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# XML Schema

## Aufgabe (a)

### termin.xsd

<?xml version=**"1.0"** encoding=**"UTF-8"**?>

<schema xmlns:t=**"http://www.fh-hagenberg.at/termin"** xmlns=**"http://www.w3.org/2001/XMLSchema"** targetNamespace=**"http://www.fh-hagenberg.at/termin"** elementFormDefault=**"qualified"**>

<element name=**"APPOINTMENT"** type=**"t:AppointmentType"**>

<key name=**"participiantKey"**>

<selector xpath=**".//t:PARTICIPIANT\_LIST/t:PARTICIPIANT"**/>

<field xpath=**"@id"**/>

</key>

<keyref name=**"creatorParticipiantId"** refer=**"t:participiantKey"**>

<selector xpath=**".//t:APPOINTMENT\_INFOS"**/>

<field xpath=**"@creator"**/>

</keyref>

</element>

<!-- ############## Types ############## -->

<!-- Appointment Type-->

<complexType name=**"AppointmentType"**>

<sequence>

<element name=**"APPOINTMENT\_INFOS"** type=**"t:AppointmentInfoType"** minOccurs=**"1"** maxOccurs=**"1"**/>

<element name=**"PARTICIPIANT\_LIST"** type=**"t:ParticipiantListType"** minOccurs=**"1"** maxOccurs=**"1"**/>

</sequence>

</complexType>

<!-- Serialized Appointment Type -->

<complexType name=**"AppointmentSerializedType"**>

<complexContent>

<extension base=**"t:AppointmentType"**>

<sequence>

<element name=**"APPOINTMENT\_INFOS\_SERIAL"** type=**"t:AppointmentInfosSerialType"**/>

</sequence>

</extension>

</complexContent>

</complexType>

<!-- Appointment Infos Serial Type -->

<complexType name=**"AppointmentInfosSerialType"**>

<simpleContent>

<extension base=**"string"**>

<attribute name=**"repeatDuration"** type=**"int"** use=**"required"**/>

<attribute name=**"repeatFrequency"** type=**"t:AppointmentTypeSerializedEnumeration"** use=**"required"**/>

</extension>

</simpleContent>

</complexType>

<!-- Appointment Info Type -->

<complexType name=**"AppointmentInfoType"**>

<sequence>

<element name=**"NOTIFICATION"** minOccurs=**"3"** maxOccurs=**"3"**/>

</sequence>

<attribute name=**"creator"** type=**"string"** use=**"required"**/>

<attribute name=**"creationDate"** type=**"dateTime"** use=**"required"**/>

<attribute name=**"movable"** type=**"boolean"** use=**"optional"** fixed=**"false"**/>

<attribute name=**"serialized"** type=**"boolean"** use=**"optional"** fixed=**"false"**/>

<attribute name=**"type"** type=**"t:AppointmentTypeEnumeration"** use=**"optional"** default=**"teaching"**/>

</complexType>

<!-- Participiant List Type -->

<complexType name=**"ParticipiantListType"**>

<sequence>

<element name=**"PARTICIPIANT"** type=**"t:ParticipiantType"** minOccurs=**"1"** maxOccurs=**"unbounded"**/>

</sequence>

</complexType>

<!-- Participiant Type -->

<complexType name=**"ParticipiantType"**>

<simpleContent>

<extension base=**"string"**>

<attribute name=**"id"** type=**"string"** use=**"required"**/>

</extension>

</simpleContent>

</complexType>

<!-- ############## Enumerations ############## -->

<!-- Appointment Type Enumerations -->

<simpleType name=**"AppointmentTypeEnumeration"**>

<restriction base=**"string"**>

<enumeration value=**"teaching"**/>

<enumeration value=**"research"**/>

<enumeration value=**"projects"**/>

<enumeration value=**"private"**/>

</restriction>

</simpleType>

<!-- Serialized Appointment Type Enumerations -->

<simpleType name=**"AppointmentTypeSerializedEnumeration"**>

<restriction base=**"string"**>

<enumeration value=**"daily"**/>

<enumeration value=**"weekly"**/>

<enumeration value=**"monthly"**/>

<enumeration value=**"quarterly"**/>

<enumeration value=**"yearly"**/>

</restriction>

</simpleType>

</schema>

### termin.xml

<?xml version=**"1.0"** encoding=**"UTF-8"**?>

<APPOINTMENT xmlns=**"http://www.fh-hagenberg.at/termin"** xmlns:xsi=**"http://www.w3.org/2001/XMLSchema-instance"** xsi:schemaLocation=**"http://www.fh-hagenberg.at/termin termin.xsd"**>

