>
</supervisorapproval>
</approval>
</approvals>

```

Returns

On success, returns success xml. On error, returns the error xml.

Exceptions

Exception Code	Description
INVALID_SESSION	If the Session Id specified by the User is invalid, then this error code will be returned.
INVALID_XML	If the specified XML is not as per the schema, this error code will be returned.
INVALID_FORMAT	If any field is not in the correct format, then this error code will be returned. For example if a date string is not in the UTC format, this error code will be returned.
REQUIRED_FIELD_MISSING	If the required fields for the creation of a miscellaneous pay entry like date, hours/amount are not specified, this error is returned.
ACCESS_DENIED	If the User does not have access to create a leave request then this error code will be returned.
WEB_SERVICE_FAILED	If the Web Service fails due to an unexpected error, this error code will be returned.

Appendix A: Error Codes

Code	Value	Description
9000000	GENERAL_ERROR	An unknown error has occurred in the system.
9000001	INVALID_XML	Invalid XML.
9000002	INVALID_FORMAT	Invalid Format.
9000003	NO_RECORDS_FOUND	No records found.
9000004	REQUIRED_FIELD_MISSING	A required field is missing.
9000005	PAY_PERIOD_NOT_DEFINED	Pay Period not defined.
9000006	ACCESS_DENIED	Access denied.
9000007	INVALID_ARGUMENTS	Invalid Argument.
9000008	DELETE_FAILED	Delete operation failed.
9000009	HIERARCHY_DISABLED	Hierarchy is disabled.
9000030	INVALID_LOGIN	Invalid User ID or Password.
9000031	API_ACCESS_DENIED	API access denied for this User.
9000032	MULTIPLE_LOGINS	Another API User has already logged in to the application using the same User Id and Password.
9000033	INVALID_SESSION	Invalid session.
9000034	MAX_CONCURRENT_USERS_REACHED	The number of concurrent users in the database has reached the maximum allowed concurrent users
9000060	DUPLICATE_RECORDS_FOUND	Duplicate records found.
9000061	MAX_EMPLOYEE_IN_DATABASE	The number of employees in the database has reached the maximum allowed employees.
9000062	INVALID_ASSOCIATION	Invalid association.
9000090	TIME_CARD_RECALC_FAILED	Time card recalc failed.
9000091	TIME_CARD_PAY_PERIOD_CLOSED	The Time card pay period is closed.
9000092	TIMECARD_LOCKED	The Time card is locked.
9000093	TIMECARD_MINUTE_BETWEEN_PUNCHES	A punch already exists within the punch restriction setting.
9000094	INVALID_EXCEPTION_CODE	The specified Time Exception code specified with the in/out punch does not have punch usage as In/Out or Both OR has track set as false.
9000095	REASON_REQUIRED	The specified Pay Type requires a reason.
9000096	HOURS_NOT_ALLOWED	The Pay Type specified with the Misc. Pay entry does not allow hours.
9000097	AMOUNT_NOT_ALLOWED	The Pay Type specified with the Misc. Pay entry does not allow amount

		values.
9000098	TIME_CARD_APPROVED	If Time Card is approved it cannot be edited.
9000121	INVALID_CLOCK_SITE	The specified clock site does not exist.