<APPOINTMENT\_INFOS creator=**"conductor"** creationDate=**"2002-05-30T09:00:00"** movable=**"false"** serialized=**"false"** type=**"teaching"**>

<NOTIFICATION>**Hello**</NOTIFICATION>

<NOTIFICATION>**Hello**</NOTIFICATION>

<NOTIFICATION>**Hello**</NOTIFICATION>

</APPOINTMENT\_INFOS>

<PARTICIPIANT\_LIST>

<PARTICIPIANT id=**"conductor"**>**Thomas Herzog**</PARTICIPIANT>

<PARTICIPIANT id=**"participiant\_1"**>**Hugo Maier**</PARTICIPIANT>

</PARTICIPIANT\_LIST>

</APPOINTMENT>

### terminSpezialisierung.xml

<?xml version=**"1.0"** encoding=**"UTF-8"**?>

<APPOINTMENT xsi:type=**"AppointmentSerializedType"** xmlns=**"http://www.fh-hagenberg.at/termin"** xmlns:xsi=**"http://www.w3.org/2001/XMLSchema-instance"** xsi:schemaLocation=**"http://www.fh-hagenberg.at/termin termin.xsd"**>

<APPOINTMENT\_INFOS creator=**"conductor"** creationDate=**"2002-05-30T09:00:00"**>

<NOTIFICATION>**Hello**</NOTIFICATION>

<NOTIFICATION>**Hello**</NOTIFICATION>

<NOTIFICATION>**Hello**</NOTIFICATION>

</APPOINTMENT\_INFOS>

<PARTICIPIANT\_LIST>

<PARTICIPIANT id=**"conductor"**>**Thomas Herzog**</PARTICIPIANT>

</PARTICIPIANT\_LIST>

<APPOINTMENT\_INFOS\_SERIAL repeatDuration=**"10"** repeatFrequency=**"daily"**/>

</APPOINTMENT>

## Aufgabe (b)

### termin\_neu.xsd

<?xml version=**"1.0"** encoding=**"UTF-8"**?>

<schema xmlns:t=**"http://www.fh-hagenberg.at/termin"** xmlns=**"http://www.w3.org/2001/XMLSchema"** targetNamespace=**"http://www.fh-hagenberg.at/termin"** elementFormDefault=**"qualified"**>

<include schemaLocation=**"teilnehmerListe.xsd"**/>

<element name=**"APPOINTMENT"** type=**"t:AppointmentType"**>

<key name=**"participiantKey"**>

<selector xpath=**".//t:PARTICIPIANT\_LIST/t:PARTICIPIANT"**/>

<field xpath=**"@id"**/>

</key>

<keyref name=**"creatorParticipiantId"** refer=**"t:participiantKey"**>

<selector xpath=**".//t:APPOINTMENT\_INFOS"**/>

<field xpath=**"@creator"**/>

</keyref>

</element>

<!-- ############## Types ############## -->

<!-- Appointment Type-->

<complexType name=**"AppointmentType"**>

<sequence>

<element name=**"APPOINTMENT\_INFOS"** type=**"t:AppointmentInfoType"** minOccurs=**"1"** maxOccurs=**"1"**/>

<element name=**"PARTICIPIANT\_LIST"** type=**"t:ParticipiantListType"** minOccurs=**"1"** maxOccurs=**"1"**/>

</sequence>

</complexType>

<!-- Serialized Appointment Type -->

<complexType name=**"AppointmentSerializedType"**>

<complexContent>

<extension base=**"t:AppointmentType"**>

<sequence>

<element name=**"APPOINTMENT\_INFOS\_SERIAL"** type=**"t:AppointmentInfosSerialType"**/>

</sequence>

</extension>

</complexContent>

</complexType>

<!-- Appointment Infos Serial Type -->

<complexType name=**"AppointmentInfosSerialType"**>

<simpleContent>

<extension base=**"string"**>

<attribute name=**"repeatDuration"** type=**"int"** use=**"required"**/>

<attribute name=**"repeatFrequency"** type=**"t:AppointmentTypeSerializedEnumeration"** use=**"required"**/>

</extension>

</simpleContent>

</complexType>

<!-- Appointment Info Type -->

<complexType name=**"AppointmentInfoType"**>

<sequence>

<element name=**"NOTIFICATION"** minOccurs=**"3"** maxOccurs=**"3"**/>

</sequence>

<attribute name=**"creator"** type=**"string"** use=**"required"**/>

<attribute name=**"creationDate"** type=**"dateTime"** use=**"required"**/>

<attribute name=**"movable"** type=**"boolean"** use=**"optional"** fixed=**"false"**/>

<attribute name=**"serialized"** type=**"boolean"** use=**"optional"** fixed=**"false"**/>

<attribute name=**"type"** type=**"t:AppointmentTypeEnumeration"** use=**"optional"** default=**"teaching"**/>

</complexType>

<!-- ############## Enumerations ############## -->

<!-- Appointment Type Enumerations -->

<simpleType name=**"AppointmentTypeEnumeration"**>

<restriction base=**"string"**>

<enumeration value=**"teaching"**/>

<enumeration value=**"research"**/>

<enumeration value=**"projects"**/>

<enumeration value=**"private"**/>

</restriction>

</simpleType>

<!-- Serialized Appointment Type Enumerations -->

<simpleType name=**"AppointmentTypeSerializedEnumeration"**>

<restriction base=**"string"**>

<enumeration value=**"daily"**/>

<enumeration value=**"weekly"**/>

<enumeration value=**"monthly"**/>

<enumeration value=**"quarterly"**/>

<enumeration value=**"yearly"**/>

</restriction>

</simpleType>

</schema>

### teilnehmerListe.xsd

<?xml version=**"1.0"** encoding=**"UTF-8"**?>

<schema xmlns:t=**"http://www.fh-hagenberg.at/termin"** xmlns=**"http://www.w3.org/2001/XMLSchema"** targetNamespace=**"http://www.fh-hagenberg.at/termin"** elementFormDefault=**"qualified"**>

<!-- Participiant List Type -->

<complexType name=**"ParticipiantListType"**>

<sequence>

<element name=**"PARTICIPIANT"** type=**"t:ParticipiantType"** minOccurs=**"1"** maxOccurs=**"unbounded"**/>

</sequence>

</complexType>

<!-- Participiant Type -->

<complexType name=**"ParticipiantType"**>

<simpleContent>

<extension base=**"string"**>

<attribute name=**"id"** type=**"string"** use=**"required"**/>

</extension>

</simpleContent>

</complexType>

</schema>

### termin\_neu.xml

<?xml version=**"1.0"** encoding=**"UTF-8"**?>

<APPOINTMENT xmlns=**"http://www.fh-hagenberg.at/termin"** xmlns:xsi=**"http://www.w3.org/2001/XMLSchema-instance"** xsi:schemaLocation=**"http://www.fh-hagenberg.at/termin termin\_neu.xsd"**>

<APPOINTMENT\_INFOS creator=**"conductor"** creationDate=**"2002-05-30T09:00:00"** movable=**"false"** serialized=**"false"** type=**"teaching"**>

<NOTIFICATION>**Hello**</NOTIFICATION>

<NOTIFICATION>**Hello**</NOTIFICATION>

<NOTIFICATION>**Hello**</NOTIFICATION>

</APPOINTMENT\_INFOS>

<PARTICIPIANT\_LIST>

<PARTICIPIANT id=**"conductor"**>**Thomas Herzog**</PARTICIPIANT>

<PARTICIPIANT id=**"participiant\_1"**>**Hugo Maier**</PARTICIPIANT>

</PARTICIPIANT\_LIST>

</APPOINTMENT>

### terminSpezialisierung\_neu.xml

<?xml version=**"1.0"** encoding=**"UTF-8"**?>

<APPOINTMENT xsi:type=**"AppointmentSerializedType"** xmlns=**"http://www.fh-hagenberg.at/termin"** xmlns:xsi=**"http://www.w3.org/2001/XMLSchema-instance"** xsi:schemaLocation=**"http://www.fh-hagenberg.at/termin termin\_neu.xsd"**>

<APPOINTMENT\_INFOS creator=**"conductor"** creationDate=**"2002-05-30T09:00:00"**>

<NOTIFICATION>**Hello**</NOTIFICATION>

<NOTIFICATION>**Hello**</NOTIFICATION>

<NOTIFICATION>**Hello**</NOTIFICATION>

</APPOINTMENT\_INFOS>

<PARTICIPIANT\_LIST>

<PARTICIPIANT id=**"conductor"**>**Thomas Herzog**</PARTICIPIANT>

</PARTICIPIANT\_LIST>

<APPOINTMENT\_INFOS\_SERIAL repeatDuration=**"10"** repeatFrequency=**"daily"**/>

</APPOINTMENT>